8-2008

Touching The Future : Building Skills For Life And Work (Conference Proceedings)

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Minister for Employment and Workplace Relations,
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Design and layout by Integral Graphics and ACER Project Publishing
Editing by Carolyn Glascodine and Kerry-Anne Hoad
Printed by Print Impressions
Foreword
Geoff Masters
Australian Council for Educational Research

Professor Geoff Masters has been Chief Executive Officer of the Australian Council for Educational Research (ACER) since 1998. Prior to joining ACER, he was a member of the Faculty of Education at the University of Melbourne.

Prof Masters is also Chair of the Education Network of the Australian National Commission for UNESCO, a member of the International Baccalaureate Research Committee, a Past President of the Australian College of Educators; Founding President of the Asia-Pacific Educational Research Association and a member of the Business Council of Australia Education, Skills and Innovations Taskforce.

He has a PhD in educational measurement from the University of Chicago and has published several books and numerous journal articles in the field of educational assessment.

For more than 20 years, Prof Masters has been an international leader in developing better measures of educational outcomes.

Prof Masters has led work on the practical implementation of modern measurement theory to large-scale testing programs and international achievement surveys.

Prof Masters recently investigated options for an Australian Certificate of Education on behalf of the Australian Government and was the author of a recent paper released by the Business Council of Australia, Restoring our Edge in Education Making Australia’s Education System its Next Competitive Advantage (2007).

Research Conference 2008 is the thirteenth national Research Conference. Through our research conferences, ACER provides significant opportunities at the national level for reviewing current research-based knowledge in key areas of educational policy and practice. A primary goal of these conferences is to inform educational policy and practice.

Research Conference 2008 brings together key researchers, policy makers and teachers from a broad range of educational contexts from around Australia and overseas. The conference addresses the theme of the skills and dispositions that young people need to participate effectively in work and society and the role of educators to nurture the development of those skills and dispositions.

We are sure that the papers and discussions from this research conference will make a major contribution to the national and international literature and debate on key issues related to the preparation of students to engage with and participate successfully in work and life.

We welcome you to Research Conference 2008, and encourage you to engage in conversation with other participants, and to reflect on the research and its connections to policy and practice.

Professor Geoff N Masters
Chief Executive Officer, ACER

[Signature]
Special address
Julia Gillard

Deputy Prime Minister,
Minister for Education,
Minister for Employment and Workplace Relations,
Minister for Social Inclusion

Julia was born in Wales, migrating to Australia with her family in 1966. She studied arts and law at university in Adelaide before being elected as national education vice president of the Australian Union of Students in 1983. In 1983, Julia was national president of the AUS.

She began work as a solicitor with the law firm Slater and Gordon and became a partner in 1990. In May 1996, Julia was appointed chief of staff of the then Victorian Opposition leader, John Brumby. Julia worked with Mr Brumby until her election to Federal Parliament in 1998.

Following her election, she was a member of a number of parliamentary committees including the House of Representatives Standing Committee on Employment, Education and Workplace Relations prior to entering Labor’s Shadow Ministry in 2001.

She subsequently served in a number of Shadow Ministerial portfolios including Population and Immigration, Reconciliation and Indigenous Affairs, Health, Employment and Industrial Relations, and Social Inclusion.

Julia was Labor’s Manager of Opposition Business for three years prior to being elected as Labor’s Deputy Leader in December 2006.

Following the Federal Election on the 24th of November 2007, Julia was sworn in as Deputy Prime Minister and Minister for Education, Minister for Employment and Workplace Relations, and Minister for Social Inclusion.
Keynote papers
Specifying and assessing knowledge and skills for life

Geoff Masters
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Professor Geoff Masters has been Chief Executive Officer of the Australian Council for Educational Research (ACER) since 1998. Prior to joining ACER, he was a member of the Faculty of Education at the University of Melbourne.

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In my presentation to this year’s Research Conference I will be taking as my starting point the proposition that a fundamental purpose of schooling is to provide every student with knowledge and skills to equip them for life beyond school. While acknowledging that schooling has broader purposes, I will argue that there are some fundamental understandings and skills that all students should develop during their school years, and that every student should be expected to demonstrate an acceptable level of these skills and understandings by the time they leave school.

During the secondary school years, and particularly in the final years of school, students undertake specialised vocational and academic studies as preparation for higher education, training and/or employment. In this presentation I will argue that, in parallel with specialist and subject-based learning, every effort should be made to ensure that all students develop foundational skills and understandings essential to successful functioning as an adult member of Australian society and the workforce.

Currently, no attempt is made to confirm that students meet such minimally acceptable standards by the time they leave school. Several states are introducing requirements that students demonstrate specified standards of literacy and numeracy to be eligible for the award of a senior certificate; however, most students can complete 13 years of school and be awarded a senior certificate without having to demonstrate minimally acceptable levels of proficiency across a range of fundamental domains such as reading, writing, numeracy, science, civics and citizenship, and ICT literacy.

And certainly, there are no nationally developed or agreed statements of what every child should know and be able to do as a result of 13 years at school.

The available evidence suggests that many students leave Australian secondary schools having never achieved minimally acceptable standards in fundamental areas. The OECD Programme for International Student Assessment (PISA) sets a ‘baseline’ level of proficiency in reading literacy, mathematical literacy and scientific literacy, below which students are considered ‘at risk’ of not having the basic skills necessary for work and future citizenship. The most recent PISA results (2006) show that 13% of Australian 15-year-olds perform below this baseline. What we do not know is how many of these under-performing students attain baseline proficiency by the end of Year 12 (or equivalent). It seems likely that most do not. And the situation is worse for specific sub-groups of the Australian student population: 40% of Indigenous 15-year-olds, 27% of students living in remote parts of Australia, and 23% of students from the lowest socioeconomic quartile perform below the minimum standard set by the OECD.

In this presentation, I will consider the desirability and possibility of specifying minimally acceptable standards of attainment in fundamental domains of knowledge and skill, and of establishing the extent to which individual students meet these standards by the time they leave school.

Identifying fundamental domains

My assumption is that it is possible to reach national agreement on a number of areas (or domains) of knowledge and skill that are so essential that every student should be expected to reach some identified minimum level of

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1 except for a small percentage of students with special needs for whom these expectations would be inappropriate
attainment in each of these domains. The identification of these domains would require national discussion and debate. It is possible that the set of identified domains might change over time; however, significant changes to the set of domains are unlikely given their fundamental nature.

Obvious candidates for inclusion in the set of domains are the basic and cross-curricular skills of reading, writing and numeracy. These domains already are assessed for every student at Years 3, 5, 7 and 9. Minimally acceptable standards (‘benchmarks’) at each of these year levels have been set, but no attempt has been made to specify nationally the minimum standards that all students should be expected to reach in these basic skills as a result of 13 years of school.

Other domains are suggested by current national and international sample surveys. The OECD’s Programme for International Student Assessment (PISA) includes regular assessments of scientific literacy at 15 years of age. Scientific literacy is distinguished from the school subject Science by its emphasis on students’ understandings of scientific concepts and principles and their ability to apply these understandings to everyday problems. In contrast, assessments of achievement in the school subject Science are more likely to address mastery of broad curriculum content, with an emphasis on factual and procedural knowledge.

Australia’s national surveys of student achievement include assessments in the domains of ICT literacy and civics and citizenship. PISA has also included an assessment of problem solving on the grounds that this is a basic skill for future work and citizenship.

A broader set of possibilities is suggested by recent work of the Australian Chamber of Commerce and Industry and the Business Council of Australia to identify a set of ‘employability’ skills required for effective participation in the workforce. These include skills in planning and organising, teamwork, initiative and enterprise, self-management and learning. Whether skills of this kind can or should be defined and assessed in a nationally consistent way, and whether minimally acceptable standards can be set for these skills, remain the subject of debate.

In my presentation I will briefly review international efforts to identify and define areas of fundamental knowledge and skill within which every student might be expected to attain at least a minimal standard of performance.

Setting achievement standards

Having identified a set of essential domains, the next task would be to identify minimally acceptable standards of performance in each of these domains. For example, what level of reading proficiency should every student be expected to achieve by the time they leave school? What are the essential understandings and skills that all students should be expected to develop in the area of civics and citizenship? What scientific understandings should all school leavers have? These ‘minimally acceptable standards’ would not be tied to any particular year of school, but would be standards that every student would be expected to reach at some point in their schooling, and all students should reach by the time they leave school.

The identification of minimally acceptable standards is always a matter of judgement and ideally would be the subject of national discussion and debate, not only within the education community, but also within the broader community. Standards would be set through a standard setting exercise in which stakeholders judged what they considered to be minimally acceptable levels of knowledge and skill in particular domains.

The standard setting process could be informed by international comparisons. For example, if a minimum standard were set nationally for reading proficiency, then this standard could be compared with the OECD’s baseline for reading literacy at 15 years of age and/or with minimum standards set in other countries.

To minimise the possibility of students and schools focusing their efforts only on achieving minimum standards, assessments should be designed to recognise and reward levels of attainment well beyond the minimum. Achievement standards, like the domains themselves, may be redefined over time. Standards that may have been acceptable in the past may no longer be acceptable in the future.

In my presentation I will outline some considerations in setting proficiency standards, making reference to recent experience in setting standards for PISA, national sample surveys, and system-wide literacy and numeracy tests.

Assessing levels of student attainment

When it comes to establishing whether or not individual students have achieved at least minimally acceptable standards in areas such as reading, writing, numeracy and scientific literacy, there may be value in developing assessment materials nationally. Certainly, the domains themselves and minimally acceptable standards of attainment would best be defined nationally. An argument also could be made for the national development of objective assessments that could be implemented locally.
It is clear that many students would achieve expected standards in the identified domains well before Year 12. These students should be given an opportunity to demonstrate that they have met the standards when they are able to do this (in Year 10 or earlier, in Year 11, or Year 12). Ideally, assessments at various stages of schooling would allow teachers and parents to track progress across the years of school and to identify individuals who are not on track to achieving minimally acceptable standards by the time they leave school.

An important question would be how assessments of this kind might relate to existing assessment processes in Australian secondary schools. For example, should the award of a senior certificate be dependent on first demonstrating at least minimum proficiency in some or all of these domains? Could national assessments of reading, writing, numeracy and ICT literacy be used directly in existing senior certificates?

In this presentation I will canvass some options for the national assessment of student attainment in fundamental areas of knowledge and skill.

I will not be addressing the more difficult question of the kinds of programs and interventions required to ensure that all students achieve acceptable levels of knowledge and skill in these essential areas. The first step is to clarify what we want every student to know and be able to do as a result of 13 years of school and to put in place processes for establishing the extent to which individuals are meeting these expectations.

References


Abstract

In Australia, as in other countries, three public concerns about education can be discerned. One of them is concerned with work skills in the context of economic objectives of innovation and productivity. Another is concerned with life skills in the context of objectives of social sustainability and self-fulfilment. The third is concerned with the maintenance of cultural and intellectual standards – and has often been associated with criticism of educational progressivism. These concerns have informed Australian educational policy. The economic objective has been particularly influential in higher education; the social objective has informed school initiatives concerned with values education, and civics and citizenship; and the third was apparent in the efforts by the Howard government to prescribe a national curriculum in Australian history. This paper explores the provenance of these concerns and considers the consequences of the policies that have pursued their different objectives.
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Richard Sweet is an international education and training policy consultant and a Professorial Fellow in the Centre for Post-compulsory Education and Lifelong Learning at the University of Melbourne. He has chaired the Board of the International Centre for Career Development and Public Policy since it was founded in 2004. In recent years he has carried out work for the OECD, the United Nations, the European Training Foundation, and government agencies in Finland, Norway, Korea, Malta and Italy. In the last decade he has led international teams to review national policies and to advise on education and training reform in Austria, the Czech Republic, Denmark, Hungary, Ireland, Korea, Luxembourg, Montenegro, Norway, Spain, Sweden, Finland, the United Kingdom and the United States. During 2007 he acted as the international expert for a review of apprenticeship and work-based learning in ten Mediterranean and Middle Eastern countries.

Between 1998 and 2005 he was a Principal Analyst in the Directorate for Education at the OECD in Paris where he was responsible for major comparative reviews on the transition from school to work, ICT and education policy, career guidance, and tertiary education. He also edited the OECD flagship publication Education Policy Analysis. Prior to joining the OECD Richard was Research Co-ordinator for the Dusseldorp Skills Forum, Adjunct Professor of Vocational Education at the University of Technology, Sydney, and a member of the ACER Council. He has been a member of a number of national education and training policy advisory and funding bodies including the Employment and Skills Formation Council and the ANTA Research Advisory Council. He has acted as an adviser to the Department of Prime Minister and Cabinet and the Commonwealth Minister for Employment, Education and Training.

Abstract
Successful transitions from school to work result from a complex mix of institutional settings, opportunity structures and personal effectiveness. Policy needs to work on all of these simultaneously: Australia needs both systems to work and to be fair, and young people who are confident and competent. On the basis of school completion rates, and their consequences in terms of teenage unemployment and the youth labour market disadvantage, Australia performs relatively poorly compared to other advanced economies and has improved little over a long period. A wide range of innovative transition programs has had little impact. We need to shift to a universal structure of separate senior high schools. These can take advantage of larger grade cohorts and economies of scale to offer 15–17 year olds wide curriculum choice that can satisfy the full range of personal and vocational interests. They can provide adult teaching styles and discipline policies, and support services such as remediation, counselling and welfare for those who struggle the hardest. Little is likely to change unless this occurs. TAFE is not the answer.

Introduction
Work, said Oscar Wilde, is the curse of the drinking classes. It may well be, and this is a view towards which I am increasingly sympathetic since abandoning wage labour some three years ago. But in modern societies it is also a key determinant of identity, happiness, well-being, health and civic engagement. And it seems to be important to enjoy your work, even if, as Richard Layard points out, bad work is better than no work (Layard, 2004). The unemployed are generally poorer, unhappier, unhealthier and less likely to vote than those who work. For young people everything that we know about the transition from dependent student to responsible adult says that extended periods, or successive periods without work, are not to be recommended as a national policy option. Moving smoothly from school to paid work, either directly or via education and training, is good for young people’s personal development and good for the economy. We seem to have agreed as a country that this is something that Australia should aim for, for all young people.

The problem is that however hard we have tried, and whatever we have tried over the last decade or so, little has changed (Dusseldorp Skills Forum, 2007). Certainly the outcomes that we achieve are not as bad as those in a country such as Italy. But they are at best average, are well below those of OECD best practice countries such as Norway, should be better given our wealth and the health of our labour market, and have scarcely improved since the mid 1990s. Teenage unemployment in Australia is far higher than it should be given overall levels of unemployment, and around ten times the level experienced in Denmark, which leads the OECD both to believe that it is simply unacceptable for any young person under the age of 20 not to be provided with the skills and qualifications that will ensure a secure future, and to put this belief into effect. This has little to do with the nature of Australia’s labour market, which is extremely youth friendly compared to other countries’ labour markets. The reason is that each year the education system continues to pump far too many poorly qualified and inadequately skilled young people onto a labour market that has little need for them. Put simply, we have far too many early school leavers, and Year 12 completion...
rates are far too low. One result of this, given that we have a labour market in which skills and qualifications are at a premium, is that the unemployment penalty experienced by young adults who have not completed Year 12 or its equivalent is among the highest in the OECD (Sweet, 2006a). This is simply not good enough.

In trying to improve outcomes for our young people, the research literature suggests that we look at four sets of factors. The first are structural and institutional features of the education system and the labour market: pathways and qualification systems; wage structures; arrangements for cooperation between employers, governments and unions; employment protection and the like (e.g. OECD, 2000). The dominance of this type of analysis in comparative studies of youth transitions does much to account for the fascination of many policy makers in developed economies with apprenticeship systems over the last 30 years, despite the very great difficulties that almost all countries including Australia have had in trying to create large-scale apprenticeship systems for youth along the lines of those found in the German-speaking countries.

A second set of lessons about transition outcomes can be found in the sociological literature. This teaches us that family background and gender matter everywhere, but little about where they matter least. It is, however, a literature that focuses the attention of policy makers upon the importance of trying to achieve not just good outcomes, but also fair outcomes. The sociological literature is also important for showing us that social capital — trust, cooperation, relationships and networks — is important: families that have wide networks help their children to get jobs; good cooperation between schools and local firms improves work-based learning programs. However, in most countries policy makers have been much slower to focus upon these factors than upon institutional and structural factors.

Third, the literature points us to psychological research, including educational research to the extent that this concentrates upon the characteristics of individuals (rather than the characteristics of systems or societies). Perhaps the most important lesson from this type of research is that educational achievement in early adolescence is a very important correlate and determinant of educational and labour market outcomes. If, by the age of 14 or 15, ACER longitudinal research tells us, you still cannot read well and your mathematical skills are low, your chances of not completing high school, of not obtaining a post-school qualification, and of becoming unemployed, rise accordingly. (Given this, it is surprising that so much of attention within national literacy and numeracy policies has been directed at those who are young and so little at those adolescents whose basic skills put them at risk of early school leaving.) Another very useful set of lessons comes from vocational psychology, which focuses upon career choice and career development. This tells us that young people who have high self-esteem, who are confident and who understand themselves, who have a good understanding of educational and work opportunities, who focus upon their future education and work, and who are able to plan and to make decisions, achieve better transition outcomes than do young people who show the reverse characteristics.

Finally, there is the youth research literature. I find much of this turgid and jargon-laden, but it is important to read it if only for one reason. In its contrast between the notions of structure and agency, it forces us to consider two quite different, but not necessarily mutually exclusive, policy approaches: on the one hand trying to build opportunity structures, whether institutional or sociological, that facilitate effective and fair transitions to work; and on the other hand, as is relatively common in the Nordic countries, trying to create young people who are confident and competent, and able to manage their lives and careers in a changing and challenging world.

Why have attempts to achieve better outcomes over the last decade or so generally been less than successful? It is not as if we have not tried. Indeed the list of innovative Australian programs would be longer than in many other countries: VET in schools; workplace learning; school-based apprenticeships; school–community partnerships; transition brokers; mentors; school leaver tracking; career advice initiatives; local learning and employment networks. And alongside these program initiatives there have been reforms to upper secondary certificates in all states.

The problem is that we have mostly concentrated upon a programmatic approach. Often there has been little coordination between multiple programs and less than optimum coordination between the different authorities that administer – read own — them: schools and TAFE; community groups; governments, employers and unions; state and Commonwealth governments; education, labour and welfare portfolios. But the main reason, it seems to me, that we have not been able to improve the proportion of each cohort deciding that it is worthwhile continuing their education to the end of Year 12 or its equivalent, is that we have not paid serious attention to
the types of institutions within which these programs are delivered. We have not created institutions that can foster a joy in learning among the full range of young people after the age of compulsory schooling, not just among those who find academic achievement easy; and we have failed to create a single centre of responsibility for managing young people’s transitions.

Alongside a small set of OECD countries that also have relatively poor upper secondary completion rates – Ireland, New Zealand, much of the United Kingdom – Australia is unique among OECD countries in continuing to locate upper secondary education within the same institutions that lower secondary education is found in. Elsewhere there is a clear divide between lower and upper secondary education. This divide recognises that adolescents aged 15, 16 or 17 have different needs from 11 year-olds and should be treated differently. They need a more adult learning environment, not one based upon the discipline demands of 12-year-olds. As the post compulsory years are the point at which vocational interests are starting to become more differentiated and clearer; young people at this age need a wider range of curriculum choices that allows the full range of vocational opportunities to find expression. And those who struggle the hardest need a range of specialised support services such as counselling, career education and guidance and remedial classes. None of this is easy to achieve in the Year 7–12, or 8–12, high school. Discipline policies in these are based upon the lowest common denominator, adult teaching and learning methods are hard to implement, and small cohort sizes make a curriculum containing a wide range of general and vocational subjects, suited to the needs of all students, not just those with higher education aspirations, impossible to introduce at a reasonable cost.

I do not believe that the answer lies in trying to beef up TAFE as we know it. Most young people aged 16–17 who choose to leave school and go to TAFE are given, other than through its apprenticeship streams, courses that offer very low-level qualifications of the sort that result in few labour market returns, and the drop-out rates from these seem to be very high indeed. And so if TAFE is to have a role, it needs not to be in competition with schools, but completely integrated into the structure of senior school certificates.

The answer must be for Australia to take a deliberate decision to shift to a different model of upper secondary education: to create a genuine education revolution in which all young people move, at the end of compulsory schooling or shortly after, to an institution designed for their needs and able to offer them a choice of subjects and a way of learning that suits all of their aspirations and expectations. The evidence from the ACT and Tasmania shows that switching to this model can result in a rapid increase in the number of young people who stay at school and in hence in educational participation rates. Studies that have been carried into the structure of senior school certificates.

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References


“The Ideas Bag”: Distilling the essence of the ideas of the conference

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Richard Sweet is an international education and training policy consultant and a Professorial Fellow in the Centre for Post-compulsory Education and Lifelong Learning at the University of Melbourne. He has chaired the Board of the International Centre for Career Development and Public Policy since it was founded in 2004. In recent years he has carried out work for the OECD, the United Nations, the European Training Foundation, and government agencies in Finland, Norway, Korea, Malta and Italy. In the last decade he has led international teams to review national policies and to advise on education and training reform in Austria, the Czech Republic, Denmark, Hungary, Ireland, Korea, Luxembourg, Montenegro, Norway, Spain, Sweden, Finland, the United Kingdom and the United States. During 2007 he acted as the international expert for a review of apprenticeship and work-based learning in ten Mediterranean and Middle Eastern countries.

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Richard Slaughter
Foresight International, Queensland

Richard A Slaughter is a writer, practitioner and innovator in Futures Studies and Applied Foresight. He completed a PhD in Futures at the University of Lancaster (UK) in 1982. Since then, he has explored the futures domain through educational work, institutional innovation, social foresight, integral futures and the identification of an evolving knowledge base. During 1999–2004 he was Foundation Professor of Foresight at the Australian Foresight Institute, Melbourne. During 2001–2005 he was President of the World Futures Studies Federation.

He is currently Director of Foresight International, an independent company dedicated to building the Futures field and facilitating the emergence of social foresight. He is the author or editor of some 20 books and many papers on a variety of futures topics.

Julius Roe
National President
Australian Manufacturing Workers Union

Julius Roe is the National President of the Australian Manufacturing Workers’ Union. He has been an official of the AMWU and its predecessors since 1987 and was a lead negotiator in the process of restructuring the metals award and the introduction of career paths in the industry. Julius is a member of the ACTU Executive.

Julius has had a leadership role in the area of skills and training over the past 20 years. He has been a member of the Australian National Training Authority (ANTA) Board, the National Training Board, the National Training Quality Council and related bodies.

Julius was appointed along with Peter Thomas and Maria Tarrant to conduct a major inquiry into VET for the Victorian Government in 2006.

Julius is currently a member of the Victorian Skills Commission (VSC). He has recently been appointed to the Australian Qualifications Framework Council (AQF Council) representing the Vocational, Education and Training Sector.

Since 2001 Julius has been a member of the Executive of the International Metalworkers’ Federation representing the Asia Pacific Region.
Concurrent papers
Beyond ‘the future of…’ Responding to the civilisational challenge

Abstract
Among an array of desirable ‘skills for life and work’ are those that relate to understanding the global context, the challenges visible there and the specific ways young people can be prepared for actively responding. Educators at every level need to move beyond tokenistic treatments of ‘the future’ (singular) to understand the ‘civilisational challenge’ facing us. In so doing, futures concepts, tools and other resources will be invaluable.

This paper draws on some aspects of recent scientific research and sources within the broad futures literature to highlight aspects of the near-future environment. It then suggests a number of tasks for educators that need to be undertaken and applied. Due to the limitations of the format, such tasks are not spelled out in detail. Rather, more appropriate in-depth sources are provided for those wishing to explore this fascinating area further.

Introduction
On the rare occasions when educators turn their attention to ‘the future’ they tend to do so in terms that are either rhetorical or extrapolative. ‘The future of X’ and ‘the future of Y’ can certainly be interesting and productive if you happen to live and work in world x or world y. But such approaches, and especially those that begin with conventional taken-for-granted assumptions, are of limited value, serving mainly to ‘spin the wheels’. They’re mainly about the appearance of addressing ‘change’, not its reality. Unlike those in business and, to a lesser extent, in government, educators seldom develop strategies that actively deal with the forward view and the emerging issues that it contains.

To get beyond this stereotypical and, I’d argue, increasingly untenable position, educators need to do at least two things. First, they must stand up for what they believe in as professionals with a remit to nurture the young and prepare them for living and working in a globally connected but unsustainable society. Second, they must look beyond their traditional concerns to understand how the global context has changed, and will continue to change. Close attention to the forward view brings us face to face with what I call ‘the civilisational challenge’. In turn the latter hinges on what I call ‘the story that connects’ (which is essentially a view of macro change) (Slaughter, 2008). In what follows I draw on several sources from the broad futures literature, and very briefly sketch out some educational implications.

The story that connects
Over the last 30 years an authoritative series of publications has appeared that describes the human predicament with increasing clarity. For example, beginning with the Limits to Growth (Meadows, 1972) and currently ending with Beyond the Limits: A Thirty Year Update (Meadows, 2005) the Meadows team provides an evolving perspective that tracks our growing understanding of global change and what this means for human life and culture. More recently the International Geosphere Program (IGP) sponsored another series that brings together the work of many scientists from around the world. One of these is called Global Change and the Earth System (Steffan, 2004), a work that provides vital new in-depth understanding about the context in which human life is framed. Here is a sample:

Many human activities that reached take-off points some time in the 20th century have accelerated sharply towards the end of the century. The last 50 years have without doubt seen the most rapid transformation of the human relationship with the natural...
World in the history of the species (p. 258). As a consequence:

- The Earth is currently operating in a no-analogue state. In terms of key environmental parameters, the Earth System has recently moved well outside the range of the natural variability exhibited over at least the last half million years. The nature of the changes now taking place simultaneously in the Earth System, their magnitudes and rates of change are unprecedented. (p. 262)

Overall, works of this kind describe how, over the last 100 years, our species has grown fundamentally out of balance with its world. It follows that we need to understand this process in some depth and discern wise, informed, society-wide strategies of response. I call this ‘the story that connects’ because the perspective brings together hitherto separate pieces of information, creating the clarity that necessarily precedes action. But, of course, what has been called the ‘blizzard of change’ confronting us is not limited to humanity’s many impacts upon the external world, significant as these are. The range of change processes can appear bewildering because they operate across many different domains. That is why change analysts and foresight practitioners have adopted various methods for managing this complexity (Slaughter, 2005).

Two other works provide a flavour of the rich web of understanding that has arisen in relation to global change processes, including social, economic and political processes. The first is by Mikhail Gorbachev, former President of the Soviet Union. His book, Manifesto for the Earth, sets out a brief but coherent analysis of the global situation along with some clear recommendations for change (Gorbachev, 2006).

Gorbachev is no idealist. As one who lived through the multiple privations of life in war-torn and post-war Russia, his view of the world is grounded in the realities of life as seen from a small farm in the Stavropol region of the North Caucasus. He is known for initiating as Russian President certain democratic reforms that opened up the Soviet Union, bringing it forward out of the totalitarian era. He is therefore well qualified to state that ‘the opportunities on offer at the end of the Cold War were for the most part not taken up’ (p. 31). And he is clear about why: lack of vision, lack of political will and the spread of economic liberalism around the world. This was demonstrated at the 2002 Johannesburg World Summit on Sustainable Development where a variety of progressive measures (such as investment in renewable energy by the OPEC countries and measures to curb excessive consumption in the rich West) failed to be taken up and implemented. For these and related reasons he considers that global politics is in a genuine crisis.

Gorbachev’s personal solution is to put his energy into initiatives like the Earth Charter, Green Cross International and the Earth Dialogues process. He’s accepted that governments per se and the UN simply will not act in the ways that will achieve sustained change. Therefore the only route left is direct engagement with people around the world and, especially, through the NGO movement. He does, however, overlook the vital role of that could be undertaken by future-focused educational innovation (Gidley, Smith & Bateman, 2004).

A final example is a work that explores the dilemma of the United States of America and, by extension, other technically developed societies. The Long Emergency is a challenging book that employs an uncompromising cultural analysis of the USA to take issue with nearly all of the underlying myths and cultural assumptions that have become widely accepted, not only there, but also around the world (Kunstler, 2005). Kunstler, a US citizen, suggests that the USA has been ‘sleepwalking into the future’ for many decades by adopting and promoting a short-term, exploitive and self-defeating set of policies and practices that will cost it dearly. These include:

- the ‘fad’ of globalism and a ‘magical’ market economy
- present-day profiteering at the expense of future wellbeing
- what he terms a ‘colossal mis-investment’ in suburbia
- the creation of an unsustainable economy
- dishonest government where vital trends are dismissed as ‘unthinkable’
- overall, a Las Vegas-type culture of dependency and purposeless dissipation.

Underlying all this are issues of modernity and the projected decline of fossil fuels. Kunstler is not alone in suggesting that the former is much more dependent upon the latter than anyone is prepared to admit. He points out that the peaks of US and world oil discoveries were in the 1930s and 1960s respectively. The significance of subsequent oil ‘shocks’ and temporary shortages was overlooked due to an inherent American complacency, its belief that it could secure supplies from overseas and then by the emergence of new fields in Alaska and the North Sea. But the figures from the Middle East are uncertain and the growth of China has helped to accelerate demand right at the point when supply is fully stretched. In this view, we have already reached the period of ‘peak oil’, and the ride ‘down from the peak’, as it were, will be far more difficult than current decision makers realise. There’s also a deeper and more vexing issue that is seldom considered anywhere. Kunstler views the oil era as having permitted the world’s population to rise...
to its current level, a level that cannot possibly be sustained. He writes:

The current world population of 6.5 billion people has no hope whatsoever of sustaining itself at current levels, and the fundamental conditions of life on earth are about to force the issue. The only questions are: what form will the inevitable attrition take, and how, and which places, and when? (p. 61)

About half of the book deals with the post-oil world that he believes will occur before mid-century. He suggests that eventually all nations will have to contend with the problems of the Long Emergency: the end of industrial growth, falling standards of living, economic desperation, declining food production and domestic political strife. A point will come when even the great powers of the world no longer have the means to project their power any distance. Even nuclear weapons become inoperable, considering how much their careful maintenance depends on other technological systems linked to the fossil fuel economy (p. 98).

Unlike some other commentators he believes that, with the possible and temporary exception of nuclear power, there are simply no viable alternatives to oil. For a variety of reasons, the so-called ‘renewable’ sources of energy, such as solar, wind, wave, hydro and hydrogen, will not replace oil and gas. Nuclear power may produce some base load electricity but this will fail to serve the wider spectrum of energy needs. The underlying theme of the book, therefore, is that of a culture that has lost its grip on reality, created a fantasy world predicated on cheap, easily transported energy, and is now faced with chronic entropic decline. Clearly this is a powerful and challenging thesis. There is, however, one very significant omission: he says virtually nothing about the many sources of vitality, creativity and depth of innovation within US culture, including those found – or that could be created – within educational settings.

What we have in these brief samples from a much wider literature are some of the elements of a diagnosis of the ‘state of the planet’ in the early 21st century. I suggest that it is absolutely vital that educators at every level begin to take this work seriously, assess its veracity and work out the consequences in some detail. I take the view that, equipped with such resources, it is well within our capacity to respond. A well-grounded and informed futures perspective goes a long way beyond allowing us to propose a variety of actions to preserve the environment, vital as this is. It also provides the tools to understand deeper issues like the fallacies of economic growth and to discern some of the more subtle drivers of unsustainable outlooks within the heart of the Western worldview itself (Berman, 1981; Slaughter, 2004).

Educational responses

From the point of view outlined here the single most significant omission from educational thinking and practice is the absence of any kind of effective futures discourse. This has become indefensible. ‘The future’ is no longer an abstraction, a metaphorical ‘empty space’. It has real and comprehensible content, major challenges and inspiring opportunities that go to the very heart of social life. In other words, we might say that intelligent forward views have become indispensable (Steffan, 2004).

If this is accepted then the first and core requirement is that educators look beyond their studies, offices and classrooms and inform themselves not only about the dimensions of the global challenge but also their implications for overdependent societies. These include the broad arena of positive resolutions to these fundamental issues (Brown, 2007).

A second requirement is that they begin to seriously build on the wide range of futures work and initiatives that have occurred in various educational environments, both here and abroad (Beare & Slaughter, 1993; Gidley, Smith & Bateman, 2004; Hicks, 2002, 2006; Page, 2000; Milojevic, 2005) The profession as a whole must ensure that all beginning teachers have a grasp of the global context and what it is telling us, as must curriculum coordinators, school principals, executive decision makers and ministers.

Third, the profession needs to seriously evaluate some of the emerging ideas that bring with them the potential for societies to re-equip themselves for the turbulent period ahead. At the top of this list I would like to suggest not merely an abstract notion of ‘social foresight’ but a deep appreciation of how it builds on our own individual capacities for dealing with the ‘not here’ and the ‘not yet’. The pathways to implementing social foresight are much less esoteric than one might think (Slaughter, 2006b). Next on the list might be the principle of ‘intergenerational equity’ which would help us to understand – and begin to reverse – the process by which current populations constantly defer the full burden of the costs of their activities to our children and theirs. An ombudsman or council for future generations might not be a bad idea to adopt. A final example concerns problematising conventional notions of economic growth and reconceptualising it within an ‘economics of permanence’ (Henderson, 2008). Clearly there’s a great deal of work to do.

Within schools there are many options for including a futures emphasis across the curriculum. At the primary level it can be achieved by the inclusion of a sample of futures concepts and tools wherever they are deemed appropriate. At the early secondary
level a variety of teaching strategies are available to deepen and extend young people's appreciation of futures concerns (Slaughter & Bussey, 2007). At the upper secondary level there are worked examples in Australia showing how this work can be carried out. In fact, proof of concept was achieved with a trial futures subject for Year 11 and Year 12 in Queensland – although the changing political circumstances of the sponsoring body meant that the subject, while successfully trialed, was never implemented (Board of Senior Secondary School Studies Queensland, 1995).

As in all such cases it's obvious that teacher capacity and teacher response is crucial. When given sufficient time and support to achieve a level of familiarity with futures approaches, most teachers are more than happy to incorporate them in their work. Furthermore, and this is the clinching argument, perhaps young people jump at the opportunity to explore the futures domain for one very obvious reason – they are intrinsically interested in prospects affecting the unfolding of their own lives. Crucially, having an early grounding in futures concepts and tools, grappling the beginnings of a futures discourse and beginning to understand the pattern of threats and options in the near-future view all serve to assist young people in their transitions to life and work (Board of Senior Secondary School Studies Queensland, 1995).

With these foundations, they are better equipped to develop active and informed responses to futures that most adults can still scarcely bring themselves to imagine.

**Conclusion**

When educators use the term 'work' they are usually referring to the emergence of the young from educational environments to 'the world of work', that is, earning a living, becoming citizens, raising families and so on. I support the focus on these vital social processes wholeheartedly. Yet underlying them are expectations of smooth continuity into the future that cannot and will not be sustained. A number of very specific discontinuities lie ahead. Metaphorically they constitute an approaching 'perfect storm' comprised of climate change, regional environmental collapse, peak oil disruptions and economic crises, all exacerbated by continuing strife between different worldviews. If, on the other hand, such prospects received timely, careful and sustained responses, their worst effects can be moderated and perhaps resolved (Slaughter, 2006a).

So the purpose of this paper is to challenge educators to see these issues as intimately bound up with all aspects of teaching and learning.

Beyond conventional notions of 'work' we need to explore those that deal explicitly with the various aspects of our civilisational challenge. They need to be taken very seriously indeed by the whole profession.

I promise you that, in the main, young people will not object!

**References**


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Abstract

This paper argues that there is no uniform trend to work which requires higher skills, higher levels of discretion and autonomy, increased teamwork, and increased multi-skilling. The link between increased opportunities for quality education and training and better quality work requires an integrated and new labour market, industry and education and training policies. The deregulatory and market-based policies applied to education and training, labour market and industry funding and regulation over the past decade have had negative consequences. It is open to Australian governments to develop an integrated approach to industry, the labour market, and education and training that would decrease inequality, increase participation in the labour market, increase productivity and ensure that the Australian economy is strong in areas of the highest productivity growth.

Introduction

The evidence is unequivocal that individuals with a broad-based education and qualifications experience decreased unemployment, increased income, better health (especially for women) and more satisfying and secure employment. The absence of a broad-based education and qualifications is associated with poor quality and precarious work, unemployment, imprisonment and poor health. This is clear not only in Australia but throughout the OECD countries.

The evidence is also clear that increased investment in broad-based education and training is critical for improved levels of participation in the workforce and productivity. However, increased investment in education and training is not sufficient to achieve these outcomes. Education and training policy must be linked to appropriate labour market and industry policy if the benefits of productivity and participation are to be achieved. With the right complementary policies, growth in qualifications can help drive economic and social development. These policies can help drive high-wage/high-quality employment and growth in the sectors of the global economy with the fastest productivity growth. The work of the OECD and in Australia by Michael Keating and other economists shows that investment in education and training is a much more important variable in lifting participation and productivity than the deregulatory policies such as removal of regulation of business and privatisation which were in vogue throughout the last decade.

Global trends in the quality of works

The trade unions have argued strongly since the mid-1980s that there is not some inexorable and uniform trend in the labour market which requires higher skills, higher levels of discretion and autonomy, increased teamwork and increased multi-skilling. I have seen some remarkable examples of these forces at work. For example, one company I was dealing with was concerned about the militancy
of the workforce at the plant that produced most of the aluminium can ends in Australia and they decided to close that plant and invest in a new plant in regional Victoria. More than 150 workers were engaged in the work at the old plant but in the new plant there were only 25. What’s more, about 80% of the labour in the new plant was about quality control, maintenance and logistics, whereas in the old plant 80% of the labour was engaged in physical production processes. In another example, I saw how in automotive and truck factories in Germany and Sweden from the late 1980s onwards up to ten different models could be produced on the same production line; how all members of the work team were highly skilled and qualified; how the proportion of workers in the work teams with at least trade level skills was very high; and how work teams had a high level of autonomy.

In contrast I have seen how the production of surgical instruments has shifted to Pakistan where it is carried out in primitive conditions by young children on dirt floors who are welding and grinding with no eye protection. I have also seen how information technology and globalisation have been used to create a global race to the bottom in respect to social, environmental and labour standards for workers and their communities. The new systems create much more sophisticated forms of time and motion studies and control over workers.

The Sony Corporation decided in 2000 that in order to achieve effective multi-tasking (that is, operation of more than one machine or process at the same time by a single operator) workers at the factories that assemble TVs and other electronic equipment should stand rather than sit throughout their shifts. Their studies showed that the women workers wasted less time moving from one work station to another if they were in the standing position. The company sought to enforce this new work practice in factories in many countries throughout the world. In Indonesia it led to a strike. After a long struggle supported by the International Metalworkers Federation and the threat by our union as part of this campaign to expose the company during the Sydney Olympics, the Indonesian workers won an agreement. However, the company then shifted significant production away from the Indonesian plant to other more compliant factories.

Our members who work for the road patrols who fix your car when it breaks down are tracked by GPS and face enormous pressure to spend no more than a fixed, limited time attending to your needs. The same applies to call-outs for gas, electricity, plumbing, Internet installation and so on. In call centres, banks, supermarkets and factories standardisation of procedures and intensification of work have increased exponentially. New systems of benchmarking are possible. In manufacturing processes the multinational companies benchmark tool changeover times between plants internationally. They benchmark the number of workers involved in particular teams and processes and then tell the workers that if they can’t meet the ‘best’ – that is, the greatest level of work intensification or the worst from the workers point of view – then they will shift their jobs to the places that can.

The marketing promise of corporate-led globalisation is a dazzling array of products and services tailored to your particular needs if you can afford it. However, the real choice is often in the marketing and packaging rather than in the substance. Banks, telephone companies, electricity companies, sports shoe companies and car dealers spend huge amounts of money telling you how responsive they are and how their product will change and liberate your life. However, real and personal customer service to meet your actual needs is often very hard to come by. It is exactly the same when it comes to the promise of more liberated, interesting, higher skilled and autonomous work.

### Australian approaches to job design

It is true that the fastest growing employment sector is Australia is professional and para-professional employment. It is also true that there is a growth in jobs for which higher level vocational or university qualifications are the norm. However, there are also many jobs that are being deskilled and devalued and there is significant growth in some sectors of low-skill employment.

There are many work redesign strategies which run directly contrary to the high-skill/high-wage/autonomous team worker model. For example, in English-speaking countries there has been an explosion of contracting out. All sorts of functions are spun off from the main business. Essentially this is an exercise in driving down wages and conditions and subscribing to a new form of Taylorist ideology. This new ideology goes by many names but one of the most common is called ‘core business’. This means that real multi-skilling (as opposed to the much more common multi-tasking) and teamwork becomes impossible. It means that many procedures become standardised. It means that responsibility for training, human resource development and improvements to work systems and organisation no longer lies with the principal company and its management. These things become costs to be driven out of the system.

It is the experience of many workers that instead of operating one machine or administrative process they now...
operate many, but the basic level of skill is the same. The level of real control over the work is actually reduced as procedures are more standardised and monitored, and the work pressure is more intense. This multi-tasking often includes incidental tasks which were previously performed by other workers – ‘working with both hands and with a broom up your backside’ is how many workers describe it.

Contrary to popular myths, it is not the executives and managers who need their obscene bonus and performance payments to compensate for their terrible working lives, but it is the new army of deskilled workers in precarious employment who face an epidemic of work intensification and insecurity. The diseases of modern society – heart disease, diabetes and so forth are of course directly linked to these occupations. The healthiest workers and the least stressed workers are those who have autonomy or control over their work, and who have the satisfaction of utilising their skills and knowledge.

Education and training alone cannot change these realities. A combination of labour market, industry policy and education and training policy can.

Without complementary labour market and industry policy initiatives, many of those who get higher level qualifications suffer the frustration that their skills and knowledge are not utilised in their employment.

**National strategies can make a difference**

The nature of the Australian labour market is not some inevitable product of international global forces. National governments can and do make a difference. Among developed countries there is wide variation in productivity and participation and in the related factors of investment in education and training, qualification density, rates of precarious employment, unionisation rates, density of collective bargaining, income inequality and the nature and extent of government industry policy intervention. Consequently, there is wide variation in the quality of work and the quality of education.

Of course, no country can be immune to the effects of the enormous increase in the power of the multinational companies. International governance has been moulded to meet their interests in the World Trade Organization, International Monetary Fund, World Bank and international financial markets. So in every country there have been strong pressures towards deregulation in the interests of the multinational companies and a consequential increase in precarious employment and income inequality. However, the extent of these trends varies widely depending on the national policy responses.

Australia is part of an axis of English-speaking countries committed to the policy settings which guarantee those countries will remain the leaders in income inequality, precarious employment and hollowing out of high-skilled manufacturing jobs. Recent work by Doug Fraser (*Are Australian jobs becoming more skill intensive? Evidence from the HILDA dataset, AVETRA Conference 2008*) demonstrates that the expected growth in more autonomous and skill-intensive work is not occurring in Australia.

Similar research in the United Kingdom over more than a decade by Ewart Keep and Ken Mayhew (*From Skills Revolution to Productivity Miracle – not as easy as it sounds, Oxford Review of Economic Policy Vol. 22 No. 4 2006* is a recent example) shows that despite significant investment in education and training by the Blair Government the gap in productivity and participation and ‘high-skilled, autonomous job opportunities’ between the United Kingdom and Germany and Scandinavia has not significantly narrowed.

Australia has led the developed world in the growth in precarious employment. Precarious employment is of course associated with few education and training opportunities, poor levels of unionisation and protection, poor occupational health and safety and low levels of autonomy and utilisation of skill in job organisation. This growth in precarious employment has not been an accident; it has been a result of deliberate government labour market and industry policy. For example, in Australia, unlike most other developed countries, there is no requirement to limit casual or temporary work to genuine short-term work requirements. In Australia you can be employed as a temporary or casual worker without protection from unfair dismissal and without leave and other entitlements in the same job for 20 years. These policies have made it easy to increase profitability in the short term through sweating labour, contracting out, privatisation, artificial corporate restructuring and decreasing wages and conditions, rather than through investment in skills, education and innovation. The collapse in private R&D investment and in productivity growth have been an inevitable by-product.

The evidence has been clear for some time. The introduction of the *Employment Contracts Act* and the radical deregulation in New Zealand in 1990 was accompanied by a long-term collapse in productivity and R&D investment and dramatic growth in income inequality. Despite the free trade and economic partnership between Australia and New Zealand, the gap between Australian and New Zealand wages grew strongly and has never recovered.

*Touching the Future: Building skills for life and work*
Trends in the quality and effectiveness of the Australian vocational education and training system

The effectiveness of Australia’s education and training system has been undermined by the lack of complementary labour market and industry policies to encourage the investment in quality jobs. Furthermore, the system’s effectiveness has been further undermined by the spread of the same neo-liberal policies to the management of the education and training system itself.

The strengthening of the Australian VET system in the late 1980s and early 1990s has been admired internationally. A nationally consistent system of industry-defined national qualifications was achieved and is still largely in place. This provides a firm basis for linking quality training and quality work, and for linking industry, labour market and education strategies. There was also a significant expansion in investment and participation in the VET system during this period. The competency basis of the system provides the foundation for linkage between work and learning and theory and practice and also for effective recognition of skills and knowledge acquired on the job. However, during the past decade funding has not increased and there has been an increasing focus on neo-liberal market-based approaches.

The National Skills Policy Collaboration comprising the Australia Industry Group, the ACTU, the Australian Education Union, Group Training Australia and the Dusseldorp Skills Forum in their paper Facing up to Australia’s Skills Challenge1 has identified at least six compelling reasons for the Government to act:

1 Australia faces a significant shortfall in the supply of workers with the required vocational qualifications. Currently 87% of available jobs require post-school qualifications, but 50% of the workforce lacks these qualifications. The best estimate is that if the 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 year for the next decade.

2 Australia faces a significant shortfall in the supply of people with the necessary high-level technical vocational and tertiary qualifications. In recent years, the highest levels of employment growth have occurred in associate professional (e.g. engineering, building, medical, technology) and professional occupations. A serious skills shortage exists in the sciences and mathematics, with an estimated shortfall of 19,000 scientists and engineers by 2012.

3 Australia is struggling to lift school completion rates. Other OECD countries have managed to progressively improve school completion rates, but these rates have barely shifted in Australia over the past 15 years. A dimension of this is reflected in the fact that among 25–34 year olds, Australia now ranks 20th among the OECD countries in terms of school completion.

4 The ABS recently estimated that 46% of adults – or seven million Australians – had poor or very poor skills across one or more of the five skill domains of prose literacy, document literacy, numeracy, problem solving and health literacy. This means they did not attain the skill levels regarded by most experts as a suitable minimum for coping with the increasing and complex demands of modern life and work. Early school leavers are especially likely to have lower levels of literacy and numeracy.

5 Australia’s total public spending on education at 4.8% of GDP is below the OECD average (5.4%), and well below the Scandinavian countries, France, New Zealand, the UK and the USA.

6 More than a decade of sustained economic growth and prosperity has provided the country with an unprecedented opportunity to seriously tackle educational exclusion and disengagement, and to do so in ways that can deliver greater social equity. It is imperative that all Australians have these opportunities in order to lead productive and fulfilling lives.

The observations of the National Skills Policy Collaboration are consistent with the observations of the AMWU in that:

• Despite the long economic boom, workforce participation rates in Australia are low when compared with the most productive economies.

• There are still more than 11% of the workforce who are unemployed or underemployed.

• The proportion of young people not engaged in full-time work or full-time training has remained static and these (up to half a million) disengaged youth are much more likely to remain unemployed or underemployed and affected by depression, crime, drug abuse, homelessness, poor health and poverty.

• The number of existing workers completing higher level VET qualifications has declined significantly in the past few years.

1 Facing up to Australia’s Skills Challenge – 13 March 2008
• The VET qualification completion rate in the 15–24 cohort is estimated by NCVER to be 23.7%.

• There will be a major shortfall of trained tradespersons in the medium term unless there is a change in policy settings.

• Completion rates for traineeships are very low and the completion rates for apprenticeships in most of the key engineering trades have declined significantly during the current decade.

• In the years from 1997 to 2005 there has been a very substantial 25% decline in federal funding per VET student.

To address these problems policies are required to lift demand for training in the qualifications that meet trends in the economy, but also to help shape those trends in the direction of quality work and to develop the leading edge industries. Public investment must be directed to lift the demand in the right areas and to ensure that the quality training is delivered. Policy must also be directed at leveraging increased investment by employers – through time off for training and payment for training. Public policy must also be directed to ensure that training delivery and pedagogy is flexible to meet the needs of students and effectively translated into applied skill and knowledge, and that existing skills and knowledge are appropriately recognised. The market-based approaches of the past decade have stood in stark contrast to this.

The problems of the market-based approach to VET

The deregulatory labour market and industry policies pursued have reduced demand for quality training and this problem cannot be overcome simply by a generalised increase in the supply of training. Investment by employers has fallen. Many workers and employers cannot participate in training because the intensification of work has meant that there is no time for training. (The work of John Buchanan and others from Sydney University has demonstrated this in a number of detailed studies.) The response to this problem by governments in the last decade has been to rely on the very market-based mechanisms that are the cause of the problem rather than its solution. These market-based approaches shift public funds to the least intensive training and to those who are easiest to train. This is the natural way for providers and the intermediaries who are engaged to recruit students and employers to maximise their returns in the market. This is best illustrated in the apprenticeship and traineeship market. The results despite massive investment have been:

• continuing skills shortages in key trade areas (Group Training Australia still reports there are up to six applicants for every position in traditional trades in Victoria)

• massive overtraining in areas where there is little need

• massive diversion of public funds to very low-level induction training which employers had previously funded and which they would still fund without government funding and subsidy

• a great deal of very poor quality training and in some cases no training at all

• a dramatic fall in completion rates

• a proliferation of intermediaries who ‘generate’ the demand in the areas which maximise through put and seek to place trainees where there is the least training effort to maximise returns.

In other words this is natural market behaviour in conditions where there is confusion about who are the providers and who are the customers. Is a company like McDonald’s the purchaser or the provider when it runs its own Registered Training Organisation? Similarly, what about Group Training Schemes linked to employer organisations which also operate RTOs? What about Australian Apprenticeship Centres which effectively dispense government subsidies but are linked to providers or employer organisations? And who is the customer – is it the employer or the worker or the student? Under the apprenticeship funding system it is the employer who is the user who chooses, but in a flexible labour market shouldn’t it be the worker or student?

Another reason why the market approach is also failing is because there is clearly inadequate demand in some areas and too much in others but the funding is provided regardless. The result is that the providers, the intermediaries and the employers generate the demand in the easiest and most profitable markets.

One other factor with these blunt policy instruments is their tendency to lead to unexpected and unintended consequences. For example, when the Federal Government cut subsidies to existing worker traineeships at AQF2 to avoid rorting and churning there was a big increase in AQF3 traineeships in the same occupational areas.

So the experience of this experiment over a long period of time would surely lead us to be cautious about the efficacy of the market principles of contestability and general entitlement (i.e. not picking winners) in meeting the outcomes. However, these principles seem to be central to the current COAG agenda driven by the work of the Boston Consulting Group.
In a labour market where there is considerable mobility and lack of employment security it is quite inappropriate for the individual employer to have the choice given that the worker may soon face the need for change and that the skill needs for the industry may already be changing. Of course, more client focus and responsiveness in training delivery is important but demand should be driven by broader industry, workforce development and community needs and analysis. The sum total of ‘individual business choices’ will not meet the broader future needs of industry, the workforce and the economy. The Howard Government tried a similar free market approach to the problem of existing workers without any post-school qualification by introducing a voucher scheme. Of course, those who take up such vouchers are those who are the easiest and cheapest to train – these are the clients that the providers and intermediaries seek out to maximise their uptake and their return. Such schemes don’t deal with the real barriers to existing worker participation in training – fear of training, lack of time for training and lack of appreciation of the value and relevance of training. What is required is a scheme that actually involves the workforce and develops union and workplace representatives as champions of training and advisors on training. What is required is an industry-led process of skills needs analysis that recognises existing skills and develops a training plan to meet the future needs of the workforce and the industry. The current approaches either seek to meet the immediate and usually narrow needs of individual employers (in other words, put public money into training which the employer would otherwise have to invest in themselves) or seek to meet the needs of the training provider to maximise utilisation at minimum cost.

The importance of qualifications

The most recent free market ideological trend in training has been the attempts to undermine the importance of and integrity of qualifications. This attack has usually come from those who enjoy their strong positions in the labour market due in part to their acquisition of higher level broad-based post-school qualifications. They argue that others really only need ‘just in time training’ or skills sets to meet the immediate needs of their employer. This can be delivered quickly (and so helps solve alleged shortages without having to pay workers more). So instead of training carpenters, we just train people to install formwork; instead of training plasterers, we just train people to install plasterboard – no cornices, no capacity to repair old plaster. This move is directly related to the labour market deregulation policies and is driven by the desire to undermine the labour market power these broad-based qualifications give such workers.

The argument sometimes gets dressed up in more sophisticated sounding clothes. Some argue that knowledge today is constantly changing, is totally specific to the particular context and is generated by the work team, and they use this to justify the skills sets approach. This, as I have argued earlier, grossly exaggerates the changes in the work organisation reality for most workers. It also confuses skill and knowledge with its application. The fact is that the core of most occupations is remarkably stable, even if the situations in which that core skill and knowledge are applied is changing quite rapidly, and even if there is a great deal more multi-tasking. Qualified workers often require incidental skill and knowledge in areas outside of their core occupation and qualified workers will often require updated knowledge and skills to deal with new techniques and technology. However, the base of a broad-based occupational qualification is the most efficient and effective underpinning.

A system which is more strongly directed at the needs of the future workforce and which could link to an effective industry and economic development policy is required. In such a system the primacy of broad-based qualifications which meet the future industry needs is required. This is essential for the mobility and flexibility of the labour force and to reduce transaction costs when hiring labour. Furthermore, not all training and qualifications should be regarded as equal. There is nothing wrong with the Government saying that it does not want to pay for more students to go into forensic science if there are far too many students being trained in that field. Demand for forensic science amongst school leavers is artificially inflated by the popularity of CSI and other crime shows on TV. There is also nothing wrong with the Government saying it won’t pay for induction training for the fast food industry given that the employer would have to provide this training to successfully operate the business and that the sector is not trade exposed. There is nothing wrong with the Government saying it will pay extra for training nurses because it anticipates a growing need for nurses.

The role of the public provider – TAFE

The public provider of training (TAFE) has in some ways been corrupted by the developments of the past decade. In order to maximise their market share in the competitive market, the TAFE directors are actually driving the devaluation of qualifications – pushing to be able to achieve marketing advantage by accrediting their own courses to meet immediate and narrow needs. This runs directly contrary to sensible labour market and
workforce development policy and will disadvantage students and workers in the labour market.

The TAFE directors are also pushing for the Government to fund and allow them to accredit partial qualifications so that they can attract employers to the system by providing public funding for narrow and short-term in-firm training and for fee-for-service training currently paid for by the employers. The opposite strategy is needed – recognise the value of the in-house training by mapping it against the broad-based national qualifications and providing funding for a training plan to enable the workforce to build on this training to complete the national qualifications.

The TAFE directors are also pushing for more full-time institutional delivery of trades and other occupational qualifications. Again, this runs counter to labour market and industry policy needs where greater integration of work and learning and theory and practical application are required. If public funding of such full-time options was allowed, providers would seek to maximise entrants into such courses as they will be easier to fill (hence lifting their revenues). The consequences will be a decline in apprenticeships and traineeships; much poorer quality training outcomes (less competent new workers) and a big decrease in employer investment in skills development as employers move to the cheaper option of full-time up-front training where the training costs are borne by the State and by the individual alone.

Conclusion

Many of these issues are not new but they are emerging in new forms. Employers have always resisted their responsibility for skills development if they can get away with it. However, this can be overcome. For example, prior to the Second World War apprentices went to night school and did not get time off for training. ‘The days are for tech, the nights are for love’, This was the banner displayed by the young metal and building apprentices in their campaign against night school in demonstrations and strikes in Sydney and Melbourne following the Second World War. These workers, all of whom were aged from 15 to 20, won their struggle. From the 1950s until today apprentices had the right to time off during the working day to attend technical school, which is now called TAFE.

In the same way, I believe that those involved in the provision of Vocational Education and Training can join forces with those who are fighting for quality work and decreased inequality and can achieve the integrated policy approaches and the increased public investment required.

In conclusion I hope that I have established that:

- it is essential to deal with education and training policy in conjunction with industry and labour market policy
- that the deregulatory and market-based policies applied to education and training, labour market and industry funding and regulation over the past decade have had negative consequences
- that governments can make a difference and that it is open to Australian governments to develop an integrated approach to industry, the labour market and education and training which would decrease inequality, increase participation in the labour market, increase productivity and ensure that the Australian economy is strong in areas of the highest productivity growth.

I am optimistic that we can create the climate for a new education and training policy which is linked to a positive labour market and industry policy. This would be a policy that links increased opportunities for quality education and training to increased opportunities for quality work. This linkage is essential for a more just and productive social and economic future for this country.
The National Assessment Program – Civics and Citizenship: Reflections on practices in primary and secondary schools

Abstract

Young citizens leaving secondary school should be competent in decision making and knowledgeable about the processes of civic participation available to them as citizens. Across the world, over the last two decades, concerns have been consistently expressed over a perceived lessening of interest by citizens, especially younger citizens, in active participation in the formal governance of their societies. A range of policies have been developed by governments to vigorously address this trend.

This presentation will explore assumptions underlying the current provision of Civics and Citizenship education (CCE) programs in Australia, and the conceptual and cognitive definition of the domain by education jurisdictions and the national assessment regime. It will demonstrate, through an examination of assessment materials and findings from the assessments, what is now known about the capacity of school-aged Australian citizens to participate in governance. It examines the role schools can play in better supporting their students. It argues that unless there is a greater improvement in Civics and Citizenship achievement than has been evident to date, Australia’s young people will not have the necessary competencies or dispositions for citizenship participation in their future civic life, and all parties will be the poorer for it.

A central proposition for this paper and for the work associated with the National Assessment Program—Civics and Citizenship, is a belief that democratic societies need the active participation of their citizens to stay healthy. This view is universally endorsed in democratic societies, though there is debate about what form the active participation should take in any particular situation. Across the world, over the last two decades there has been a perceived lessening of interest by citizens, especially younger citizens, in active participation in the formal governance of their societies. This trend has concerned governments in democracies and a range of policies have been developed to vigorously address the trend.

Supporting the teaching and learning of Civics and Citizenship in schools has been one way of addressing this perceived lessening of interest. National assessment in Civics and Citizenship has been seen as a driver for increasing the profile of and providing a focus for increasing the provision of explicit Civics and Citizenship education (CCE).

Introduction

The main points to be examined in the presentation will focus on core understandings about engagement and participation and are as follows:

- What kinds of participation are available to citizens in a democracy?
  - Civic/social participation and political participation?

- What motivates citizens to actively engage, to participate?
  - What might motivate young citizens to participate?
  - Are their motives different from those of other citizens in some significant ways?
  - What roles do attitudes and values play in these participations?
  - What kinds of participation are young people attracted to?
  - What explanations are there for these patterns?

- What civic knowledge do citizens need in order to effectively participate? (Note dependence on governance system, and intended/possible participation)

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Project management for ACER of civics and citizenship projects has included review papers for the Curriculum Corporation: The Pedagogy of Civics and Citizenship Education and School Ethos and Citizenship, the 1998 report ‘What’s the Point?: Political Attitudes of Victorian Year 11 Students. She was project manager of the national Australian component of the IEA Civics Education Study 1995–2002, and prepared the national report. In 2000–03 she conducted the evaluation of the Victorian Discovering Democracy Professional Development Program, resulting in Discovering Democracy in Action: Implementing the Program.

From 2003–06 she was ACER’s Project Director of the inaugural National Sample Assessment in Civics and Citizenship of Year 6 and Year 10 students in 600 schools in Australia, for MCEETYA. Since 2004, as ACER’s Project Director, she has directed the second cycle of the National Assessment Program – Civics and Citizenship, with testing of Year 6 and Year 10 students in 620 schools to be conducted in October 2007.
- How do people learn to participate? (discussion of options)
- What is the role of decision-making experience and civic knowledge in this learning?
- What role should or can schools play in this enterprise?
- Is, or should, it be a marginal or central mission for schools?
- How might curriculum and governance in schools be changed to assist students in their CCE learning?

• What motivates Western liberal governments’ concern about the lack of interest?
• How are they proposing to stem this trend? (several approaches will be described)

• What has Australia done over the last two decades?

The Australian approach to CCE

• 1980s Senate Standing Committee established.
• 1994: Whereas the people … published.
• 1996–2000: Australia participated in the IEA Civics Study (reported 2001).
• 1997: Discovering Democracy program launched – resource development.
• 2001: MCEETYA decides to implement triennial National Sample Assessment at Years 6 & 10, takes advice on two Key Performance Measures in CCE.
• Discovering Democracy program Stage 2 begins – PD provision.
• 2002/3: Development of Assessment Domain for national assessment in CCE
• 2002/3: States and Territories start curriculum mapping of CCE, undertaken across KLAS, typically focused on curriculum areas such as SOSE/HSE.
• 2003: First cycle of national assessment in CCE trialled.
• 2004: First cycle of Civics & Citizenship Sample Assessment Program Years 6&10 implemented.
• 2005–7: National Statements of Learning (SoL) in CCE developed.
• 2007: Second cycle of CCE national assessment begins.
• 2006: National SoL released and incorporated into State and Territory curricula, with agreement that SoL to be implemented in all schools in 2008.

The implementation process is as follows:

• investigation
• goal clarification
• resource development
• National Assessment Program
• PD
• Curriculum mapping
• SoL

Federal funding is now reduced to a trickle and State and Territory funding consequently reduces as it was always seen as a federal initiative. Why?

Additional decisions that have constrained the Australian approach

• The Adelaide Declaration took a broad view of CCE. This view is explicitly referred to in goal 1.4, which states that Australian students, when they leave school, should:

  be active and informed citizens with an understanding and appreciation of Australia’s system of government and civic life

and implicitly referred to in the types of knowledge, understandings, values, judgments and decisions that are desirable student outcomes of Australian schooling.
• In contrast to this broad view of CCE, the Discovering Democracy resource development incorporated a paradigm which focused on formal governance institutions and civic knowledge. So some contradictory messages are apparent.
• Professional development after the development of CCE resources has made clear the experience of teachers working at the CCE coalface that may have usefully informed the development of the resources.
• A single specific CCE curriculum (a single specific CCE curriculum vision) has not been conveyed, or consistently focused across jurisdiction. This has led to further mixed messages for schools and inconsistent implementation.
• The approaches to defining the scope and contents of the ‘civics’ element of curricula has been inconsistent and poorly conceptualised. This has contributed to a general misunderstanding and undervaluing of ‘citizenship’ that often takes the form of obligatory participation in ‘feel-good’ activities rather than as an active response to informed decisions about issues of social importance.
• The NAP-CC Assessment Domain attempted to address these problems by better defining content
and providing an articulated balance between civics and citizenship through the two KPMs (to be examined in depth, via test units, with score guides)

• The operationalisation of this can be seen in the instrumentation including item formats, and Student Background Survey.

Significant findings of pre-2004 research

• The IEA (2001) study found that:
  - Teachers believed that CCE was of primary importance as a learning area.
  - Teachers did not feel competent to teach many of the concepts and content.
  - Australian students’ civic knowledge was about median for the full cohort.
  - Australian students’ were more inclined to engage in social/civic activities than in formal political activities.
  - Their attitudes and commitment to democracy were positive.
  - Australian students’ disposition and motivation to political engagement were low (supported by Mellor, 1998).
  - Australian students appreciated their democracy and trusted some civic institutions, but not the politicians.
  - Participation in school councils had a positive effect on academic achievement.

• There was much to be done but there appeared, from student and from teachers’ responses to be a willingness to engage in teaching and learning CCE.

• The Senate reports and the Civics Expert Group’s Whereas the people … report indicated the political willingness of the federal government to raise the profile of CCE in Australian schools.

• Take-up of Discovering Democracy program focus on resources was low.

• New CCE program provision in schools as a result of Discovering Democracy professional development programs was also low.

• Discovering Democracy became involved in ‘the culture debates’, and in values education programs and these had a weakening (divisive/confusing) impact on specific CCE curriculum provision.

Australian student CCE learning and proficiency

What have the National Sample Assessments in CCE, 2004–07 indicated about Australian student CCE learning and proficiency?

• Civics and Citizenship achievement is low at both year levels tested.

• Civic knowledge and citizenship dispositions are closely correlated.

• Factors found to be significant in student learning are:
  - SES (parent occupation)
  - Correlations between CCE proficiency and engagement in civics-related activities
  - Opportunities to engage in decision making and governance in school
  - General academic ability

Other related research

Other factors found to be significant in student learning in CCE are:

• Whole school programs with a CCE focus are more effective in generating a school culture that is supportive of more active decision making by students. (Such data not collected in NAP-CC, but available from other research, especially from evaluations of school-provided programs and related student learning outcomes.)

• Curriculum provision across KLAs is not generally conducive to high status or integrative sustained curriculum programming.

Concluding comments

This paper has explored some of the history and assumptions underlying the current provision of Civics and Citizenship education (CCE) programs in Australia, and the conceptual and cognitive definition of the domain by education jurisdictions and the national assessment regime. It has demonstrated, through an examination of assessment materials and findings from the assessments, what is now known about the capacity of school-aged Australian citizens to participate in governance. It has also reflected on what has constrained the provision of CCE in schools and how ‘capacity’, in terms of levels of knowledge, understandings and dispositions, can be expanded to further enhance students’ learning in the area.

It would appear from the national assessments findings that the policy initiatives in CCE over the last two decades in Australia have not had the desired result of creating well informed and engaged young citizens. Unless there is greater success deriving from some variants of CCE policies than has been evident to date, Australia’s young people in the future will not have the necessary competencies or dispositions to actively participate in the civic life of their society. Their right to, and society’s need for them, to be both civically competent and well disposed to actively engage in civic and political life, will have been denied. All parties will be the poorer for it and we allow it at our peril.
Some reforms to better equip young people for tomorrow’s world

Christopher Robinson
Chief Executive, DECS SA

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Mr Robinson has worked in a range of national leadership and reform roles in education and training for nearly 30 years.

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Prior to this, Mr Robinson was the Chief Executive of Australia’s National Centre for Vocational Education Research (NCVER). The NCVER compiles and publishes vocational education research and the national vocational education statistics. Mr Robinson also worked in two other national research agencies, and has authored or co-authored over 100 books, journal articles and monographs.

He has held a number of senior positions within the Australian Government in the Department of the Prime Minister and Cabinet and the education and training portfolio.

Mr Robinson has also worked internationally within the education and training sector.

Mr Robinson is a member of the Council of Australian Governments (COAG) Productivity Agenda Working Group on Education, Skills, Training and Early Childhood Development (chaired by the Deputy Prime Minister) that is advising on new national early childhood, education and training arrangements.

He has a Bachelor of Agricultural Economics degree and a Graduate Diploma of Social Sciences.

Abstract

The changing context of schooling is examined in this paper in terms of global changes and what impact these are having on the skills young people need to have. In particular, the way work is changing, and the skills and education young people need to have to maximise their economic opportunities is explored.

The key issues are that high skill jobs requiring university or high level vocational qualifications now make up the majority of jobs and they are growing at twice the rate of other jobs in Australia. Young people with university or Vocational Education and Training (VET) qualifications (at least Certificate III level) have excellent prospects, whereas those who drop out of school early face much more poor and declining prospects.

New approaches to schooling to ensure that most, if not all, young people not only complete a full secondary education, but also go on to attain a tertiary qualification at university or VET are explored in this paper.

Research suggests that in school factors such as improving teacher quality only account for around one-third of the variation in student performances, so these strategies need to encompass wider and more comprehensive approaches to supporting students to remain engaged and to make the right choices.

Introduction

The world is changing faster now than at any time in human history. Climate change and the finite nature of the planet’s carbon-based fuel reserves means we are going to need to virtually eliminate our dependence on our carbon-based fuels and energy sources over the next 50 years. This has major implications for schooling. Young people need to have a more scientific literacy and a more sophisticated understanding of the impact of global events to be able to better adapt to events requiring unprecedented economic and social change such as global warming.

Globalisation is also changing cultures, human relationships and societies. With the advent of the international media and the Internet, a global youth culture has emerged. Together these factors mean we need a population that is more sophisticated, resilient and able to cope with rapid change, as well as being able to take advantage of the possibilities arising from these rapid developments. In this context schools are becoming an even more important contributor to the spiritual, moral, cultural and physical development of young people.

The Australian economy is also undergoing massive long-term and structural change arising from globalisation, technological change and digitalisation, and the rapid aging of our population. This is changing the nature of work itself and the skills and education that people need to maximise their economic opportunities.

Employment in high-skill jobs that generally require university or high-level Vocational Education and Training (VET) qualifications has been growing strongly at twice the rate of jobs growth in low-skilled jobs over the past two decades in Australia. This has resulted in an unemployment level of around 4%, the lowest in over 30 years. Despite this, employment in low-skilled occupations such as labourers and in many clerical occupations is actually declining. It is estimated that half the jobs that will exist in just 20 years time do not currently exist today. Unprecedented structural change is underway.

The impact of these trends on skills is becoming very clear. The main factors are that:
• High-skills jobs requiring university or high level VET qualifications now make up over half of all jobs.

• For some four out of five jobs now in Australia some kind of VET or university qualification is desirable or required.

• The employment prospects for all Australians with at least a Certificate III level VET qualification are excellent (some 80–85%) with no difference between those with a degree or a high level VET qualification of at least Certificate III level.

• In contrast, the employment prospects of early school leavers are dismal with only 55% of Australians who are early leavers being employed, this rate being down 20% since the 1970s.

Dropping out of school early and not going on to gain some kind of tertiary qualification is now a pathway to very poor and intermittent employment, marginal attachment to the labour market and long-term dependency on welfare for most young Australians opting for this precarious pathway.

This is a very different situation to the one faced by previous generations of Australians. Up until the very recent past, young people could leave school before completing Year 12 and not undertake further formal education or training, and they could secure reasonable and secure employment. However, this in no longer the case.

Only just over three-quarters of young Australians complete secondary school and only half of the Australian workforce has a tertiary qualification from VET or university. This is not a sustainable position for Australia’s future.

This situation will not change quickly without a major new national effort as only 55% of Australian school leavers each year directly enrol in further education or training courses.

The upshot of this is that most, if not all, young Australians will need to attain a university or VET qualification if they are to maximise their contribution to Australia’s economic, social, cultural and civic life, and if they are to maximise their personal economic prospects in a rapidly changing global environment.

We can no longer afford to have a significant cohort of young Australians dropping out of school early and not going on to gain some kind of tertiary qualification from VET or university.

Policy positions and substantial national effort over the past 20 years or so have been focused on:

• raising school retention rates to maximise the number of young people completing secondary education
• promoting choice and diversity in school education through the expansion of private schooling options
• developing new pathways to promote greater participation in further education and training
• increasing the university end of tertiary education that, for the most part, has not been matched by sufficient increases in VET effort, particularly high-level VET.

These policies have not been sufficient to ensure enough young Australians are completing secondary education and attaining tertiary qualifications.

School retention rates have been rising over the last decade, but have really only been recapturing the ground lost during the 1980s and early 1990s.

The expansion of private schooling has had the effect of largely redistributing provision to middle and higher socio-economic groups who were succeeding better academically in any case.

Rising youth participation in university or VET is not happening at a fast enough rate, to keep up with the very rapidly changing skill demands of the labour market, nor are enough young people who commence university or VET study going on to complete the full qualifications arising from that study.

The main focus in increased tertiary participation of young Australians over the past 20 years has been at the university level. Middle Australia has shown strong aspirations for university education and university student numbers have increased threefold since the late 1980s. This has resulted in Australia becoming number five in the OECD in terms of population holding a university qualification.

Yet growth in high-skilled jobs requiring higher level VET skills has been greater in many sectors, without the corresponding growth in VET provision in many of these areas. Moreover, much of the VET effort over this time has seen the acquisition of some skills, but most students are not going on to complete the full qualification.

The fundamental issues are clear cut:

• Not enough young people remain engaged in and are successfully completing a full secondary education.

• Not enough school leavers go onto further education and training in the right areas, with high-level VET study being the biggest gap.

• Not enough entrants to university and VET complete the full qualifications arising from that study.

A key part of any strategy to address these issues is to ensure most young people complete a full secondary education and/or go on to undertake tertiary education at university or in VET programs. Specifically we need most, if not all young people, to:
• complete full secondary school, gain the senior school certificate and go on to complete a university or VET qualification
• return to study by their early 20s and complete a VET or university qualification if they completed secondary schooling, but did not go on to further study straight away
• re-engage in schooling and/or tertiary study if they drop out early.

New national work that is under the auspices of the Council of Australian Governments (COAG) is seeking to address this situation. COAG’s Productivity Agenda Working Group on Education, Skills, Training and Early Childhood Development is proposing that the attainment of the senior secondary certificate or equivalent of at least 90% of all young Australians by 2020 become the centrepiece of new national agreements of education and training.

Research around retention and successful school outcomes suggests that ‘in-school factors’ especially the quality of teaching account for around one-third of the difference in school retention and successful student outcomes.

The remainder of these differences can be attributed to factors relating to the home and community such as socio-economic status and the education levels of parents. Other factors are also important such as gender (when the school retention of girls is significantly higher than boys), location (where outer suburban and rural retention is much lower than in other metropolitan locations), the membership of a particular group such as indigenous Australians, the refugee community or being students with a disability where retention and success rates are generally lower than for other students.

Addressing school factors alone will not be sufficient to achieve a significant improvement in school retention and outcomes. It will also require significant attention to supporting students to remain engaged and succeed, especially students who come from families and communities or groups who do not have a history of high retention, high levels of secondary school completion or of involvement in tertiary education.

Moving from a situation where a significant minority of young Australians are not gaining the education and training they will need to prosper in tomorrow’s world will not happen overnight, nor will it happen without significant and holistic reform.

Some of the strategies that need to be considered in the senior years of secondary schooling are:
• a much more customised or student-centred learning approach (rather than the subject-based approach) that relates to student aspiration, capability and interest
• individual learning plans that empower students to take control of their learning, rather than something that is done to them by adults (i.e. parents and teachers)
• provision of much more information over a number of years to help students make informed career choices, rather than relying on the too often dated and inaccurate advice of parents and teachers
• provision of quality mentoring support, and in some cases intensive case management, to help particularly those students who do not come from family situations where there is a culture of high education attainment to navigate their way through what is a daunting and complex array of career choices and subject and course options, and to help students deal with other issues outside school that may be impacting on their learning and achievement
• new and innovative ways such as the development of virtual classrooms and curriculum offered by clusters of schools, to ensure that students have full curriculum choices and high-quality teaching, even if they are living outside metropolitan areas or in areas where their local school is unable to offer such curriculum choices in the conventional way
• a transformation of the VET offerings to school students to a full choice of higher level VET, instead of the current approach to VET in schools which is too often limited and low level (being determined by what schools can offer rather than by what students and communities want or need)
• more options for students who are ready to commence tertiary education or training while still at school through enrolling in a first year university subject, or a quarterly VET course (at least Certificate III level) or a school-based apprenticeship.

A transformational reform of schooling to ensure diverse, customised and quality pathways for young people cannot be something that is focused only on the last two or three years of secondary education.

It will require a comprehensive and universal approach to the early years of every child’s development from birth, not just when they start school or even preschool.

Recent advances in neuroscience research now make it very clear that a child’s foundation capabilities in language and communication, in cognition and problem solving, in socialising, and in understanding the world around are set in the first three years of life. A long-term national approach to improving the quality...
of every child’s early development is needed.

Primary school and the middle years of schooling also need a coherent approach that involves more focus on the development of resilience and an ability to become more self-reliant as learners. Of course, much of this is already happening in our schools, but we need to ensure best practice approaches are more widely adopted that put the student at the centre of the learning process.
Abstract

The Crounnulla riots were a wake-up call for Australia. With a booming economy and an assertive government, the violence at Crounnulla was a stark reminder that nations have to be made and remade culturally, as well as economically. An identity as citizen is as important as an identity as worker in forming sustainable imagined communities that can transcend and ameliorate socio-cultural divisions and conflicts. Yet being a citizen means more than simply belonging to a community. It means using power responsibly to further community (collective) action in pursuit of preferred goals.

This paper examines the changing context of skill-building for work and citizenship in Australia. It highlights the role of schools and teachers in this learning, and the way lifelong learning reforms are now reconfiguring these roles. My main argument is that Australia has unfinished business in 'building skills for work and citizenship'. Reform since the mid-1980s has emphasised skills for work but forgotten to consider how people develop skills for citizenship.

Being a worker-citizen

Education as a social institution developed as an instrument of government to manage populations and security within a given jurisdiction. The primary goal of schooling has been to prepare young people for productive and responsible adult lives as worker-citizens. The consequential goal related to security used this shaping of selves to limit possibilities of violent civil conflict arising as a result of religion or other sectional mobilisations.

This skill-building was tensioned by the need to induct young people into the practices of power that sustain capitalism and democracy. Schooling skilled and sorted the population for future work roles that would be mostly governed hierarchically through employment contracts. It also disciplined individuals in ways of knowing, interacting with others and using power horizontally, as equal and responsible decision makers in citizen-communities. Participation in community is a feature of both political regimes. It appears as teamwork in workplaces and as citizen action in governance.

Cronulla shocked Australia because it represented a breakdown in the social management of civil conflict. The violence on the beach challenged views about what it meant to be Australian. It showed that public rights and responsibilities associated with using public space were patterned by religious-ethnic identification. It highlighted that some young people were not using power – their power of collective action – in a responsible way.

Yet the main response to Cronulla seems to have been in learning for work. The Commonwealth and State governments have endorsed an expansion of technical education, plus sweeteners (e.g., toolboxes, HECS in TAFE). This response recognises that access to work is a key aspect of community building and therefore a legitimate response to social inclusion. Yet there has been less action on tackling the development of citizenship skills.

Citizenship skills

The development of citizenship skills is a critical dimension, alongside building skills for work, in the formation of sustainable communities. Citizenship is a constraint on the exercise of power through collective action. Citizenship is a ‘power to act’ in a certain capacity, in particular contexts, in ways that can enhance the individual and society. It is
an institutionalisation of ethical practices that are positively oriented towards the citizen-community and the public good, and that limit mobilisations on the basis of sectional interests, like religious or ethnic identifications.

Citizenship underpins the formation of collective agency and its form of state or decision-making body, which can legitimately act on behalf of the people and for the public good. This collective agency exercises this authority because its actions rest on citizen action, involving equal participation within rule-governed decision-making processes. The legitimacy of governance by states, their decision-making processes and the democratic politics that sustain them are undercut when people’s opinions about what should be done by or within the collective agency are excluded.

Learning citizenship skills is a precondition for exercising power responsibly in acting as a citizen. This learning requires the development of civic knowledge that it is both lawful and appropriate for citizens to act in these ways. Citizenship also depends upon the possession of civic competence and the development of a disposition to engage as a citizen in the responsible use of power. These are all outcomes of civic learning in the broadest sense.

Yet the exercise of citizenship skills is determined by the terms and conditions within communities. The way citizenship skills are learned, and the way citizen action is endorsed and authorised, influences the construction of I-we and I-other identities. It enables and constrains ethical obligations. It also shapes the capability of decision-making processes to realise legitimate actions and outcomes.

**Contexts for building skills for work and citizenship**

The terms and conditions for exercising and building citizenship skills within Australia have shifted in significant ways since the 1980s. In response to global economic pressures, the ‘nation-building state changed its mind’ (Pusey, 1992) and embarked on reforms that privileged building skills for work over skills for citizenship.

For most of the 20th century, public authorities governed skill building by defining inputs that balanced learning for work and citizenship. Specification of curriculum and assessment, the encultration of teachers and the ethics of professional practice, and the specification of terms and conditions of teachers’ work and workplaces framed the teaching process.

Teaching and learning operated through a certain ‘kind of love’ within authority relations (Metcalf & Game, 2006). This ‘pastoral pedagogy’ gave… individuals intense pedagogic attention, while applying regular norms and providing common resources … [which] are … heavily dependent on a centralised institutional capacity for close pedagogic attention, statistical normalisation, expert analysis and pastoral concern (Meredith, 1998).

The priority given to this ‘input learning’ downplayed the significance of ‘in-place learning’ that resulted from young people’s generalised participation in schooling. Schools, TAFE institutes and universities provided socially distributed learning opportunities to particular individuals and groups, which established foundational competence for occupational choices.

Citizenship skills were mostly developed through in-place learning. They were a by-product of the process of pastoral pedagogy, rather than an outcome of specific instruction. The capacities and disposition for citizen-action were not easily codified as agreed inputs and outcomes.

Since the 1980s this institutionalisation of skill building has shifted. Learning is endorsed as a foundational competence required by citizens, communities and societies on a global scale (Kuhn, 2007). This ‘new deal’ is with a ‘ruthless economy’. It is underpinned by governance practices that privilege industry voice relative to that of the citizen-community. Its message is ‘learn or be damned’ (Kuhn & Sultana, 2006).

The new deal prioritises workforce development for a competitive global economy. In-place learning is endorsed and recognised as a significant contributor to workforce skills and a basis for innovation that can be commercialised for profit.

Social inclusion is its justification, which identifies the ‘citizen’ as a category of stakeholder. They are users or beneficiaries, consumers with consumption interests in economic development, rather than political actors with democratic rights and responsibilities (Seddon, 2007).

These practices that generalise learning across the life-course cut across the established purposes and priorities of schooling. Schooling is no longer seen as a distinct skill-building enclave to support the young, but has been put to service the economy. The redesign of schooling to support skill-building for people of all ages has been largely driven through re-regulation of inputs. Outcomes-based assessment is endorsed, alongside reoriented curriculum, redefined terms and conditions of teachers’ work and the re-culturing of teachers.

The redesign of in-place learning within schooling is more intractable because it depends upon the social relations that construct cultural spaces for teaching-learning work. It has been tackled by localising learning. Lifelong
Learning in cafés

The Western District Social Partnership was formed as part of a state government policy initiative. It aimed to support young people in their transition from school to working life, with a particular emphasis on those who had fallen through the educational network, and were at risk of social disadvantage and isolation.

The café is located on the foreshore of a coastal town. Its curved balcony and big windows look across the inlet towards a steelworks and oil refinery (both subject to workforce reductions). The training café was developed by the local council in an attempt to revitalise the area’s economy and offer skills training to young people in a region with above average unemployment.

Participants. It now employs people of all ages (in line with the Shire’s casual employment guidelines). Most are under 25. They serve an average of 380 people per day. At any time there are approximately 20 training participants, both ‘back and front of house’.

Most participants are sourced from the long-term unemployed in the region. There are two Schools Based New Apprenticeship positions (kitchen operations) with one designated for intellectually or physically disabled participants. The café can accommodate up to 15 groups at a time from skills employment networks and students from the local TAFE who seek training in a practical working environment, rather than an institutional setting. Courses include Certificates 1–3 in Food Handling and Hospitality, Bar Tending, Occupational Health and Safety and Coffee Making, as well as the Victorian Certificate of Applied Learning.

The six-month courses include a written component and an exam, which is facilitated by one of several accredited trainers who work in the café, along with four professional chefs. None of the students are directly involved in cooking. They make and serve coffee, prepare food and clean up. The menu and its assembly is the preserve of the chefs, who are not required to provide training to the participants and may be seen as guides to be observed. The trainers encourage learners’ participation. Limited local transport makes participation difficult for some, but there is good demand for places and returnee participation is not encouraged. After the six months trainees have their hours reduced or are ‘let go’. The café is acknowledged as an outstanding success. Participants speak of being ‘put on their feet’. One trainee noted:

You gain hands-on experience which is better than doing mostly theory at TAFE. While I’ve been here, I’ve learnt that you can’t do it all by yourself, when you start, it’s an I-thing. ‘I want to do this …’ and you soon realise, if you want it done quickly and well, you have to work as a team. Personal presentation is important. You learn that there are ways of dealing with people. Now, when I’m a customer in places like this, I can see what they’re doing, I can say, ‘I know this’.

This learning space is a commercial kitchen. It highlights the way services leading to employment in the hospitality industry is the primary, tangible goal of training programs. Yet the production and consumption of food provides a window on what is also being learned in these spaces.

The social practices of dealing with food codify social norms and relationships, establishing hierarchies, patterns of inclusion and exclusion and boundaries across which transactions occur. The learning subject being formed in these cafés is marked by these discursive practices. What is transacted is food and also the performance of service. The learners learn to perform the bonhomie, the emotional and symbolic work that distinguishes the servant from those who are served, those who eat in restaurants and those who work in them. Consumption frames the identities and behaviours of both learners who wait (at tables) and those they serve as customers.

Both cafés offer credentialed vocational training. Yet the credential and training on which its award is based, seems insignificant compared to other pastoral, emotional, rehabilitative and relational learning that is going on. The training relationship is not centred on a teacher as source and learner as subaltern subject, but entails learning through participation that embraces all who use the sites. The emphasis is more on learning to be (and be in relationship), than to know. It is realised through learning relationships that respect difference and embody care.
While such learning is seductively soft compared to training imperatives that stress control and the attainment of pre-specified objectives, it also works against the affirmation of learning subjects as knowers with the capacity to exercise power based on their authority as knowers. They can train to wait but not design menus or be chefs. The pastoral and performative dimensions complement each other; encouraging, disciplining learners towards the sort of service behaviours expected in consumer societies.

Learning spaces like cafés are seen to be particularly relevant to young people who are disengaged from school and a way of addressing skills shortages in areas of economic transition. Yet the kinds of working lives being made available to these young learners at the café are different to those who work at the steelworks and oil refinery. In the industrial sector, strong unionisation, set job tasks and duration persist to a large extent. Those who service the café and consumer society confront the other side of the dual labour market.

The cultural consequences of this dual labour market are contested. Some fear cultural disintegration, which will undercut collective capacity for living shared lives. Yet, both cafés define themselves as actors in the creation of a sense of local identity. Students perform this agenda, building community with the café clientele and, in turn, sustaining a larger group, a community of consumers who visit the venues to be part of a social milieu as well as to eat. As participants in this consumer partnership they also learn, drawn perhaps to the rehabilitative experience of these cafés and the opportunity to learn how to consume, materially and socially. They learn to be part of a community, to live with others, but not to engage in citizen action. They learn to take up the restricted form of citizenship on offer within lifelong learning regimes.

**Learning citizenship?**

Lifelong learning reforms are diverse and return a complex mix of benefits to individuals and societies, but they hinge on a regime of power that has disturbed the balance between capitalism and democracy. Practices of power evident in workplace hierarchies have been generalised at the expense of horizontal relations within citizen communities.

The generalisation of managerial prerogative has eroded legitimate contestation in workplaces and communities. The unilateral assertion of managers’ ‘right to manage’, and mobilisation of political correctness and the dismissal of dissent, undercut citizen action through collective decision making that returns and protects public goods.

Schooling is not exempt from these imperatives. Teachers’ work in a lifelong learning political regime is disciplined by the exercise of hierarchical power through both political correctness in the community and managerial prerogative in workplaces. These constraints on dissent mean that horizontal practices of power, which are fundamental to citizen action, are less evident within schooling than in the past.

There is a danger here. When the visibility of citizen practices of power is reduced, the possibility of learning citizenship skills through in-place learning is also reduced. If teachers model practices of power based on domination-subordination, what is often experienced as bullying and compliance, is it surprising that young people play out bullying practices on the beaches of Cronulla?

As the Civics Expert Group noted: “Our system of government relies for its efficacy and legitimacy on an informed citizenry; without active, knowledgeable citizens the forms of democratic representation remain empty; without vigilant, informed citizens there is no check on potential tyranny … our democratic values require that every citizen has equal opportunity to participate in the exercise of these rights and responsibilities. Without civic education that democratic ideal is not maintained.” (CEG, 1994: 15-16)

**References**


X, Y and Z: Three decades of education, employment and social outcomes of Australian youth

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Sheldon Rothman is a Principal Research Fellow in the Assessment and Reporting research program at ACER. He has highly developed expertise in the statistical analysis of large-scale data sets, the interpretation of results of analyses and the analysis of data to inform policy. He currently manages the psychometrics and data analysis team, which supports much of ACER’s assessment work. He also manages the On Track project, which surveys all school leavers from Victorian secondary schools, and was director of the Longitudinal Surveys of Australian Youth (LSAY) project from 2002 to 2007. Before joining ACER, Dr Rothman was a teacher in New South Wales government schools and worked in a variety of roles with state education departments in New South Wales, South Australia and Massachusetts.

Kylie Hillman
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Kylie Hillman is a Research Fellow at ACER. She holds a Masters in Educational Psychology from the University of Melbourne and came to ACER from a clinical and educational background, working in a multi-disciplinary clinic and special education in primary schools briefly before beginning her research career. She worked on the Longitudinal Surveys of Australian Youth (LSAY) program between 2001 and 2007, and has sole or co-authored a number of reports in that series, including those examining the emotional wellbeing of young people, relationship formation, rates of leaving home and home ownership, the experiences of students in their first year of tertiary education, and the movement of non-metropolitan youth towards the cities. She continues to work in the area of transitions from secondary school in the Victorian Government’s On Track project while coordinating ACER’s research in the areas of Early Childhood Education and Care.

Abstract

This paper focuses on three decades of findings from Australian longitudinal studies of adolescents and their transitions from secondary school to further education and training and the labour force. The presenters examine trends in young people’s participation in the post-compulsory years of school; completion of Year 12; participation in and completion of various forms of further education and training; employment rates and earnings; and leaving home and family formation.

The data for this presentation come from a number of longitudinal survey programs, which are part of the Longitudinal Surveys of Australian Youth. The oldest cohort comprises young people who were born in 1961. Over the years, cohorts of young people born in 1965, 1970, 1975, 1981, 1984, 1988 and 1991 have been added, creating a valuable source of information about young people’s transitions from school to adult life.

After examining how these transitions have changed over three decades, this paper then focuses on what future generations of young people will need to know and be able to do as they embark on their own post-school journey.
The Longitudinal Surveys of Australian Youth (LSAY) is a series of surveys that focus on the progress of young Australians as they move from their mid-teens to their mid-20s, from the final years of compulsory schooling to independent working life. These surveys involve large nationally representative samples of young people from whom data have been collected annually about education and training, work and social development. The oldest cohort comprises young people who were born in 1961 and were originally surveyed in 1975. Over the years, cohorts of young people born in 1965, 1970, 1975, 1981, 1984, 1988 and 1991 have been added – originally as part of ACER’s Youth in Transition (YIT) program – creating a valuable source of information about young people’s transitions from school to adult life.

LSAY surveys provide information on what young Australians are doing as they negotiate the transition from school, document changes as the group gets older and enable comparisons with other groups when they were the same age. This paper summarises findings about:

- education and training outcomes, including achievement in literacy and numeracy while at school,
- completion of Year 12 and participation in post-school study
- employment outcomes, including labour force participation, unemployment and career pathways
- social outcomes, including wellbeing, leaving home, relationships and marriage and housing.

More detailed investigations are available from 54 individual research reports that have been produced since 1996.

**Data sources**

The data used in this paper come from eight cohorts included in the LSAY program: young people born in 1961, in 1965, in 1970 and in 1975 (the YIT cohorts), and those born in 1980–81, in 1983–84, in 1988–89 and in 1991–92 (the LSAY cohorts). Members of the last two LSAY cohorts also participated in the Programme for International Student Assessment of the Organisation for Economic Co-operation and Development (OECD PISA). Additional data that parallel the current surveys are available from other longitudinal survey programs, the Australian Longitudinal Survey (ALS) and the Australian Youth Survey (AYS), which focused on labour-market participation. A summary of these cohorts is shown in Figure 1. Data are still being collected in the last three cohorts, with the 2008 surveys in September.

After examining how these transitions have changed over three decades, this presentation then focuses on what future generations of young people will need to know and be able to do as they embark on their own post-school journey.

**Education and training outcomes**

**Achievement at age 14**

One of the distinguishing characteristics of the LSAY program is the collection of data on student achievement at the commencement of each cohort. The first LSAY cohort (YIT 1961) comprised young people who had participated in the Australian Studies in School Performance in 1975, which was the first national assessment of student achievement in Australia (Keeves & Bourke, 1976). The tests of reading comprehension and mathematics used in that assessment had been developed by ACER, with items from those initial assessments available for use in tests with subsequent cohorts. The availability of a common test has allowed the tests used with all cohorts from 1961 to 1983–84 to be equated.

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Notes: Each bar shows the ages at the beginning and end of each cohort. For the first two Youth in Transition cohorts (1961 and 1965), school achievement data were collected in 1975 at ages 14 and 10, respectively. For the 1970 YIT cohort, school achievement data were collected in 1980 at age 10.

**Figure 1:** Longitudinal youth cohorts 1975–2007
and placed on a single scale, allowing comparisons over time. The last two LSAY cohorts – those born in 1988–89 and 1991–92 – were assessed with the OECD PISA instruments, so they cannot be included in this comparison.

Rothman (2002) reported that in both literacy (reading comprehension) and numeracy (mathematics) there was no statistically significant change in mean scores between 14-year-olds in 1975 and 14-year-olds in 1998, although there was some fluctuation from cohort to cohort. There were some differences for subgroups of the cohorts, however, with the mean literacy score for males declining between 1975 and 1998 and the mean literacy score for females increasing over the same period. During that same period – which was also a period of increased immigration from countries where English is not the main language spoken – 14-year-olds with language backgrounds other than English improved in both literacy and numeracy. Furthermore, the gap in achievement by socioeconomic status (SES) decreased, with the achievement of lower-SES students remaining constant while higher-SES students’ achievement decreased.

Completion (and non-completion) of Year 12

Over the past 30 years, the proportion cohort members who remain at school to complete Year 12 has increased dramatically. Among members of the 1961 cohort, 35% had participated in Year 12; that proportion grew to 79% for the 1983–84 cohort, with the greatest increase occurring between 1984 and 1994, representing the cohorts born in 1965 and 1975 (Fullarton et al. 2003). This trend is reflected in the change in the apparent retention rate, presented annually in Schools, Australia (ABS catalogue no. 4221.0). Most of this increase in Year 12 completion occurred among young people from lower-SES families, those attending schools in non-metropolitan areas, those attending government schools and those with lower achievement scores in literacy and numeracy.

Curtis and McMillan (2008) reported that 16% of the 1988–89 LSAY cohort had left school before completing Year 12. They found that the gender difference in non-completion had diminished over the LSAY cohorts, as had the difference by SES. What had changed, however, was which SES groups had experienced lower non-completion rates: young people whose parents were in low-skill white-collar occupations had experienced a slightly increased rate of non-completion in the mid-2000s compared to the 1990s.

Post-school education and training

Between 1975 and the present, opportunities for post-school study have changed, and such change is reflected in participation in post-school study by members of the LSAY cohorts. Marks et al. (2000) noted that participation in higher education by age 19 had increased over the period, with 20% of the 1961 cohort at university and 38% of the 1975 cohort. The 1980–81 cohort was the first LSAY cohort to be based on year level at school, with all cohort members in Year 9 in 1995. Marks et al. (2000) found that only 31% of the cohort had enrolled at university in 1999, the first year after the completion of Year 12. McMillan (2005) analysed university attendance for the 1980–81 cohort and found that 37% had entered university by the end of 2000 – the second year after most had completed Year 12 – with an additional 3% entering during 2001, bringing the total to 40% of the cohort.

The more recent LSAY cohorts are too young to describe all of those who are participating in higher education. By 2005, 7% of the 1988–89 cohort were enrolled at university (Underwood, Hillman & Rothman, 2007); these cohort members had been in Year 11 when first contacted in 2003, while the majority of that cohort had been in Year 10.

The period has also seen many changes in the vocational education and training (VET) sector, with associated changes in participation by young people. The earlier years – those covered by the YIT cohorts – saw many changes in the VET sector, expanding it from a focused vocational skill sector to one open to a wider range of students interested in education and training; expansion of apprenticeships and the introduction of traineeships. Long, Carpenter and Hayden (1999) documented the participation of the 1961, 1965, 1970 and 1975 YIT cohorts in post-school study. Non-apprenticeship TAFE participation by Year 12 completers was steady among the first three cohorts at around 15%; 19% of Year 12 completers in the 1975 cohort, however, entered non-apprenticeship TAFE by the age of 19. TAFE participation was more important for non-completers. In 1980, when the 1961 cohort was age 19, only 11% of school non-completers participated in TAFE. Participation doubled to 22% by 1994 among members of the 1975 cohort.

Participation in apprenticeships (including the newer traineeships) was steady over the period, with around 7% of Year 12 completers undertaking these contracts of training. Among non-completers, however, participation had increased from 24% among the 1961 cohort to 35% among the 1975 cohort.

Curtis (2008) noted that 42% of the 1980–81 LSAY cohort had undertaken a VET program by age 20, with 12% in an apprenticeship, 10% in a traineeship and 24% in non-apprenticeship TAFE. There was some overlap as some
young people had participated in more than one type of program. Apprenticeships and traineeships were extremely important for school non-completers, with around 40% undertaking this form of study.

**Social outcomes**

**Satisfaction over the years**

In the LSAY program, young people's life satisfaction or their happiness is measured using a set of items about different aspects of their lives. In some studies, these items are divided into two scales: satisfaction with their careers and satisfaction with their lives in general. The measure of career satisfaction includes happiness with their career prospects, their future, the money they receive and the work they do. The measure of general satisfaction includes respondents' ratings of their happiness with their lives at home, social lives, spare-time activities, standards of living, where they live, how they get along with others, their independence and their lives as a whole. In other studies, all items are considered together as an overall measure of satisfaction.

Young people's satisfaction or happiness has been found to relate to their education and training activities and their participation in the labour force. As students still at secondary school, those who were working in part-time or casual jobs reported higher levels of satisfaction with their lives than other students, particularly with regard to their social lives, their independence and the money they had each week (Robinson, 1999). Later on, among young adults, those who are fully occupied, either in study, work or some combination of the two activities, reported higher levels of satisfaction than those whose time was only partially taken up by education or labour force activities, and those who had no time allocated to these activities (those who were unemployed or not in the labour force or education and training). These differences remained even after the results were adjusted for respondents' levels of satisfaction in previous years (Hillman & McMillan, 2005).

In other work, using data from the 1961, 1965, 1970 and 1975 cohorts, young women were found to be more satisfied with their lives than young men, particularly in terms of their relationships with other people, whereas young men were happier than young women with how the country was run and the state of the economy. Young people who were married were more satisfied than those who were in de facto relationships and those who were single, particularly in relation to their lives at home and their future. Interestingly, among the older cohorts, living with your parents at age 20 was associated with lower levels of satisfaction, while among those born in 1970 there was no relationship and for those born in 1975, living with your parents was associated with higher levels of satisfaction (Fleming & Marks, 1998).

**Social transitions – leaving home, getting married and buying a home**

Using data from four of the older cohorts (those born in 1961, 1965, 1970 and 1975) the rates at which young people are leaving home were found to have been decreasing over the past decades. This trend was particularly apparent among young women, who were making the move to independent (or at least non-parental) living at much older ages than in previous cohorts. Young people from non-metropolitan areas were more likely to leave home at earlier ages than young people from metropolitan areas and this difference has increased over recent times. Young people from non-English speaking backgrounds, in contrast, are less likely to leave home early.

Marriage among young adults (ages 20–25) has declined significantly over the past few decades, while the proportion of young people entering de facto relationships has increased over the same time. Coming from a non-metropolitan area increased the likelihood that a young person would marry by the age of 25, especially for young men, as did being employed. Young women who were studying were less likely to get married by age 25, and this relationship grew stronger across the cohorts, with the effect being greatest among young women born in 1975.

Like marriage, home ownership among young adults has decreased over time, with greater proportions of young people renting rather than buying their own home in their early 20s. Being married increased the likelihood of buying your own home by age 25, although there are signs that this relationship may be decreasing (possibly due to the decrease in marriage at this age). Not surprisingly, being employed also increased the likelihood of purchasing a house by age 25, although this influence also appears to be weakening.

**References**


Indigenous education – imaging the future, the role of educators

Abstract

Indigenous education has long been a focal point for educators. From the reviews of the mid-1980s, policy development in the late 1980s and since, Indigenous education has long challenged educators. The continued relevancy of the National Aboriginal and Torres Strait Islander Education Policy, developed in 1989, demonstrates that improved outcomes in Indigenous education continues to be a goal beyond the reach of communities, education systems and governments.

This paper discusses the policies underpinning Indigenous education and the challenges that continue to face educators. The new Council of Australian Government commitments provide educators with a renewed challenge. This paper also identifies outcomes in Indigenous education and explores what some systems and communities are doing to improve educational outcomes for Indigenous people. The paper also recognises that ultimately the achievement of improved education outcomes for Indigenous people is a shared responsibility of all stakeholders and that the role of educator belongs to parents, families, communities, teachers and administrators.

Outcomes and policies in Indigenous education

Outcomes for Indigenous people have long been documented. In the 1980s our understanding of outcomes, particularly the gap between Indigenous and non-Indigenous achievement, was growing. The 1985 Report on Aboriginal Education by the House of Representatives Standing Committee on Aboriginal Affairs, the development of the Aboriginal Employment Development Policy in 1986 and the establishment of the Aboriginal Education Policy Taskforce in 1988 helped focus our thoughts and provide direction for the decades ahead.

What little data we had available indicated that Indigenous people were not having successful experiences in education. It was this realisation that prompted the development of the National Aboriginal and Torres Strait

Wayne Muir
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Wayne Muir is a Yorta Yorta Barkinji man living in Ballarat Victoria. He has been involved in Indigenous education for over 20 years. His roles have included Koorie Educator, Koorie Project Officer–Adult and Further Education, Ballarat Local Aboriginal Education Consultative Group member and Manager, Aboriginal Education Centre, University of Ballarat. Currently Wayne is a Senior Consultant with Ingenuity, a business arm of SED Consulting that comprises four Indigenous consultants.

While his paid work centres on preparing feasibility and business plans and conducting consultations for a range of government and community-based agencies, Wayne’s community work includes Chairperson, Ballarat Local Aboriginal Education Consultative Group, Chairperson, Ballarat Derrinwah Aboriginal Community Justice Panel, Statewide Chairperson, Victorian Aboriginal Community Justice Panels and Chairperson, ACER Indigenous Committee.

Wayne holds a number of educational qualifications including Masters of Education, Graduate Certificate in Management and Graduate Certificate of Vocational Education and Training as well as Certificate IV in Training and Assessing. He also lectures at the University of Ballarat in Indigenous Education, a third-year subject for pre-service teachers, and has taught Indigenous Australian Culture, a subject in Certificate I in Tourism. Wayne has also authored and co-authored numerous papers on a range of topics relevant to Indigenous Australia.
Islander Education Policy (NATSIEP). The NATSIEP had four long-term goals:
- involvement of Aboriginal and Torres Strait Islander peoples in educational decision making
- equality of access to educational services
- equality of educational participation
- equitable and appropriate educational outcomes.

Since NATSIEP, there has been a review in 1995 and various new national policies have come to light. Some of these are Indigenous-specific including:
- MCEETYA Indigenous education report
- Directions in Australian Indigenous education 2005–2008, which was recently re-endorsed at the MCEETYA meetings this year.

There have also been non-Indigenous policies that have supported improved Indigenous education outcomes and perspectives. Most notably the National Goals of Schooling in the TwentyFirst Century (1999) or the Adelaide Declaration provided a basis for many education systems to promote Indigenous education in a mainstream setting.

Schooling should be socially just, so that:
- Aboriginal and Torres Strait Islander students have equitable access to, and opportunities in, schooling so their learning outcomes improve and, over time, match those of other students (Goal 3.3)
- All students understand and acknowledge the value of Aboriginal and Torres Strait Islander cultures to Australian society and possess the knowledge, skills and understandings to contribute to, and benefit from, reconciliation between Indigenous and non-Indigenous Australians (Goal 3.4)

And yet, despite all these policies, outcomes for Indigenous people continue to be unacceptably low. This is reflected in preschool, school and post-schooling options. For instance:
- Apparent Year 7/8–12 retention rate was 39.5% in 2005, compared to 76.6% for non-Indigenous students (National Report to Parliament on Indigenous Education and Training, 2005).
- Literacy and numeracy benchmark data continues to show a significant gap between Indigenous and non-Indigenous achievement. For instance, as reported in the 2006 National Report on Schooling in Australia: Preliminary Paper, released in February 2008 and available on the Ministerial Council for Education, Employment, Training and Youth Affairs website, the following was reported (includes 95% confidence intervals):
  - National data – students achieving reading benchmark:
    - Year 3: Indigenous: 79.7% +/- 4.3%
    - All students: 93% +/- 1.7%
    - Year 5: Indigenous: 66.3% +/- 4.4%
    - All students: 88.4% +/- 1.6%
    - Year 7: Indigenous: 63.2% +/- 3%
    - All students: 89.2% +/- 0.8%
  - National data – students achieving writing benchmark:
    - Year 3: Indigenous: 77.9% +/- 3.8%
    - All students: 93.9% +/- 1.3%
    - Year 5: Indigenous: 77% +/- 4%
    - All students: 93.8% +/- 1.3%
    - Year 7: Indigenous: 73.8% +/- 3.9%
    - All students: 92.4% +/- 1.5%

The Western Australian Aboriginal Child Health Survey 2007 stated:
- There has been tacit acceptance of the non-achievement of educational standards by Aboriginal children and young people.
- The resultant acceptance of this lack of education success has a cumulative effect. It is based on the belief that Aboriginal children ... will never reach their potential and if they fall behind society will protect them.
- Their low level of educational success is acceptable as a normative expectation. This has to change.

Employment data shows us clearly that if we don’t get it right in education and training, the results impact heavily on employment. For instance, the unemployment rate for Indigenous persons nationally was 14% in 2007, compared to 4.2% for non-Indigenous Australians (ABS Labour Force Characteristics of Aboriginal and Torres Strait Islander Australians, Estimates from the Labour Force Survey 2007 released on 22 May 2008).

The role of education in creating improved life opportunities for all people has been recognised by many. For instance, as Ken Henry, Secretary of Treasury said this year (2008):
- Education can help transform social and economic opportunities, with particularly strong gains for those from disadvantaged backgrounds.

In a speech at the launch of Our Children Our Future Report 2008, Tom Calma Aboriginal and Torres Strait Islander Social Justice Commissioner
when speaking about the importance of education stated:

*It is fundamental to the development of human potential and to full participation in a democratic society. It is also fundamental to the full enjoyment of most other human rights: most clearly the right to work but also to health.*

In the past 12 months one can argue that there has been an increased sense of urgency on the part of all governments to improve outcomes for Indigenous peoples across a range of indicators. This is best evidenced by the work of the Council of Australian Governments and the recently agreed COAG ‘Closing the Gap’ commitments (or targets) that include:

- to close the life-expectancy gap between Aboriginal and Torres Strait Islander peoples and other Australians within a generation
- to halve the mortality gap between Aboriginal and Torres Strait Islander children and other children under age 5 within a decade
- to halve the gap in literacy and numeracy achievement between Aboriginal and Torres Strait Islander students and other students within a decade
- to halve the gap in employment outcomes for Aboriginal and Torres Strait Islander peoples within a decade
- to at least halve the gap in attainment at Year 12 schooling (or equivalent level) by 2020
- to provide all Aboriginal and Torres Strait Islander 4-year-olds in remote communities with access to a quality preschool program within five years.

These targets have synergies with strategic areas of action listed under Overcoming Indigenous Disadvantage (Productivity Commission), for example:

- early childhood development and growth (prenatal to 3 years)
- early school engagement and performance (preschool to year 3)
- positive childhood and transition to adulthood
- substance abuse and misuse
- functional and resilient families and communities
- effective environmental health systems
- economic participation and development.

From a Victorian context, the targets also have synergy with the Victorian Indigenous Affairs Framework (VI AF) Strategic Areas for Action that aims to:

- improve maternal health and early childhood health and development
- improve literacy and numeracy
- improve Year 12 completion or equivalent qualification and develop pathways to employment
- prevent family violence and improve justice outcomes
- improve economic development settle native title claims and address land access issues
- build Indigenous capacity.

The Commonwealth government’s new Social Inclusion Agenda, that focuses on ensuring that all in our community benefit from economic and social participation, further supports improved outcomes for Indigenous people. This new policy refocus is coupled with a recognition that the majority of Australia’s Indigenous population does not reside in remote locations. The 2006 Census data showed that nationally 32% of our Indigenous population were in major cities, 21% lived in inner regional areas, 22% lived in outer regional areas, 10% lived in remote areas and 16% lived in very remote areas.

To quote the Hon. Jenny Macklin MP, Minister for Families, Housing, Community Services and Indigenous Affairs in 08/09 budget papers, ‘We, therefore, will not close the gap without strategies for addressing disadvantage in urban and regional centres’ (p. 3, 2008).

Recent 2006 census data also helps us recognise the urgency of our task, and with the Indigenous population growing at a faster rate and being younger in age profile, we know our work in education will continue to grow in importance.

This alignment of policy development and direction provides us as educators in Indigenous education with challenges, hope and encouragement. But, at the end of the day, we need to ask ourselves, as parents, community members, teachers and administrators, what we can do differently to achieve improved outcomes in education for Indigenous peoples. We are all educators in some way; we educate our children, our families, our communities, our systems, our schools, students at our TAFEs and universities on what they can do to achieve improved outcomes in education. The remainder of this paper focuses on what some educators are doing to make a difference.

**What makes a difference? Role of educators**

Educators play a major role in closing the gap for Indigenous peoples. There are many types of educators in our communities. These include:

- teachers
- administrators
- Indigenous community
Parents/Families: Historically parents and families were never considered as educators. We now know this is not true. Parents are the first educators of their children and we rely on parents to model what is expected and lay the foundation for children in their later years. We also expect our parents to participate in their children's education but we need to be realistic in our expectations. Often non-Indigenous educators lament the lack of participation that Indigenous parents have in their children's education. We need however to consider that our parents may have had negative experiences in their own education which can impact on their participation levels at school. Our parents participate at the level in which they feel comfortable and many would say they actively support their children at home, listening to them read and ensuring they attend school. This type of participation may not be visible to school-based educators but is nevertheless very important in contributing to improved outcomes.

Teachers: Teachers carry the expectations of us all in improving outcomes for our children. We have heard many stories of our older people about how they were never encouraged at school, how they were never expected to achieve anything. Often these stories bordered on racism. Unfortunately we have also had teachers that have treated our children in a condescending manner, they have had low expectations of our children and therefore not allowed them to reach their full potential. We expect our teachers to be empathetic, to have high expectations and to challenge our children. We want our teachers to use data available to them through the national testing program (National Assessment Program for Literacy and Numeracy – NAPLAN), to use data available to them through other assessment tools such as the South Australian Spelling Test, Early Years Numeracy Interview, Running Records and range of open-ended tasks to identify our children's strengths and how they can be further supported. We expect our teachers to use this data, to share it with the students and families of students so there can be a shared partnership in developing a plan (some call it 'Individual education/learning plans') so our children can achieve their full potential.

Administrators: Administrators play important roles in setting direction, providing leadership and vision. Unfortunately our administrators can let us down. In the past they haven't had the courage to honestly review and reflect on the extent to which programs have been successful. They have been unable to stop doing what is not working out of fear of community backlash. Administrators need to consider the data before them and make informed decisions about what to support. They also need to ensure initiatives have adequate time to make improvements. Long-term disadvantage will not be solved by short-term solutions.

Indigenous community: the wider Indigenous community has a role to play in education. While we often say we need a holistic approach to address educational disadvantage, we often still work in silos. We also need to be able to support our parents and our families who are not coping so well. While some of us have enjoyed success in our chosen professions, we need to ensure we support others in our community who are still struggling. We also need to ensure we develop the capacity of others in our community to share the responsibility of advocating for improved outcomes. Too often the burden falls on a few, resulting in burn-out. Sometimes, if we’re honest, we don’t allow our younger people to have opportunities to lead. We need to remind ourselves that we are not irreplaceable.

What makes a difference? Key principles

When we think about key principles that help us as educators make a difference we can summarise our actions under the following headings:

Partnerships: One group on its own finds it difficult to make a difference; it takes a community to make a difference. We need contributions from all our key stakeholders if our actions are to make a long-term sustainable difference.

Honesty: We need to communicate openly and share not only the good but also the bad. We will never be mistake-free but by pointing out what is wrong and constructively providing feedback we will ensure that our mistakes will not be repeated (learning from our mistakes).

Ownership: We need to own our actions and not seek to portion blame on others. If we demand to have a say in what is happening, we need to also ‘step up to the plate’ and participate actively.

Evidence based: We need to ensure we have data to inform us of the current state of play as well as to ensure we can measure our improvements.

Case study

The Grampians Region in Central Western Victoria provides an opportunity to see how educators have made a difference in Indigenous education. The profile of the region in 2006 was as follows:

- Koorie student population: 431.4
- Koorie apparent retention rate (Year 7–12): 17.6
• Average days absent for Koorie students (primary): 22.6 days
• Average days absent for Koorie students (Year 7–10): 26 days

In 2006 the Central unit for Koorie Education in the then Department of Education and Training devolved responsibility for its workers to the regions. The local Indigenous community saw this as an opportunity to formalise its relationship with the region, building on its current relationship which took place through the Regional Koorie Education Committee (RKEC). While there are eight RKECs across Victoria that have representation from Local Aboriginal Education Consultative Groups (LAECGs), regional management and principles, Grampians RKEC has always been active, meeting quarterly and funding regional initiatives.

As a result, a Memorandum of Understanding (MOU) was established in 2006 that sought to formalise the relationship between all parties, establishing each other’s roles and responsibilities.

Another initiative in the region was the development of a submission to the Commonwealth, to be managed by the RKEC to address the unacceptably low apparent retention rate. As a result, a project was developed for the region, building on its current foundation.

Conclusion
Education is a key enabler to address disadvantage. There is a renewed focus on addressing Indigenous disadvantage as a result of recent policy commitments made by Commonwealth, state and territory governments. The role of educators has never been more important in this current climate. By adhering to key principles of partnerships, honesty, ownership and being evidence based, our educators will make an important contribution towards improved educational outcomes that may be sustainable in the long term.

References


Western Australian Government. (2007). Western Australian Aboriginal Child Health Survey.

**Websites and electronic sources**


Ministerial Council for Education, Employment, Training and Youth Affairs. www.mceetya.edu.au
The intersection of adolescents’ interests and national needs – implications for educators

Abstract

Interest as much as ability is a major factor in educational achievement and continues to play a substantial role in work adjustment throughout the life span. This presentation examines the role of interest in learning and career development. Career interest results (N = 7477) were obtained from the Career Interest Test (Version 3.1) administered on the Federal government’s www.myfuture.edu.au website and were then compared with the nature and structure of employment in Australia. Work-related interests were fairly evenly spread across Outdoor, Practical, Scientific, Creative, Business, Office and People Contact activities. If anything, Business was marginally the highest preference followed by People Contact and then Creative interests. In contrast, the highest areas of employment in Australia were for Business and Practical activities (48.6%). Furthermore, Mathematics courses (20.1%) and Science (17.1%) dominated senior secondary school enrolments. It is clear that the interests and preferences of Australians are not satisfied either by the curriculum offered to them or the work opportunities in modern Australia.

The role of interest far surpassed the effect of the quality of teaching. This study was followed up by further research to determine the influence of value, ability and time spent on a subject of interest. There were certainly strong links between interest and ability, indicating that they share some sort of common platform. The relationships are highlighted in the structural diagram below (see Figure 1).

The relationship between interest and achievement

The links between interest and achievement have been documented in German educational research. These studies emphasise the role of interest in learning and development. A direct example of the relationship between interest and educational achievement in Australia comes from a study of 1324 technical and further education students across 66 courses in 31 technical colleges (Note that all references and sources will be cited in the complete paper to be provided at the conference):

- 66% of students were best at the subject that was their first preference
- 72% were best at a subject that was consistent with their vocational choice
- The preference rank for best subject was 0.84 (ranks varied from 0 to 1)
- The preference rank for weakest subject was 0.19 (ranks varied from 0 to 1).

Research Conference 2008
sociologist Gottfredson noted more than 25 years ago, our career choices are circumscribed and compromised. Interest is often one of the factors that is first sacrificed in order to achieve one’s goals. Some factors that are resistant to change, however, are one’s gender stereotyping of available occupations and the desired prestige level available in a career choice.

Despite the fact that there are multiple influences on occupational choice other than interest, there is still sufficient evidence to state with confidence that when other factors are held constant, then job satisfaction does involve a degree of matching in one’s interests with the reinforcers or type of work undertaken. The relationship is not perfect as many people sacrifice their interests in order to take up a job that has other features. This was emphasised by a postgraduate student Karin Hosking, who studies unskilled workers and found that interest and job satisfaction were only partly related. Lest one thinks that this type of finding does not apply to graduates or school leavers, it is important to emphasise that there are around 50 300 labourers with degrees throughout Australia. The point is that interest is relevant but is by no means a critical factor in job satisfaction.

It is a pity, however, to neglect interest because we know enough about interest to see that it reflects the potential of a person, and that it reflects their natural talents and aptitudes. It also embodies values and accumulated knowledge or experience. Some 20 years ago, Suzanne Hidi described interest as ‘a mental resource for learning’ and in her later writings she highlighted the increasing lack of interest as a factor that was related to the low levels of motivation in schooling.

Interest has been at the forefront of humanistic approaches to education, especially from the time of John Dewey, who advocated that people should be allowed to learn what interests them. For instance, Dewey emphasised the importance of locating suitable occupations:

*To find out what one is fitted to do and to secure an opportunity to do it is the key to happiness. Nothing is more tragic than failure to discover one’s true business in life, or to find that one has drifted or been forced by circumstance into an uncongenial calling. A right occupation means simply that the aptitudes of a person are in adequate play, working with the minimum of friction and the maximum of satisfaction. (Democracy and Education, p. 240)*

Although he echoed the views of the founding father of vocational guidance, Frank Parsons, about the satisfaction that ensues from an appropriate vocational choice, he did not specify the steps to choosing a vocation, but in one sense assumed that vocational satisfaction followed from the ongoing fit between the person and their environment.

By and large, most laypersons would not consider it a remarkable insight to state that people are probably best at what they like and probably tend to dislike what they are worst at doing. It is a short but useful step, however, to determine whether the educational and vocational worlds actually match the interests of Australians. This paper describes the career interest patterns of Australians and examines:

(a) the extent to which career interests are reflected in actual subject enrolments in Year 12

(b) whether the occupational choices of Australians are congruent with their career interest patterns.
Career interests

Career interest results (N = 7477) were obtained from the Career Interest Test (Version 3.1) administered on the Federal government’s www.myfuture.edu.au site and were then compared with the nature and structure of employment in Australia. The data represented every fifth user on this website. The Career Interest Test is an assessment of preferences for seven work-related activities: Outdoor (Ou), Practical (Pr), Scientific (Sc), Creative (Cr), Business (Bu), Office (Of) and People Contact (PC).

On the one hand work-related interest in Business was by far the highest preference followed by People Contact and then Creative work activities. The lowest areas of interest were for Outdoor, Scientific and Office activities. The ranking of preferences across the seven career interest groupings is provided in Table 1 and Figure 2. This shows that people’s overall interests are fairly evenly spread across the seven categories when one takes into account the standard deviation in the average scores. A strict ranking of these averages, however, might be misleading as it would be dependent upon the characteristics of the sample. For instance, limited access to broadband in rural regions or amongst some disadvantaged groups might affect the average proportion of Outdoor and Practical interests. It seems more conservative to say that overall career interests overlap but there may well be a preference for Business, People Contact and Creative careers compared to say to Outdoor, Scientific and Office work activities.

Furthermore, the nature of the Career Interest Test allows one to consider interest in jobs, interest in courses of study and interest in activities. It is shown that there is only a small relationship between career, academic and leisure preferences. These appear to be quite distinct domains. It means that what we like to learn may not be how we like to earn and quite distinct from what we want to do in our free time (see Table 2 for a breakdown by category). With the information from Table 1 in hand, it is possible to compare the levels of assessed career interests with the working opportunities available in the labour market.

Careers and occupations

An analysis of the comparable distribution of the 494 occupations listed by the Australian Bureau of Statistics into the same seven interest groupings is summarised in Table 3. This shows the number of occupations that have a predominant interest (other interests are also possible and some occupations cover multiple areas). Some occupations were difficult to classify and no claim is made that this categorisation is objective. Similarly the number of workers in each career interest grouping is also listed in column 4 of Table 3.

On these figures, the potential variety of occupational choices is greatest in the Practical category and the least number of available career choices are in the Creative category (see column 2 and 3 of Table 3). When one looks at the occupational groupings in which people are actually employed then most Australians are employed in Business and Practical occupations and the least numbers are in Creative and Scientific occupations (see also Figure 3). A copy of the categorisation is available from the author upon request.

Clearly there is a mismatch between the natural preferences of people and the types of occupations available in Australia. Secondly there is an even greater mismatch between the natural career preferences of people and the jobs in which people are employed (columns 4 and 5 of Table 3). Put simply, most people had a preference for Business, People Contact and Creative careers with lowest preferences for Outdoor, Scientific and Office work activities. The numbers of occupations in these seven categories were highest for Practical and lowest for Creative. This means that there are disproportionate choices. The situation is worse when it comes to looking at where people actually work.
Most people are employed in Business and in Practical type occupations and the smallest numbers are in Scientific and Creative occupations.

Subject interests

The final area which will be considered is that of subject interests. In this instance I have used data from the New South Wales Board of Studies as an initial indicator of nationwide subject preferences. Enrolments in the 2007 Higher School Certificate courses (excluding English) were grouped into the seven career categories. Where possible subjects were further grouped together – such as Chinese Beginners and Chinese Extension. Community languages and classical languages, Mathematics and History were treated as separate groups. Unlike occupations there is double-counting since students were enrolled in more than one subject. Once again, some courses were difficult to classify and no claim is made that this categorisation is objective. Similarly the number of students in each career interest grouping is also listed.

Table 1: Average and median scores across interest categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Ou</th>
<th>Pr</th>
<th>Sc</th>
<th>Cr</th>
<th>Bu</th>
<th>Of</th>
<th>PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>7.59</td>
<td>8.37</td>
<td>7.66</td>
<td>10.16</td>
<td>10.97</td>
<td>7.85</td>
<td>10.41</td>
</tr>
<tr>
<td>SD</td>
<td>3.15</td>
<td>4.19</td>
<td>2.93</td>
<td>3.41</td>
<td>2.90</td>
<td>2.96</td>
<td>3.38</td>
</tr>
<tr>
<td>Proportion of total score</td>
<td>12.0%</td>
<td>13.3%</td>
<td>12.2%</td>
<td>16.1%</td>
<td>17.4%</td>
<td>12.5%</td>
<td>16.5%</td>
</tr>
</tbody>
</table>

Ou = Outdoor; Pr = Practical; Sc = Scientific; Cr = Creative; Bu = Business; Of = Office; PC = People Contact; Note scores range from 0 to 18; The total score overall on the Career Interest Test is 63.

Table 2: Correlations between domains of interest

<table>
<thead>
<tr>
<th>Jobs and courses</th>
<th>Ou</th>
<th>Pr</th>
<th>Sc</th>
<th>Cr</th>
<th>Bu</th>
<th>Of</th>
<th>PC</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs and activities</td>
<td>0.449</td>
<td>0.609</td>
<td>0.317</td>
<td>0.466</td>
<td>0.314</td>
<td>0.424</td>
<td>0.442</td>
<td>0.442</td>
</tr>
<tr>
<td>Courses and activities</td>
<td>0.410</td>
<td>0.573</td>
<td>0.183</td>
<td>0.479</td>
<td>0.374</td>
<td>0.425</td>
<td>0.536</td>
<td>0.425</td>
</tr>
<tr>
<td>Courses and activities</td>
<td>0.380</td>
<td>0.615</td>
<td>0.381</td>
<td>0.529</td>
<td>0.318</td>
<td>0.357</td>
<td>0.405</td>
<td>0.381</td>
</tr>
</tbody>
</table>

Table 3: Distribution of occupations and workers in Australia

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of occupations</th>
<th>% of total</th>
<th>Number of workers</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ou</td>
<td>60</td>
<td>12.7%</td>
<td>945 262</td>
<td>10.6%</td>
</tr>
<tr>
<td>Pr</td>
<td>129</td>
<td>27.2%</td>
<td>2 114 586</td>
<td>23.7%</td>
</tr>
<tr>
<td>Sc</td>
<td>56</td>
<td>11.8%</td>
<td>537 607</td>
<td>6.0%</td>
</tr>
<tr>
<td>Cr</td>
<td>23</td>
<td>4.9%</td>
<td>170 691</td>
<td>1.9%</td>
</tr>
<tr>
<td>Bu</td>
<td>91</td>
<td>19.2%</td>
<td>2 223 666</td>
<td>24.9%</td>
</tr>
<tr>
<td>Of</td>
<td>55</td>
<td>11.6%</td>
<td>1 391 498</td>
<td>15.6%</td>
</tr>
<tr>
<td>PC</td>
<td>60</td>
<td>12.7%</td>
<td>1 555 285</td>
<td>17.4%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>474</td>
<td></td>
<td>8 938 595</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Distribution of courses and subject enrolments in the Higher School Certificate

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of courses</th>
<th>% of total</th>
<th>Number of student enrolments</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ou</td>
<td>18</td>
<td>10.2%</td>
<td>11 738</td>
<td>3.9%</td>
</tr>
<tr>
<td>Pr</td>
<td>40</td>
<td>22.6%</td>
<td>29 821</td>
<td>9.9%</td>
</tr>
<tr>
<td>Sc</td>
<td>10</td>
<td>5.6%</td>
<td>52 955</td>
<td>17.6%</td>
</tr>
<tr>
<td>Cr</td>
<td>25</td>
<td>14.1%</td>
<td>33 224</td>
<td>11.1%</td>
</tr>
<tr>
<td>Bu</td>
<td>13</td>
<td>7.3%</td>
<td>39 052</td>
<td>13.0%</td>
</tr>
<tr>
<td>Of</td>
<td>7</td>
<td>4.0%</td>
<td>12 596</td>
<td>4.2%</td>
</tr>
<tr>
<td>PC</td>
<td>27</td>
<td>15.3%</td>
<td>29 462</td>
<td>9.8%</td>
</tr>
<tr>
<td>Classics/Modern languages</td>
<td>30</td>
<td>16.9%</td>
<td>7 719</td>
<td>2.6%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>8</td>
<td>4.5%</td>
<td>60 489</td>
<td>20.1%</td>
</tr>
<tr>
<td>History</td>
<td>2</td>
<td>1.1%</td>
<td>23 144</td>
<td>7.7%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>180</td>
<td></td>
<td>300 200</td>
<td></td>
</tr>
</tbody>
</table>

(see also Figure 4). Most people are employed in Business and in Practical type occupations and the smallest numbers are in Scientific and Creative occupations.

Subject interests

The final area which will be considered is that of subject interests. In this instance I have used data from the New South Wales Board of Studies as an initial indicator of nationwide subject preferences. Enrolments in the 2007 Higher School Certificate courses (excluding English) were grouped into the seven career categories. Where possible subjects were further grouped together – such as Chinese Beginners and Chinese Extension. Community languages and classical languages, Mathematics and History were treated as separate groups. Unlike occupations there is double-counting since students were enrolled in more than one subject. Once again, some courses were difficult to classify and no claim is made that this categorisation is objective. Similarly the number of students in each career interest grouping is also listed.

Excludes English, Philosophy Distinction, ANU College Advanced Secondary Studies Programs; Note that subjects have been combined within courses; Student enrolments include double-counting of individuals; Source: New South Wales Board of Studies, Higher School Certificate, 2007.

This categorisation is fraught with difficulties but it is a helpful starting point from which future analyses may digress. In short, it shows that the Practical category dominates the number of courses in senior schooling examinations. The number of subjects or courses, however, is an equivocal indicator of preference but it does show how widespread or, where, our
administrative resources are placed. The number of student enrolments is a better indicator of preference and this is dominated by enrolments in Mathematics, Science, and to a lesser extent enrolments in Business and Creative courses. While students’ career interests are fairly evenly spread across categories (refer to Figure 2) this is not reflected in the availability of courses for study. Nor is it reflected in the course enrolments. If anything, students’ interests were highest for Business and People Contact activities but enrolments are dominated by Mathematics and Science courses. It may be argued, however, that Mathematics is really a foundation subject for other disciplines and there may be some merit in this view.

Equally, the world of work is also distinct from course offerings. Most workers (48.6%) are employed in the Business and Practical categories of commerce and industry whereas only 22.9% are enrolled in these areas. A more telling example is that only around 1.9% of workers are engaged in Creative occupations but student enrolments were 11.1% in that category. In short, subject enrolments do not match people’s interests, nor do they reflect the world of work. Clearly there is a mismatch of expectations, interests, preferences and aptitudes between school and work, and between school and individual preferences. There are implications for everyone in these findings.

Conclusions

If interests are important for individual development then the question arises whether and to what extent they should be reflected in work and course offerings? Table 5 attempts to summarise this three-way comparison.

Of course, it is asking a great deal of school systems to cope with every single interest but there is enough evidence to suggest that course offerings are widespread (well over 300 courses) but not focused. A related issue is to what extent courses should reflect the world of work – some would argue that education should be quarantined from this function. A hybrid policy of addressing (a) tertiary entrance requirements, (b) the requirements of industry, as well as (c) the perceptions of the community may not serve (d) the interests of learners. Ultimately it is a policy question about the nature and purpose of education but whatever answer is provided, there is now some evidence that courses in senior secondary schooling have a trajectory of their own, that diverges from the career preferences and latent abilities of students and is independent of the world of work to which they often pay homage and lip service. The more difficult question is how does one align the world of work and occupations with the latent interests of the population. Whatever the rationale, we are not harnessing interest as a mental resource for earning or learning.
Table 5: Distribution of interest, employment and course enrolments

<table>
<thead>
<tr>
<th></th>
<th>Interests</th>
<th>Occupations</th>
<th>Courses 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ou</td>
<td>12.0%</td>
<td>10.6%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Pr</td>
<td>13.3%</td>
<td>23.7%</td>
<td>9.9%</td>
</tr>
<tr>
<td>Sc</td>
<td>12.2%</td>
<td>6.0%</td>
<td>17.6%</td>
</tr>
<tr>
<td>Cr</td>
<td>16.1%</td>
<td>1.9%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Bu</td>
<td>17.4%</td>
<td>24.9%</td>
<td>13.0%</td>
</tr>
<tr>
<td>Of</td>
<td>12.5%</td>
<td>15.6%</td>
<td>4.2%</td>
</tr>
<tr>
<td>PC</td>
<td>16.5%</td>
<td>17.4%</td>
<td>9.8%</td>
</tr>
</tbody>
</table>

1 Excludes Mathematics, Languages and History

Figure 5: Comparison of career interests, occupations and courses
Pathways to social and emotional wellbeing
Lessons from a 24-year longitudinal study

Abstract
Commencing in 1983, the longitudinal Australian Temperament Project (ATP) provides a valuable lens through which to view the pathways taken by Australian children from infancy to adulthood, and the factors associated with positive or problematic development. The study is now in its 25th year and has completed 14 data collection waves. This paper provides an overview of ATP findings on young people’s wellbeing at 23–24 years of age, their engagement in risk-taking behaviours such as alcohol use and risky driving, and the nature of parent–child relationships over adolescence and early adulthood.

Introduction
There has been much speculation about how young people are faring in today’s world. The lives of the current generation are very different from those of their parents and grandparents. In the 1960s and 1970s, most young people had settled into stable careers, married, and become parents by their mid twenties. Nowadays, this is the exception rather than the norm. There is disagreement about whether young people are doing well, or finding life difficult. As Eckersley (2004) puts it:

> are young people having the time of their lives, or struggling with life in their times? (p 36).

This paper draws on data from the Australian Temperament Project (ATP) to describe the wellbeing of young people in their mid twenties, their involvement in risk-taking behaviours such as alcohol use and risky driving, and the quality of their relationships with parents.

Australian Temperament Project
The ATP is managed and led by the Australian Institute of Family Studies in collaboration with the University of Melbourne, Deakin University and the Royal Children’s Hospital. The study focuses on the developing child, investigating the contribution of personal, family and broader environmental factors to adjustment and wellbeing. Commencing in 1983, with a representative cohort of 2443 infants and families from urban and rural areas of Victoria, 14 waves of data have been collected by mail surveys over the first 24 years of life. Many aspects of the children’s lives have been assessed, such as their personal characteristics (e.g. temperament style, behaviour, social skills), family and peer relationships, and broader environmental influences (e.g. school adjustment and achievement, community participation, civic engagement). Parents, maternal and child health nurses, primary school teachers and the children have provided information on the children’s development and wellbeing (see Prior, Sanson, Smart & Oberklaid (2000); also www.aifs.gov.au/atp).

How were the young people progressing at 23–24 years?
Table 1 provides an overview of how the sample was faring at 23–24 years of age. It presents a mixed picture: on the one hand this seems to be an industrious, engaged group of young people, with approximately four-fifths employed, one-fifth studying, half working 39 to 50 hours per week and a further one-tenth more than 50 hours a week, and three-fifths involved in a committed relationship with a partner. On the other hand, a substantial number were experiencing mental health problems or were involved in...
risk taking. Approximately one-sixth were struggling with depression and/or anxiety, a similar number were involved in high levels of antisocial behaviour, while one-fifth used marijuana, other illicit drugs and/or were regular binge drinkers. Approximately one-fifth also reported the presence of a long-term physical or mental health problem. Overall, four-tenths were showing signs of problems (depression, anxiety, antisocial behaviour and/or illicit substance use).

Alcohol use

There has been growing concern about binge drinking and its effect on young people. The ATP study has collected information on alcohol use, abuse and harms associated with use from 13 to 23 years, along with information on other types of substance use.

Patterns of alcohol use from 13 to 18 years have been investigated (Waters, 2005), with five distinct groups identified, ranging from those who abstained from drinking over the teenage years to a small number who binged regularly and experienced harmful consequences such as memory loss, physical injury, and/or school and family troubles. Childhood individual characteristics (e.g. aggressive and hyperactive behaviour problems, lower social skills, more difficult temperament style) were predictive of high alcohol use in adolescence, while adolescent factors such as friendships with antisocial peers, school problems, poorer family relationships, and parental drinking were predictive of both high and moderate adolescent alcohol use.

Follow-up into early adulthood revealed that alcohol use increased markedly over this time span. The heaviest drinkers in adolescence remained the heaviest drinkers in early adulthood. However, the greatest increase was among moderate drinkers, suggesting that moderate use in adolescence did

<table>
<thead>
<tr>
<th>Table I: The ATP sample at 23-24 years: Selected measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current employment/education circumstances</td>
</tr>
<tr>
<td>In paid employment                                       84%</td>
</tr>
<tr>
<td>Self employed                                           7%</td>
</tr>
<tr>
<td>Looking for work                                         8%</td>
</tr>
<tr>
<td>Studying                                                2%</td>
</tr>
<tr>
<td>Occupational status</td>
</tr>
<tr>
<td>&lt; 25th quartile                                         9%</td>
</tr>
<tr>
<td>25th - 50th quartile                                    52%</td>
</tr>
<tr>
<td>51st - 75th quartile                                    16%</td>
</tr>
<tr>
<td>&gt; 75th quartile                                         23%</td>
</tr>
<tr>
<td>Hours of work</td>
</tr>
<tr>
<td>1 – 15 hours                                            7%</td>
</tr>
<tr>
<td>16 – 30 hours                                           12%</td>
</tr>
<tr>
<td>31 – 38 hours                                           20%</td>
</tr>
<tr>
<td>39 – 50 hours                                           48%</td>
</tr>
<tr>
<td>&gt; 50 hours                                              12%</td>
</tr>
<tr>
<td>Take-home weekly income</td>
</tr>
<tr>
<td>&lt; $100                                                  2%</td>
</tr>
<tr>
<td>$101 - $200                                             5%</td>
</tr>
<tr>
<td>$201 - $300                                             7%</td>
</tr>
<tr>
<td>$301 - $400                                             7%</td>
</tr>
<tr>
<td>$401 - $500                                             11%</td>
</tr>
<tr>
<td>$501 - $600                                             23%</td>
</tr>
<tr>
<td>$601 - $700                                             21%</td>
</tr>
<tr>
<td>$701 - $800                                             13%</td>
</tr>
<tr>
<td>&gt; $800                                                  10%</td>
</tr>
<tr>
<td>Experiencing financial strain                           4%</td>
</tr>
<tr>
<td>Educational level attained</td>
</tr>
<tr>
<td>Postgraduate degree                                     1%</td>
</tr>
<tr>
<td>Graduate diploma/certificate                            3%</td>
</tr>
<tr>
<td>University degree                                       40%</td>
</tr>
<tr>
<td>TAFE advanced diploma                                   9%</td>
</tr>
<tr>
<td>TAFE advanced certificate 3/4                           9%</td>
</tr>
<tr>
<td>TAFE certificate 1/2                                     6%</td>
</tr>
<tr>
<td>Other post sec qualification                            1%</td>
</tr>
<tr>
<td>Year 12                                                 23%</td>
</tr>
<tr>
<td>Year 11                                                 3%</td>
</tr>
<tr>
<td>Year 10                                                 3%</td>
</tr>
<tr>
<td>Year 9                                                  0.5%</td>
</tr>
<tr>
<td>Year 8                                                  0.2%</td>
</tr>
<tr>
<td>Year 7                                                  0.1%</td>
</tr>
</tbody>
</table>

Living arrangements                                     |
| Living with parents                                     38% |
| Sharing a house or flat                                 22% |
| Living alone                                            8% |
| With partner/spouse                                     28% |
| Other                                                   4% |

Relationship status                                      |
| Not seeing/dating anyone                                31% |
| Dating casually                                         7% |
| In a committed relationship, not cohabitating           28% |
| Cohabiting                                              26% |
| Married                                                 7% |
| Other                                                   1% |

Parenthood: biological parent of child                    7% |

Physical or mental health problem                        22% |

Depression                                               |
| 16% moderate/severe                                     |

Anxiety                                                  |
| 16% moderate/severe                                     |

Antisocial behaviour                                      |
| 10% 3+ acts in last 12 months (excludes illicit substance use) |

Alcohol use                                               |
| 19% drink every second day or more often; 20% binge drink (7 drinks for males, 5 for females) more than once a week |

Marijuana use                                             |
| 14% used marijuana in the past month, of whom 4% used weekly or more and a further 2% used daily |

Other illicit drug use                                     |
| 12% had used another type of illicit drug in past month |

Number showing signs of problems                          |
| 40% with depression, anxiety, antisocial behaviour and/or illicit substance use, of whom 24% had one problem, 12% two problems, 3% three problems and 1% all four problems. |
not protect young people from harmful consumption later on. Adolescent abstainers, although generally no longer abstinent, rarely or never drank at harmful levels in early adulthood, suggesting that abstinence may protect against future harmful levels of use.

**Risky driving**

As the young people entered their adult years, our investigation of risk-taking behaviours broadened to include risky driving. This work was undertaken in collaboration with the Transport Accident Commission of Victoria and the Royal Automobile Club of Victoria (see Smart & Vassallo, Sanson et al., 2005).

Three groups were identified at 19–20 years: a 'low' risky driving group (64% of the sample, 39% male), a 'moderate' risky driving group (29% of the sample, 50% male), and a 'high' risky driving group (7% of the sample, 77% male). Figure 1 shows the average number of occasions on which the groups had engaged in differing types of risky driving during their past ten driving trips.

Looking back at their earlier histories (Vassallo, Smart, Sanson et al., 2007), the high risky drivers could be differentiated from their peers from mid childhood, with differences evident on personal characteristics such as a less persistent temperament style and higher levels of aggression and hyperactivity. As teenagers, the high risky drivers had more frequently associated with antisocial peers, more often engaged in antisocial behaviour and substance use, and experienced more school adjustment difficulties. In early adulthood, risky driving co-occurred with other risk-taking behaviors.
behaviours: alcohol and cigarette use, binge drinking and particularly antisocial behaviour and marijuana use (Vassallo, Smart, Sanson et al., 2008).

Relationships between parents and young people

A considerable body of research shows that parent–child relationship quality is closely linked to child and adolescent wellbeing (Steinberg, 2001). Warm parent–child relationships can foster resiliency (Werner & Smith, 1982) and facilitate effective parenting (Dishion & McMahon, 1998). However during adolescence, there can be greater strain and discord in the parent–adolescent relationship as young people seek independence and try out new ways of thinking and being (Collins & Russell, 1991). Thus, it is commonly believed that parents and adolescents find the teenage years a difficult time. This issue has been investigated, using data from the ATP survey waves from 13 to 18 years, in which parents and teenagers answered questions about how they were getting on together (Smart, Sanson & Toumbourou, 2008).

The findings revealed that more than 70% of parents and adolescents had positive perceptions of their relationship over this time period. However, on one aspect – communication between adolescents and parents – rates were lower, with only about half the parents and adolescents reporting that they often talked together about problems or difficulties the adolescents were experiencing.

Parent–adolescent relationship quality was strongly related to adolescents’ wellbeing over a range of aspects of life (temperament style, social

![Diagram](image)

**Parent-adolescent relationship quality**

The groups displayed are:

- High = high-quality relationship according to both reporters (parents and adolescents)
- High-medium = high-quality relationship according to one reporter and medium quality by the other
- High-low = high-quality relationship according to one reporter and low quality by the other
- Medium = medium-quality relationship according to both reporters
- Medium-low = medium-quality relationship according to one reporter and low quality by the other
- Low = low-quality relationship according to both reporters.

The bars show on the left-hand side, teenager reports of adolescent school problems; and on the right-hand side, parent reports of adolescent school problems. The variable ‘School problems’ was standardised to have a mean of 0 and a standard deviation of 1. Thus, group means below 0 indicate lower than average levels of school problems while group means above 0 indicate higher than average levels of school problems.

**Figure 2:** Parent- and adolescent-reported school problems when adolescents were 13–14 years of age by quality of the parent–adolescent relationship at the same age.

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Touching the Future: Building skills for life and work
skills, behaviour problems, peer relationships, school progress — see Figure 2 for an example of these trends). High relationship quality was also associated with more harmonious family relationships and more effective parenting practices but not family structural characteristics (e.g., family size, composition).

Recent analyses (Vassallo, 2008) show that relationships between parents and 23–24 year olds continued to be positive for the great majority, with over three-quarters of parents and young adults rating their relationship very highly (at least an 8 out of a possible 10). In terms of conflict, only 6% of parents and 9% of young adults reported that they argued frequently (weekly or more often). Most 23–24 year olds agreed that their relationship with their parents was important to them (94%), and that their parents played a major role in their lives (84%). In addition, young adults generally felt supported by their parents with 80–90% believing they could count on their parents to listen to them, help them with a problem or provide them with advice. Parent reports generally reflected these trends, although interestingly, parents tended to underestimate the positive role they played in the lives of their sons and daughters.

Conclusions and implications

These findings point to the complex nature of young people’s lives. The great majority of 23–24-year-old study members were in employment with many working long hours, were in adequate financial circumstances, and sixth-tenths were in a committed relationship (with 7 per cent married). However, as others have found (e.g., Arnett 2000), this continues to be an age of risk taking and self-exploration, and a substantial number were involved in substance use and to a lesser extent, antisocial behaviour. Further, high levels of depression and/or anxiety were evident among one-sixth of the cohort. These trends are similar to the cohort’s progress at 19–20 years, although at 19–20 years, many more were studying, fewer were working, rates of depression and anxiety were somewhat higher (around 20 per cent), illicit substance use was considerably lower, and antisocial behaviour was of similar prevalence.

The longitudinal nature of the study enabled an examination of the earlier profiles of those involved in antisocial behaviour and risky driving. Considerable similarity was evident in the risk factors identified, with risks evident at the child, family, peer and school levels. Temperament style and behaviour problems were early risk factors, suggesting they may be priming factors for the development of later problems. Environmental risk factors such as parent-child relationship quality, friendships with antisocial peers, and school difficulties (including academic difficulties and negative attitudes towards school) often emerged later and may have potentiated risk for vulnerable children. These findings suggest considerable similarity and overlap in the pathways to problems, and the possibility that intervening early in the development of problematic pathways may curb the onset of multiple problems.

Finally, adolescence was not found to be a time of ‘storm and stress’ for the majority of teenagers and their families. Most parents and teenagers reported getting on well together and a similar picture was evident in early adulthood. These findings are in line with previous Australian and international research (e.g., Kandel & Lesser, 1972; Weston, 2000), but are at odds with community perceptions. Steinberg (2001) makes the point that ‘there has remained a dramatic disjunction between what is being said in academic circles and what is being sold to parents through the popular media. Authors of contemporary advice books aimed at parents of teenagers continue to portray the adolescent period as a ‘difficult one’ (p. 4). These findings underscore the importance of researchers and practitioners working in the adolescent field, helping parents develop a realistic view of parenting over the teenage years. Parents need not be unduly apprehensive since adolescence is a positive period for most. However, support will be needed for the minority where difficulties occur, which can be due to a variety of factors, parent-child relationship difficulties being one only. Encouragingly, while there can be relationship difficulties, improvement is possible, as attested by one of the parents in our study when her child was 17–18 years:

My teenager has always been difficult, and at the age of 11, 12, 13 we had a very bad relationship… We have come a long way and our relationship is very good now.

References


Assessing and reporting of employability skills of senior secondary students

Gabrielle Matters
ACER

Gabrielle Matters is a Principal Research Fellow at ACER, Head of ACER Brisbane, and Executive Secretary of the International Association for Educational Assessment. She is an adjunct professor at QUT, with a doctorate in the field of psychometrics. Gabrielle has been keenly interested in educational assessment throughout her career as a classroom teacher (physical sciences), school administrator, test developer, policy advisor, university lecturer, researcher, and author. She has held executive management positions within the Australian education sector and has worked with education systems overseas, most recently in Colombia. Recent research includes comparative studies of curriculum content and achievement standards across Australia and between the IB diploma and the Australian States. Gabrielle has reviewed various assessment/certification systems in Australia and abroad including the examination process for membership and fellowship of the Australian College of Veterinary Scientists.

David D Curtis
NCVER

David Curtis has been researching and implementing generic employability skills for over a decade in the schooling, vocational education and training, and higher education sectors. With Dr. Phillip McKenzie (ACER) he undertook the literature review and framework development for the report ‘Employability Skills for the Future’. While working for ACER, he assisted Dr. Gabrielle Matters with a recent report on assessment and reporting options for employability skills of senior secondary students. Dr. Curtis is a Senior Research Fellow at the National Centre for Vocational Education Research.

Abstract
This paper traces the emergence of ‘life skills’ from being rather general and global prescriptions for educational change to specific lists of ‘skills’ that schooling, vocational and higher education should address. We focus specifically on the ‘key skills’ of the Employability Skills Framework (ESF) developed jointly by the Australian Chamber of Commerce and Industry (ACCI) and the Business Council of Australia (BCA) (ACCI & BCA, 2002). We propose a strategy for extending the definitions of the key skills to include personal, social and civic objectives. We also identify a sequence of challenges that schools and school systems must address in order to meet the requirements to develop these key skills in students, to assess achievement of them and to report achievement against them. We identify assessment as the core challenge and the further definition of these constructs as a related challenge. The credible assessment of key skills will be a driver for teaching and learning them, and will provide a sound basis for reporting achievement.

Emerging attention to life skills

Setting the global context
A period of social upheaval in Europe in 1968 caught the attention of policy makers. They realised that growing youth unemployment and consequent dissatisfaction was due, in part, to changing labour market conditions and a set of education arrangements that was out of step with the emerging requirements of the labour market. There was also recognition that social structures needed to change and that young people needed to be equipped for social structures and labour market in transformation. The Faure report (Faure et al., 1972) first documented...
the forces driving this transformation – globalisation and information technology – and began to develop prescriptions that would enable young people to accommodate the consequences of these changes.

The prescriptions included the need for young people to have a diverse and very general set of skills, recognising that a narrow education delivering specific skills for particular occupations would not equip young people for inevitable but unpredictable changes. The first set of generic skills were proposed by Mertens (1974). Although he is credited with originating the concept of ‘key competencies’, he also recognised the importance of these generic skills in three dimensions of people’s lives – individual development, career progression and civic engagement (Mertens, 1974). The importance of these dimensions has since been reiterated in much of the extensive literature on lifelong learning.

**An attempt to develop measures of specific competencies**

Although much policy attention has been paid to the concept of lifelong learning – learning for and throughout one’s life – the generic skills that were required for ongoing learning had been elusive. The view emerged that these skills needed to be identified, and if possible measured. The OECD-sponsored DeSeCo project picked up the challenge of defining the ‘key competencies’ that would be required by individuals in confronting the uncertainties of future work and social challenges.

Rychen and Salganik (2000) noted that much effort around generic skills had been driven by business sectors and employers, but they also noted the importance of other spheres of application:

- increasing individual understanding of public policy issues and participation in democratic processes and institutions
- social cohesion and justice
- strengthening human rights and autonomy as counterweights to increasing global inequality of opportunities and individual marginalisation (Rychen & Salganik, 2000).

Thus, in the DeSeCo project we find evidence that generic skills are seen to have a key role in facilitating personal growth, social interaction and civic engagement in addition to their roles in sustaining labour market participation. Moreover, the same skills that are implicated in labour market success are also required for social and civic interactions.

**Employment-related skills**

The most recent generic employability skills initiative in Australia has been the report by the Australian Chamber of Commerce and Industry (ACCI) and the Business Council of Australia (BCA) (ACCI & BCA, 2002). The Employability Skills Framework (ESF) includes a wide range of skills, from basic to advanced, as facets of the key skills (ACCI & BCA, 2002, pp. xvi–xvii). Basic skills include, ‘using numeracy effectively’ and ‘having a range of basic IT skills’, while advanced skills include ‘negotiating responsively’ and ‘developing a strategic, creative, long-term vision.’ The key skills of the ESF are:

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

The key skills and their purposes, listed above, provide part of the definition of these constructs. More detail is found in the facets of each skill. These facets illustrate specific applications of each key skill. The authors of the report were careful to say that the facets are not prescriptive, but are indicative of application contexts and that the ‘mix and priority of these facets would vary from job to job’ (ACCI & BCA, 2002, p. xvi).

The Ministerial Council on Education, Employment and Youth Affairs (MCEETYA, 2003) recognised the importance of the eight employability skills, but also noted that they were part of a broader set of generic skills required by young people. MCEETYA’s qualified endorsement of the key skills of the ESF provides some support for the extension of the key skills through the development of additional facets. The National Goals for Schooling (MCEETYA, 1999) recognise young people’s future roles in families and communities and as citizens.

The proposal for an Australian Certificate of Education (ACE) broadened the focus from work to citizenship (Masters et al., 2006). While the authors recognised the importance of ensuring that students developed the employability skills proposed by ACCI and BCA, they also included discussion...
of ‘skills and attributes for life and work beyond school’ (pp. vii & 6).

**Key challenges**

In order to implement a set of generic skills widely in Australia’s education systems, several sets of challenges must be addressed. These challenges are:

- their definition and selection
- their dissemination and implementation
- their assessment and reporting
- their certification and acceptance. (Curtis & McKenzie, 2002, pp. 54–61).

We can perceive these challenges as a sequence of steps. The central challenge is assessment but it requires consideration of issues of definition and of reporting. In the discussion that follows, we will limit discussion to two challenges, namely definition and assessment.

**Definition and selection of ‘the skills’**

Definition is required at two levels: What do we mean when we say a skill is ‘generic’? What do we mean when we nominate a particular skill, for example communication, as a generic skill? Definitions at both levels require further development. These definitions are required so that we can reach agreement about what we propose to assess.

**What is a generic skill?**

Some arguments about the characteristics of generic skills suggest that they should be transferable. Oates (2003) suggested that the concept of transferability should be replaced with the notion of adaptability. Generic skills can be described as adaptable if instances of them can be deployed in diverse contexts whereas transfer requires that an individual who learns a skill in one context can apply it in others.

Several categories of broadly applicable and therefore educationally important skills are recognised. We recognise the importance of basic skills (mainly literacy and numeracy) because they are very broadly applicable skills themselves and because they are the foundation upon which higher levels of these skills and other sets of skills and knowledge are developed.

Generic skills differ from basic skills in that they are described at relatively high levels of abstraction and generality. Inspection of the descriptions provided in most generic skills schemes reveals ‘skills’ such as communication, teamwork and problem solving. None of these, nor the many other generic skills labels, indicate precisely what is envisaged. These abstract labels and descriptions of skills need to be elaborated in much more detail in order to communicate their intentions. Thus, in the ESF for example, the eight key skills are listed, broadly defined and then illustrated through a series of indicative facets.

**Assessment and reporting**

**Requirements of assessment methods**

In this paper, we are concerned mainly with reporting individual achievement of generic and employability skills. However, the signalling function of assessment is important. Assessment is deemed to have three broad sets of purposes: namely, to promote learning; to measure individual achievement; and to evaluate programs (Airasian, 1994; Pellegrino, Chudowsky, & Glaser, 2001). An assessment regime is required in which a series of learning and assessment activities occurs, through which evidence of performance is used to inform subsequent learning and that accumulates and provides a basis for reporting achievement.

**A process for developing a generic skills assessment regime**

For assessment systems to be useful in providing informative feedback to learners and teachers and for reporting achievement, levels of performance must be manifest. This requires that:

- each generic employability skill must be defined as an assessable construct
- global performance descriptions must be developed
- standards descriptors must be devised for each facet of each skill.

These stages in the development of a generic skills assessment regime are demanding. Judgements must be made about the effort required to develop a robust assessment system that will provide a sound basis for credible reporting of generic skills achievement and the perceived benefits to learners and other stakeholders.

**What are the options to address these challenges?**

Here, we review three options and draw attention to the benefits and difficulties that attend each one.

**Standardised tests**

Standardised tests comprise items for which students select responses from prescribed options (typically multiple-choice items) or for which students provide limited constructed responses. An example of this approach for assessing generic skills is the Graduate Skills Assessment (ACER, 2001). Disadvantages of this approach to testing generic skills include the high cost of developing quality tests. There are also costs associated with the
management and administration of such tests. Perhaps the major disadvantage is the limitation of this form of testing to a subset of the facets of generic skills. Certain skills, such as teamwork, need to be evaluated in authentic situations, and a pencil and paper or online test does not provide this context. The clear advantages of this approach are the validity and reliability of the tests for those constructs that are amenable to this method. While this method may not impact substantially on the workload of teachers, this lack of impact also signals a clear disadvantage: by not requiring the engagement of teachers, the valuable backwash effects of assessment are lost.

Common assessment tasks
Assessment tasks have been developed that provide an opportunity for students to demonstrate a range of related abilities that constitute a complex cognitive ability. Responses to these tasks have multiple dimensions, and judgements are made about each dimension according to performance level descriptions. Because the tasks must be common across the school curriculum, a mapping exercise is required in which opportunities for each of the generic skills are identified within most school subjects. This exercise has already been undertaken in Queensland in constructing the Queensland Core Skills Test (Pitman, Matters, & Nuyen, 1998). In order to ensure comprehensive coverage of the curriculum, a substantial number of tasks would need to be developed. The assessment of student performance would be undertaken by classroom teachers. While this would impose a load on teachers, the use of existing curriculum activities would minimise any disruption to teaching and learning, and indeed, could enhance the experienced curriculum. While the load is greater than in the case of standardised testing, the backwash effects are expected to make a significant positive contribution to students’ acquisition of these skills.

Teacher-group judgement
Teachers meet and consider the employability skills of individual students whom they have taught or otherwise interacted with in co-curricular activities during a school year. Teachers consider each employability skill in turn and describe the evidence they have been able to gather that illustrates each student’s achievement of that skill. The diversity of contexts will require customisable standards descriptors. An example of the successful deployment of this method can be found in McCurry and Bryce (2000). The load on teachers is manageable and could be part of normal school reporting processes. What is not clear about the method is the extent of any backwash effects on teachers and students. A disadvantage of the method is that it will not lead to comparable reports of performance between schools unless there is some moderation, and the load imposed by this is likely to be substantial.

Conclusion
We have argued that generic skills are important educational constructs. The emphasis in Australia on employability skills has been a very useful catalyst for broadening the discussion to one of generic skills that have application in future employment and in the personal, social and civic dimensions of individuals’ lives beyond school.

Of the many challenges that confront educators attempting to focus greater attention onto generic skills, we have identified the assessment and the definition of generic skills as the central challenges. Iteration is required between these and other issues. Generic skills need to be defined as constructs that are recognised as being important across the several dimensions of individuals’ lives in a changing society. It is not only work and work organisation that changes, but the ways in which individuals interact with others and with social institutions that evolve. A key role of schooling is to prepare young people for the uncertainty that projected but undefined change presages. Generic skills must also be defined as assessable constructs so that their assessment can be pursued. Assessment is important because it provides information to individuals about their achievement in relation to expectations, but it is valuable because it signals importance to teachers and learners and other stakeholders, including employers.

We have proposed a process by which the assessment of generic skills can be advanced and we used three possible assessment methods to illustrate the potential benefits and limitations of these methods. A similar analysis of other assessment options would reveal comparable costs and benefits for those options. An understanding of the costs, benefits and limitations of assessment options may lead us to review our expectations of generic and employability skills, and greater clarity about those expectations will enable us to develop and refine the assessment regime that will optimise the personal, social, civic and employment skill outcomes that we seek.

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An international perspective on civic and citizenship education: Exploring the learning context for lower secondary students

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ACER

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Abstract

The purpose of the International Civic and Citizenship Education Study (ICCS) is to investigate, in a range of countries, the ways in which young people are prepared and consequently ready and able to undertake their roles as citizens. In pursuit of this purpose, the study will report on student achievement, student activities, value beliefs, behavioural intentions and attitudes related to civic and citizenship education. The collection of contextual data will help to explain variation in these outcome variables. This paper describes how the learning context for civic education is explored in the ICCS survey. It outlines the conceptual framework, the design of the study and the assessment instruments for students, teachers and school principals, as well as a national context survey collecting data on the national contexts for civic and citizenship education. Some preliminary results from the first data collections undertaken in this study are included at the end of this paper.

Introduction

The purpose of the International Civic and Citizenship Education Study (ICCS) is to investigate, in a range of countries, the ways in which young people are prepared and consequently ready and able to undertake their roles as citizens. In pursuit of this purpose, the study will report on student achievement, student activities, value beliefs, behavioural intentions and attitudes related to civic and citizenship education. The collection of contextual data will help to explain variation in these outcome variables. The study builds on the previous IEA studies of civic education (see Torney-Purta et. al., 2001; Amadeo et. al., 2002; Schulz & Sibbens, 2004) and is a response to the challenge of educating young people in changed
contexts of democracy and civic participation.

This summary describes how the learning context for civic education is explored in the ICCS survey. It briefly outlines the conceptual framework, the design of the study and the assessment instruments for students, teachers and school principals, as well as a national context survey collecting data on the national contexts for civic and citizenship education.

Civics and Citizenship Framework

Construct operationalisation

The ICCS Civics and Citizenship Framework underpins the collection of student outcomes data and is organised around three dimensions: a content dimension specifying the subject matter to be assessed within civics and citizenship; an affective-behavioural dimension that describes the types of student perceptions and activities that will be measured; and a cognitive dimension that describes the thinking processes to be assessed.

Civics and citizenship content domains

The first content domain, civic society and systems, comprises the mechanisms, systems and organisations that underpin societies. The second domain, civic principles, refers to the shared ethical foundations of civic societies. Civic participation, the third domain, deals with the nature of the processes and practices that define and mediate the participation of citizens in their civic communities (often referred to as active citizenship). The Civics and Citizenship Framework recognises the centrality of the individual citizen through the civic identities, the fourth domain. This domain refers to the personal sense an individual has of being an agent of civic action with connections to multiple communities. Together, these four domains describe the civic and citizenship content to be assessed in ICCS.

Civics and citizenship affective-behavioural domains

Data relating to the affective-behavioural domains are collected using a Likert-type item format. The following affective-behavioural domains are distinguished:

- Value beliefs can be defined as beliefs about the worth of concepts, institutions, people, and/or ideas. They help individuals resolve contradictions, and they form the basis of how we see ourselves and others. Value systems are sets of value beliefs that individuals adopt and that, in turn, influence both attitudes and behaviour. ¹

- Attitudes can be defined as states of mind or feelings about ideas, persons, objects, events, situations and/or relationships. In contrast to value beliefs, attitudes are narrower in nature, can change over time and are less deeply rooted. The different types of attitudes relevant with respect to civics and citizenship include: (a) students’ self-beliefs related to civics and citizenship; (b) students’ attitudes towards rights and responsibilities; and (c) students’ attitudes towards institutions.

- Behavioural intentions refer to student expectations of future action, not actual behaviour. This affective-behavioural domain, assessed in the student perceptions questionnaire, requires items that ask students about their intentions towards civic action in the near future or as adults.

- Civic-related behaviour is limited for 14-year-old students, and many activities for citizens are not available at this age. However, several civic-related behaviours can occur among 14-year-olds and the aim is to capture these through the student background questionnaire.

Civics and citizenship cognitive domains

To respond correctly to the ICCS cognitive test items, students need to know the core set of civic and citizenship content being assessed. Students also need to be able to apply more complex cognitive processing to their civic and citizenship knowledge and to relate their knowledge and understandings to real-world civic action.

The two ICCS cognitive domains comprise the cognitive processes that students are expected to demonstrate in the ICCS cognitive test:

- The first cognitive domain, knowing, outlines the types of civic and citizenship information that students are required to demonstrate knowledge of.

- The second domain, reasoning and analysing, details the cognitive processes that students require to reach conclusions that are broader than the contents of any single piece of knowledge, including the processes involved in understanding complex sets of factors influencing civic actions and planning for and evaluating strategic solutions and outcomes.

The data derived from the test items constructed to represent the processes in the cognitive domains will be

¹ Rokeach (1973, p. 5) gives the following definitions: ‘A value is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence. A value system is an enduring organization of beliefs concerning desirable modes of conduct or end-states of existence along a continuum of relative importance.’
used to construct a global scale of civic and citizenship knowledge and understandings of the four content domains

**Survey design matrices in ICCS**

The ICCS matrix predefines the civic and citizenship content and processes, and each cell in the matrix represents a question type that is the intersection of content and process.

Figure 1 shows the ICCS design matrix, with the item types in each cell representing as the intersection of civic and citizenship content and process.

Figure 1 shows how items can be placed in different cells and mapped to either cognitive or affective-behavioural domains as well as to content domains. Cognitive items from both domains (knowing, analysing and reasoning) and affective-behavioural items from two domains (value beliefs and attitudes) can be developed in the contexts of all four content domains. Because these mappings are guided by the compatibility of each content domain to the different affective-behavioural and cognitive domains, they will not necessarily spread evenly across the content domains. Items developed to measure behavioural intentions or actual behaviours relate only to Content Domain 3.

The ICCS field trial instruments contain some of the secure trend items from the IEA CIVED study in 1999 as a concrete scaling link between the two studies and allow trend comparisons for countries that have participated in both international surveys.

**Contextual Framework**

**Classification of contextual factors**

ICCS sets the study of civic-related learning outcomes and indicators of civic engagement needs in the context of the different factors influencing them. Young people develop their understandings about their roles as citizens in contemporary societies through a number of activities and experiences that take place within the contexts of home, school, classrooms and the wider community.

It is therefore important to recognise that young people’s knowledge, competencies, dispositions and self-beliefs are influenced by variables that can be located at different levels in a multi-level structure (see a similar conceptual view in Scheerens, 1990). The individual student is located within overlapping contexts of school and home. Both contexts form part of the local community that, in turn, is embedded in the wider sub-national, national and international context. The contextual framework for ICCS distinguishes the following levels:

- Context of the wider community: This level comprises the wider context within which schools and home environments work. Factors can be found at local, regional and national

<table>
<thead>
<tr>
<th>Cognitive domains</th>
<th>Knowing</th>
<th>Analysing and reasoning</th>
<th>Affective-behavioural domains</th>
<th>Value beliefs</th>
<th>Attitudes</th>
<th>Behavioural intentions</th>
<th>Behaviours</th>
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**Figure 1:** Relationship between cognitive or affective-behavioural and content domains in ICCS
levels. For some countries, the supra-national level might also be relevant as, for example, in member countries of the European Union.

- **Context of schools and classrooms**: This level comprises factors related to the instruction students receive, the school culture and the general school environment.

- **Context of home environments**: This level comprises factors related to the home background and the social out-of-school environment of the student (for example, peer-group activities).

- **Context of the individual**: This level includes the individual characteristics of the student. Another important distinction can be made by grouping contextual factors according to those related to either antecedents or processes:

  - **Antecedents** are those factors that affect how student learning and acquisition of civic-related understandings and perceptions takes place. Note that these factors are level-specific and may be influenced by antecedents or processes at a higher level. For example, civic-related training of teachers may be affected by historical factors and/or policies implemented at the national level.

  - **Processes** are those factors related to civic-related learning and the acquisition of understandings, competencies and dispositions. They are constrained by antecedents and influenced by factors relating to the higher levels of the multi-level structure.

Antecedents and processes are factors that shape the outcomes at the level of the individual student. Learning outcomes related to civics and citizenship education at the student level also can be viewed as aggregates at higher levels (school or country) where they can affect factors related to process. For example, higher levels of civic understanding and engagement among students can influence the way schools teach civic and citizenship education.

Figure 2 illustrates which contextual factors might influence the learning outcomes of civic and citizenship education. The (double-headed) arrow between processes and outcomes signals a reciprocal relationship. It is important to emphasise that ‘feedback’ occurs between civic-related learning

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2 Because of the sampling design for ICCS, school level and classroom level cannot be disentangled. Generally, only one classroom will be selected within each school in the sample.

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**Figure 2**: Contexts for the development of learning outcomes related to civics and citizenship
outcomes and processes. For example, students with higher levels of civic knowledge and engagement are those students more likely to participate in activities (at school, at home and within the community) that promote these outcomes.

The (single-headed) arrow between antecedents and processes describes the relationship between these two types of factors at each level as unidirectional. However, higher-level processes can influence antecedents, and it is likely that, from a long-term perspective, outcomes may affect variables that are antecedents for learning processes.

This general contextual framework for ICCS makes it possible to map variables for which data are collected on a three-by-four grid, with antecedents, processes and outcomes as columns and the levels of nation/community, school/classroom, student and home environment as rows. Although the last column for outcomes is not split into levels, it is important to recognise that, for the analysis, aggregates can also be used at country and school/classroom levels.3

Figure 2 maps examples of potential variables (or groups of variables) collected with different ICCS instruments to each cell in this grid:

- Variables related to the context of nation/community will be collected primarily through the national context survey and other possible data sources.
- Variables related to the context of schools and classrooms will be collected through the school and teacher questionnaires.
- The student background questionnaire provides information on antecedents of the individual student, the home environment and some process-related variables (for example, learning activities). In addition, the student background questionnaire will include questions regarding student participation in civic-related activities, which will also be used as indicators of active citizenship related to Content Domain 3 (civic participation).
- The student test and the student perceptions questionnaire will collect data on outcomes.

Some potential variables that can be measured at one level pertaining to another level are not included in the mapping in Table 1. Student observations of learning practices in the classroom can be aggregated and used as classroom or school variables. Student, school, and teacher questionnaires might also provide civic-related information about the context of the local community.

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3 It should be noted that similar conceptualisations have been used for the planning of other international studies (see for example Travers & Westbury, 1989; Travers, Garden & Rosier, 1989; Harvey-Beavis, 2002; OECD 2005)

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### Table 1: Mapping of variables to contextual framework (examples)

<table>
<thead>
<tr>
<th>Level of ...</th>
<th>Antecedents</th>
<th>Processes</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>National and other communities</strong></td>
<td>NCQ &amp; other sources: Democratic history Structure of education</td>
<td>NCQ &amp; other sources: Intended curriculum Political developments</td>
<td></td>
</tr>
<tr>
<td><strong>School/classroom</strong></td>
<td>ScQ &amp; TQ: School characteristics Resources</td>
<td>ScQ &amp; TQ: Implemented curriculum Policies and practices</td>
<td>StT &amp; StPQ &amp; StBQ: Test results Student perceptions Student behaviours</td>
</tr>
<tr>
<td><strong>Student</strong></td>
<td>StBQ: Gender Age</td>
<td>StBQ: Learning activities Practiced engagement</td>
<td></td>
</tr>
<tr>
<td><strong>Home environment</strong></td>
<td>StBQ: Parent SES Ethnicity Language Country of birth</td>
<td>StBQ: Communication Peer-group activities</td>
<td></td>
</tr>
</tbody>
</table>

Key: NCQ: National Context Survey; ScQ: School Questionnaire; TQ: Teacher Questionnaire; StBQ: Student Background Questionnaire; StPQ: Student Perceptions Questionnaire; StT: Student Test; SES: Socio-economic Status
Study outcomes

Two international data collections have been undertaken for ICCS:

- The National Context Survey was carried out in the first half of 2007 as an on-line survey in which national study centres provided information on the educational system and civic and citizenship education in their countries.

- The international field trial was undertaken in 32 countries between October 2007 and January 2008 and included a piloting of student tests, student questionnaires, teacher and school questionnaires typically with samples of about 600 students from 25 schools per country.

The National Context Survey provided a rich data set about the general context and different aspects of civic and citizenship education. National centres will be asked to update some of the data in conjunction with the main data collection, which will take place between October and December 2008 (Southern hemisphere) and between February and April 2009 (Northern hemisphere).

The field trial outcomes have generally shown encouraging results both for outcome and contextual measures and have informed the item selection for the main survey instruments.

References


Assessing education and training requirements against uncertain labour force trends

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Abstract
Data analysis of skill requirements and supply are undertaken to provide guidance to policy makers. This analysis includes information on future employment by occupation and qualification, on labour force participation and on shortages. These can provide a coherent overview of what is likely to occur if current trends or policy settings persist. However, future uncertainty and data limitations suggest this information is most useful in providing a broad context within which industry, employer and individual needs can be considered.

Introduction
The objectives of government policy for vocational education and training include enhancing productivity, increasing workforce participation and addressing skills shortages. Alongside these is concern for personal development and for social inclusion, assisting the less advantaged to access education and training and to participate more fully in employment and in society.

What should be the size and shape of the education and training system to achieve these objectives? There is good evidence to suggest that it should be larger than at present but its exact composition by field of study or level of education and training is much less clear cut. There is uncertainty as to the composition of education and training needs and this uncertainty increases the further we wish to look into the future.

Skills and productivity
There is persuasive evidence that economies with better educated and trained workforces have higher rates of output and economic growth. This is shown in economy-wide studies e.g. Dowrick 2002. It is also indicated by the association of earnings with level of qualification. Earnings, which are an indicator of productivity, generally increase with the level of qualification. It was in this context that CEET prepared a paper for the Council of Australian Governments (COAG) in 2006 (Shah & Burke, 2006). This provided projections of the requirements for persons with qualifications in Australia in 2016 and the likely supply. The main elements of these estimates were:

1. projected employment by occupation
2. the proportion of workers in each occupation holding qualifications at various levels
3. the net number of workers leaving employment (for reasons such as retirement)
4. the number of persons achieving qualifications with the education and training system at its current size, and the net migration of qualified persons at their current size.

The main scenario assumed skill deepening that the proportion of workers with qualifications would continue to rise within occupation as in recent years. This is in line with the human capital agenda of COAG

1 ‘A one-off increase in attainment will produce a one-off rise (albeit spread over time) in the level of GDP per capita. There is mounting evidence, however, that there are also substantial dynamic or growth effects, which are linked to a country’s ability to implement new technologies. This evidence suggests that Australia would do well to increase its educational levels to match the OECD leaders – the USA and Scandinavia’. (Dowrick, 2002).

2 It is accepted that qualifications are only indicators of skill levels and persons can acquire skills in various ways without obtaining full qualifications. Qualifications are important for worker mobility and data on qualifications held are reported in many surveys.
which aimed at lifting productivity. The estimates of workers leaving employment was based on CEET’s estimates of net replacement (based on analysis of the changes in employment by occupation by age). The base estimate of the supply of persons with qualifications assumed that the output of the education and training system and migration rates were maintained.

There were three main findings from this work which have been taken up in the reform process in the last two years including in the policies in Skilling Australia for the Future:

- the VET system would need to expand to meet the projected requirements
- a considerable amount of the training would need to be provided for existing workers
- much of the training would need to be at the Diploma and Advanced Diploma level

It was projected that the training system would need to expand. About 240,000 more persons would have to complete qualifications above the number likely to qualify under existing levels of provision.

As Diploma and Advanced Diploma courses are longer on average than lower level programs, this means that the expansion of training effort required is much greater than the expansion in the number of places.

This report did not include details for particular occupations (though the estimation of requirements in 2016 did involve this). The purpose was to provide a big picture of some major aspects of the training system that would need to change in the coming years.

More detailed projections can be made, including estimates for particular occupations and state. This can be useful in giving an understanding, on the basis of current information, of the future pattern of employment. However, the more disaggregated the estimates, the more likely that the actual employment levels will differ substantially from the projection. If we wish to couple these projections of employment with estimates of the potential supply of skilled labour, the problems are exacerbated. One major reason is that persons with particular training often do not enter the occupations to which the training is most obviously related. And there are in almost every occupation, except those where strict licensing enforces particular qualifications, persons with a wide range of qualifications and considerable numbers without formal qualifications.

Hence, while analysis of employment and training data can provide broad estimates of the size and shape of changes in the education and training system to support improvements in productivity, we should not expect it to provide detailed pathways.

**Labour force participation**

There is convincing evidence that the level of workforce participation is related to the possession of a qualification. In particular older persons are much more likely to be in the labour force if they hold qualifications.

The estimates in the paper by CEET (2006) for COAG accepted the then current projections of the proportion of each age group participating in employment. Work carried out in NSW by IPART (2006) gave explicit attention to the issue of lifting the proportion of the population in the labour force. Many older workers and various less advantaged groups are not participating because they lack the skills currently in demand following recent economic developments. Provision of appropriate training to these workers may help them to gain employment, with obvious benefits in both personal income and participation in society and with benefits to the economy in terms of an increased skilled labour force.

**Particular occupational needs and shortages**

Australia’s skill shortage receives much media attention but it is usually in a way that it is not easy to discern exactly what is being considered (Shah & Burke, 2008). It is worth noting the definitions used by the Department of Education, Employment and Workplace Relations (DEEWR, 2007).

**Shortage**

Skill shortages exist when employers are unable to fill or have considerable difficulty filling vacancies for an occupation, or significant specialised skill needs within that occupation, at current levels of remuneration and conditions of employment, and in reasonably accessible locations.

**Recruitment difficulty**

Recruitment difficulties occur when some employers have difficulty filling vacancies for an occupation. There may be an adequate supply of skilled workers but some employers are unable to attract and recruit sufficient, suitable workers for reasons which include the following: specific experience or specialist skill requirements of the vacancy; differences in hours of work required by the employer and those sought by applicants; or particular location or transport issues.

Particularly in the case of recruitment difficulties, it is the nature and location of the job rather than a lack of people with appropriate qualifications that is the cause of the vacancies remaining unfilled. The solution to these recruitment difficulties may lie as much in changing job conditions and...
remuneration as in providing additional training.

A further concept is occasionally referred to as ‘skills gaps’. This refers to a situation where there is no unfilled vacancy but the workers employed are at a lower skill level than required or thought desirable.

It is often not clear from newspaper and other reports which concept is under consideration (Shah & Burke, 2008).

DEEWR does not claim to be able to make exact estimates of shortage and it holds back from providing a measure of the quantity of shortage. In contrast, the Employers’ Skill Survey in England is used to produce quantitative estimates. It provides estimates of total vacancies, vacancies that are hard to fill and, of those hard to fill, the ones that are due to skill shortages (Learning and Skills Council, 2008). The data are reported in some detail including by region and occupation. The 2007 survey of over 79,000 employers indicated that vacancies equalled about 2.8% of total employment. About 30% of these vacancies were classified as ‘hard to fill’. About 70% of the hard to fill vacancies were considered to be skill shortage vacancies: that is, skills shortage vacancies were about 20% of all vacancies.

DEEWR compiles lists of occupations that are considered to have a skills shortage. These are provided for professions, associate professions and trades. The major source of the information on shortages is a survey DEEWR conducts of employers who have recently advertised, supplemented with a range of other data on demand and supply including numbers being trained and migration (DEEWR). The information is used for advice to job seekers, in relation to assistance for apprenticeships and traineeships and for skilled migration. Persons seeking to migrate under the skilled migration program receive additional points if they are qualified for occupations on the Migration Occupations in Demand List (MODL). There are over 50 professional occupations (a high proportion of these in health) on the MODL and nearly 50 trade occupations including many trades in the building industry. The trades listed represent over half of all trade occupations.

Where there are identified shortages, as distinct from recruitment difficulties, there would seem to be an a priori case for expanding training while the shortages persist. The shortage data can be put in context, as it is by DEEWR with estimates of the likely expansion of employment by industry and occupation over the coming years and the likely growth in supply from the education and training system and migration.

The shortage information provided by DEEWR alongside information provided by employer groups and unions, can help in making judgements on future directions in training though, as discussed, given the limitations of the data, there is not much indication of the size of the shortages to be addressed. There is also the issue of the extent to which training or improved recruitment and retention is the solution to the shortage.

**Employers and individuals: demand for training**

Analysis of data on employment and training can provide us with estimates of possible numbers of persons to be trained in various areas. But, as discussed, the data on which to construct such estimates is far from complete. Steps can be taken to improve the data and analysis but the capacity to forecast by detailed categories of skills will remain very limited.

And it is not only a matter of an appropriate number and mix. There is the question of whether the provision meets the particular needs of employers and individuals. Industry, employers and workers are in the best position to judge the type of skills needed in their workplaces and recognition of this has been behind many of the reforms to training in the last 20 years. This includes basing training on competencies identified by industry (developed into training packages since the late 1990s) and various moves to allow employers and apprentices/trainees to select the training provider who best meets their needs (e.g. User Choice).

More recently there have been various attempts to stimulate the involvement of employers in the development of training appropriate to their needs. The proposed arrangements for the ‘existing worker places’ being provided under the Productivity Places Program in 2008 suggest that employers will need to undertake training needs analyses prior to accessing the places under the program (Australian Government, 2008). Partnerships are promoted between training providers and employers in all states and territories. A particularly important initiative has been the Skill Ecosystem model which is a form of industry partnership based on an analysis of the whole industry ‘ecosystem’. It addresses skill usage and is driven by employers, employees, training organisations and communities working together (www.skillecosystem.net). Such changes are as much about the quality and relevance of training provided as about the quantity, but they can also stimulate demand for training and private finance for it. That
this is an issue can be highlighted by the stagnation in enrolment in the VET system in Diplomas and Advanced Diplomas despite the concordance of views from projections, from industry and in government policy that expansion should occur at this level. The extension of various forms of government–employer incentives to these courses may help promote such enrolments but the active engagement of employers in analysis of their skill needs in partnership with providers may assist here too.

The NCVER Student Outcomes survey (2007) shows that about four-fifths of VET graduates undertake their training for employment-related reasons. As well as students who are already employed, individuals seek to enrol in VET courses prior to entry to employment and to advance their employability, in some cases in new fields of interest and with a new employer. Individual enrolment is affected by aptitudes and interests but also with some understanding of job prospects. Providing for students’ aptitudes and their judgement of what is in their own best interests and meeting their choices, even in areas where employment prospects are not immediately very strong, may not necessarily be a mistake. If such provision stimulates enrolment by disadvantaged persons who were otherwise alienated from education and training, then the case is still stronger. It can be noted that the Victorian Discussion Paper on Skills Reform (2008) proposes giving all Victorians access to an initial post-school qualification and the opportunity to continue to gain qualifications above those they already hold – though the statement did include the proviso that there could be a cap on the number of places in courses in the light of employment prospect.

**Conclusion**

Commonwealth and state and territory governments are taking steps to expand provision of vocational education and training. This paper has concentrated on the issues of the particular mix of training and the quantity, but has not dealt with issues of finance and regulation of the system.

Data analysis of skill requirements and supply are undertaken to provide guidance to policy makers. These include information on future employment by occupation and qualification, on labour force participation and on shortages. They can also provide a coherent overview of what is likely to occur if current trends or policy settings persist. However, future uncertainty and data limitations suggest this information is most useful in providing a broad context within which industry, employer, employee and individual needs can be considered.

**References**


Lunchtime conversations
Rosalyn Black

*Education Foundation*

Rosalyn Black is the Director of Thought Leadership at the Education Foundation, an independent, non-profit organisation with a focus on educational excellence and equality of opportunity. In her current role, she is responsible for the development of research projects that propose and drive new solutions for public education. Her previous roles include education policy analysis for state government and teaching and educational leadership in the public education system. The Education Foundation has recently formed an Alliance with The Foundation for Young Australians.

Jemma Wood

*The Foundation for Young Australians*

Jemma Wood is a Program Manager–Team Leader with The Foundation for Young Australians. Jemma manages The Youth Run Organisations’ Sustainability Grants, which provides two staged funding to assist youth led and youth-run organisations to strengthen the future of their organisation by improving and supporting management and operations. The Foundation for Young Australians is an independent national grant-making organisation, funding and working in partnership with youth-led initiatives which aim to positively contribute to young people and their communities. The Foundation for Young Australians has recently formed an Alliance with The Education Foundation.

Melissa King

*Australian Business & Community Network*

Melissa King is the Queensland Program Manager for the Australian Business and Community Network (ABCN). Melissa is responsible for ABCN’s corporate volunteering programs that foster positive mentoring experiences and skills exchange between business and educational institutions in the state. ABCN educates, equips and challenges members to use their business skills and resources collaboratively for greater social impact. It works in the area of education, specifically to improve opportunities for disadvantaged students and schools through mentoring, partnering and support programs.

Elisabetta Celata

*Education Foundation*

Elisabetta Celata is the Research and Policy Co-ordinator for the Education Foundation and works closely with her colleague, Rosalyn Black, to undertake targeted education research into directions for 21st century education. In her current role, Elisabetta also contributes to the research that informs the activities of the Education Foundation that involve the active participation of Australian students. Elisabetta has previously held roles in research and community liaison in federal government, and her political science background informs her drive to achieve equitable policies in education. The Education Foundation has recently formed an Alliance with The Foundation for Young Australians.
Poster presentations
Enhancing the inquiry skills of bioscience students

Concerns has been raised that bioscience students in Australia are insufficiently equipped with skills required by business and industry. In producing the next generation of bioscientists, the challenge for higher education is to ensure that graduates enter the workplace equipped with the skills required to successfully conduct scientific inquiry.

This Melbourne University–Monash University collaborative project has developed a series of online, inquiry projects designed to promote students’ understanding and appreciation of scientific inquiry, and to develop skills they need to conduct investigations. The projects present real-life biochemistry problems, with students taking on the role of bioscientist to solve them. Students are guided through the steps of an inquiry process, allowing them to observe how experts organise and undertake investigations.

Students’ surveys indicated that the projects encourage understanding of how investigations are performed, enable different contexts of the inquiry process to be recognised and demonstrate real-world application of knowledge. However, at the same time as appreciating the benefits of this approach, some students found it challenging.

Regional Youth Commitment

In its broadest sense, the Regional Youth Commitment (RYC) is a framework negotiated within and between all local and regional stakeholders to link and coordinate pathway and transition support arrangements for 15- to 19-year-olds, and to ensure that there is continuous support for a young person to remain in or re-enter education and training and attain as a minimum Year 12 or equivalent qualifications.

Based around the Victorian Government administrative regions, the RYC is one of a number of vehicles for progressing the Victorian Government policy target of 90% completion of Year 12 or equivalent qualifications by 2010.

The RYC has improved connections between and within organisations and/or provides education and training pathways and support for young people. A number of effective interventions have developed with the assistance and involvement of regions, schools TAFEs and local government to implement a RYC and to translate a commitment into action.

Identifying students at risk of early leaving and effective intervention strategies for students to complete schooling

Managed Individual Pathways (MIPs) is a Victorian Government initiative that ensures that all students 15 years and over in government schools are provided with individual pathway plans with associated support to enable successful transition through the post-compulsory years to further education, training or full-time employment.

Following a review of MIPs, a Mapping Tool to identify students at risk of early leaving was developed and rolled out to schools in 2007. The Tool allows schools to easily identify students who exhibit characteristics that increase risk of early leaving and to track, monitor and evaluate interventions to ameliorate the risks. DEECD has undertaken a project with Melbourne University to identify effective intervention strategies that are known to improve student engagement and increase school completion for at-risk students.
Conference program
Sunday 10 August

6.00–7.30 Welcome Reception Plaza Level P1 and P2, Brisbane Convention and Exhibition Centre

Monday 11 August

9.15 Keynote Address 1 Specifying and assessing knowledge and skills for life
Professor Geoff Masters, Chief Executive Officer ACER
Plaza Terrace Room
Chair: Dr. John Ainley, ACER

10.15 Morning Tea

10.45 Concurrent Sessions 1

Session A
‘Beyond ‘the future of...’: responding to the civilisational challenge’
Professor Richard Slaughter, Foresight International, Qld
Plaza Level P4
Chair: Lance Deveson, ACER

Session B
‘Quality education and quality work’
Mr Julian Roe, Australian Manufacturing Workers’ Union
Plaza Level P2
Chair: Dr Larry Foster, ACER

Session C
‘The National Assessment Program-Civics and Citizenship: Reflections on practices in primary and secondary schools’
Ms Suzanne Mellor, ACER
Plaza Level P3
Chair: Marion Meiers, ACER

Session D
‘Some reforms to better equip young people for tomorrow’s world.’
Mr Chris Robinson, CEO, Department of Education and Children’s Services, SA
Plaza Level P1
Chair: Kerry-Anne Hoad, ACER

12.00 Lunch and Poster Displays

12.45 Concurrent Sessions 2

Session E
‘Young people and social inclusion: challenges for the teaching occupation’
Professor Terri Seddon, Monash University, Vic
Plaza Level P3
Chair: Marion Meiers, ACER

Session F
‘X, Y and Z: Three decades of educational, employment and social outcomes of Australian youth.’
Dr Sheldon Rothman and Ms Kylie Hillman, ACER
Plaza Level P2
Chair: Adele Butler, ACER

Session G
‘Indigenous education, imagining the future - the role of educators’
Mr Wayne Muir, SED Consulting, Vic
Plaza Level P4
Chair: Lance Deveson, ACER

Session H
‘The intersection of adolescents’ interests and national needs - implications for educators.’
Assoc Prof Jim Athanasou, University of Technology, Sydney
Plaza Level P1
Chair: Kerry-Anne Hoad, ACER

2.00 Special Address by the Hon. Julia Gillard, Deputy Prime Minister
Plaza Terrace Room
Chair: Professor Geoff Masters, ACER

2.30 Afternoon Tea

3.00 Keynote Address 2 ‘Participation in the classroom, productivity in the workforce – unfulfilled expectations’
Professor Stuart Macintyre, Harvard University, USA
Plaza Terrace Room
Chair: Dr. John Ainley, ACER

4.15 Close of Day 1

7.00 Conference Dinner Mezzanine Level M3 & M4, Brisbane Convention and Exhibition Centre
## Tuesday 12 August

**9.15**  # Keynote Address 3
‘Round and round or fully rounded? How can we improve youth transitions?’
Professor Richard Sweet, Sweet Group, NSW and University of Melbourne
Plaza Terrace Room
Chair: Dr. John Ainley, ACER

**10.30**  # Morning Tea

**11.00**  # Concurrent Sessions 3

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<tr>
<td>Session I</td>
<td>‘Pathway to social and emotional wellbeing: Lessons from a 24-year longitudinal study’</td>
<td>Ms Diana Smart, Australian Institute of Family Studies</td>
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<td>Session J</td>
<td>‘Assessment and reporting of employability skills of senior secondary students.’</td>
<td>Professor Gabrielle Matters, ACER, and Dr David Curtis, University of Adelaide</td>
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<td>Session K</td>
<td>‘An international perspective on civic and citizenship education: Exploring the learning context for lower secondary students.’</td>
<td>Dr Wolfram Schulz and Mr Julian Fraillon, ACER</td>
<td>Plaza Level P4</td>
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<td>Session L</td>
<td>‘Assessing education and training requirements against uncertain labour force trends’</td>
<td>Professor Gerald Burke, Centre for Economics of Education and Training</td>
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<td>Chair: Kerry-Anne Hood, ACER</td>
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**12.15**  # Lunch and Poster Displays

**12.45**  # Lunchtime Conversation
‘Taking care of business: Is business taking care of young people’s aspirations?’
Facilitated by Ms Ros Black, Education Foundation Australia

**1.15**  # Keynote Address 4
‘The Ideas Bag’: Distilling the essence of the ideas of the conference
Professor Richard Sweet, Professor Richard Slaughter & Mr Julius Roe
Plaza Terrace Room
Chair: Dr. John Ainley, ACER

**2.15**  # Closing Address
Professor Geoff Masters, Chief Executive Officer, ACER
Plaza Terrace Room

**2.30**  # Close of Conference
Brisbane Convention and Exhibition Centre floorplan
Conference
Delegates
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<td>Dr John Ainley, Deputy CEO and Research Director</td>
<td>ACER, VIC</td>
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<td>Assoc Prof Jim Athanasou, Associate Professor, Education</td>
<td>University of Technology Sydney, NSW</td>
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<td>Dr Tony Austin, CEO</td>
<td>Aust. Technical College, VIC</td>
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<td>Ms Karen Bailey, SACE Coordinator</td>
<td>Sacred Heart College, SA</td>
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<td>1</td>
<td>Mr Kim Bannikoff, Director</td>
<td>Queensland Studies Authority, QLD</td>
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<td>Mr Anthony Battle, Assistant Principal</td>
<td>St Augustine’s College, NSW</td>
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<td>Mrs Donella Beare, Head of Secondary</td>
<td>St Stephen’s School, WA</td>
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<td>Mr Dale Bennett, Director of Teaching &amp; Learning</td>
<td>Wanganui Collegiate School, NZ</td>
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<td>Ms Ros Black, Director of Thought Leadership</td>
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<td>Mrs Carol Bowern, Principal</td>
<td>Tara Anglican School for Girls, NSW</td>
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<td>Mrs Joanne Brennan, Manager Participation</td>
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<td>Miss Samantha Brown, VET Coordinator</td>
<td>Mount Gambier High School, SA</td>
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<td>Dr Andrew Bunting, Director</td>
<td>Architectus, VIC</td>
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<td>Professor Gerald Burke, Executive Director</td>
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<td>Ms Adele Butler, General Manager, School Program</td>
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<td>Ms Rona Butler, Mrs Chere Byrnes, Careers Adviser</td>
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<td>Ms Sandra Camillos, Ms Kerry Carne, Principal</td>
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<td>Mrs Linda Carstensen, Head of Learning Pathways</td>
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<td>Ms Sharlene Chadwick, Training &amp; Devl Manager</td>
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<td>Ms Louise Chesterman, Year 10 Coordinator</td>
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<td>Mr John Fleming&lt;br&gt;Head</td>
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Touching the Future: Building skills for life and work
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