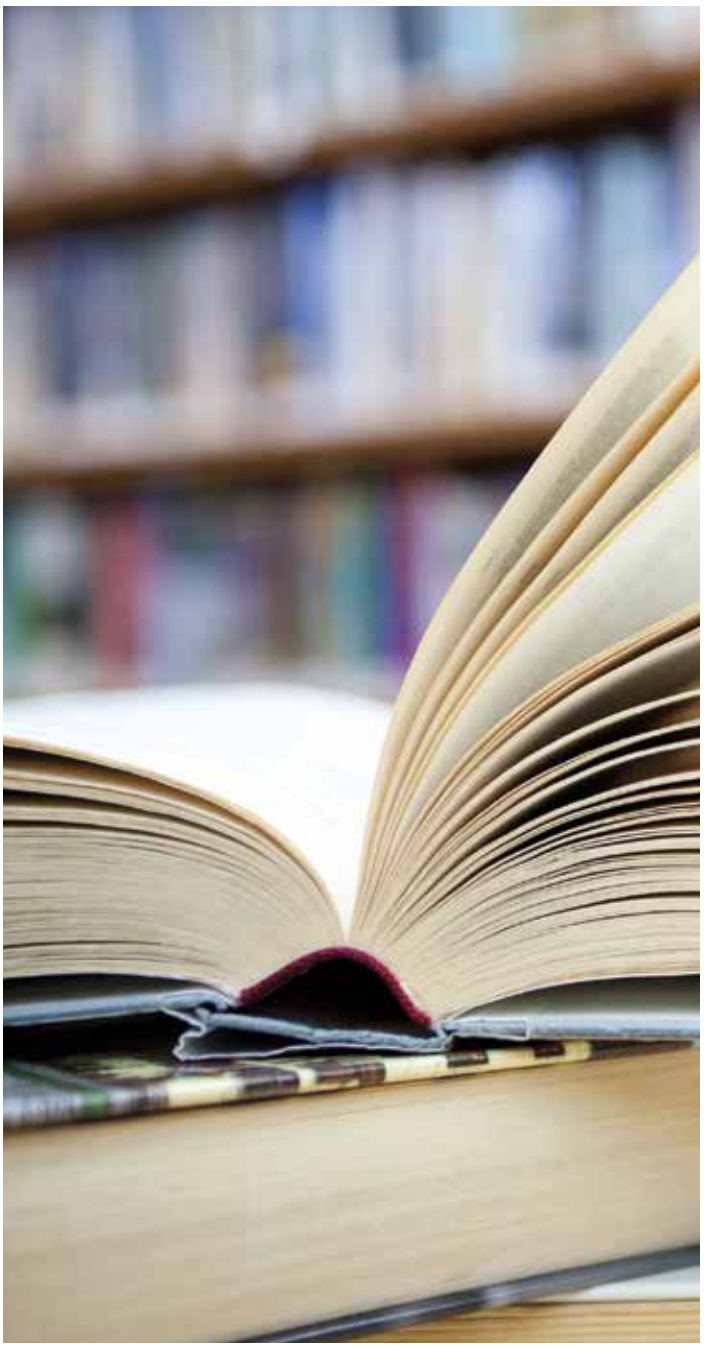
Research messages 2012



NATIONAL CENTRE FOR VOCATIONAL EDUCATION RESEARCH

NCVER

Australian Government
Department of Industry, Innovation Science, Research and Tertiary Education

Research messages 2012

National Centre for Vocational Education Research

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Level 11, 33 King William Street, Adelaide SA 5000
PO Box 8288 Station Arcade, Adelaide SA 5000, Australia

P +61 8 8230 8400 **F** +61 8 8212 3436 **E** ncver@ncver.edu.au **W** <www.ncver.edu.au>

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Highlights for 2012

Georgina Atkinson

The enduring issue of qualification completion remained topical in the research of 2012, but our attention also turned to the impacts of completion, and the value of pathways and qualifications for different groups of people. Some of the key themes include:

- the value of completing qualifications and skill sets
- trends in the labour market (skills mismatch, skills shortages and foreign labour mobility)
- pathways within and between vocational education and training (VET), higher education and work
- continuing education for workers
- the education participation and experiences of equity groups
- the educational experiences of school students
- challenges faced by training providers and the broader tertiary education sector.

The research generally confirms that completing a qualification is valuable. In *The value of completing a VET qualification*, Tom Karmel and Peter Fieger find that completing a VET qualification is generally beneficial across a range of outcomes including: employment and further study (or a combination of both), improved employment, occupational status and salary. And while the greatest benefits were undertaking further study, finding employment and increasing wages, the pay-offs vary considerably for different learners. Alice Bednarz synthesises this work and explains the technicalities behind completion rates (in *Lifting the lid on completion rates in the VET sector: how they are defined and derived*). Looking specifically at apprenticeship completions, Tom Karmel and David Roberts find that employer size and type and social background all matter. Apprentices working for government employers, larger employers and in areas where there is a greater concentration of trade employment, have higher rates of completion (in *The role of 'culture' in apprenticeship completions*).

It would seem that some qualifications offer more benefits than others. A number of papers examine the various types and levels of training and their value to the students undertaking them. Looking at lower-level qualifications (certificates I and II), Damian Oliver finds that these qualifications can provide a stepping stone into apprenticeships and traineeships. He also finds the benefits of completing a certificate I or II are stronger among the most disadvantaged learners (in *Lower-level qualifications as a stepping stone for young people*).

Looking at the other end of the qualifications scale, Tom Karmel and Tham Lu compare associate degrees and advanced diplomas. They argue that the advanced diploma is a cheaper option than an associate degree. However, the associate degree is a better option if a student wants to articulate to a four-year degree, as it generally provides more credit towards the degree (in *Associate degree or advanced diploma? A case study*).

While qualifications were under the microscope, so was the use of skill sets in the VET system. Research by John Mills and colleagues (*Workforce skills development and engagement in training through skill sets: literature review* and *Workforce skills development and engagement in training*

through skill sets) attempts to shed some light on skill sets and their rationale and role. They find that skill sets can provide a quick and cost-effective option for learners and can act as a stepping stone to undertaking full qualifications. However, the main reason people undertake skill sets is to upgrade existing skills, to gain specific knowledge to address emerging skill needs, and to meet licensing requirements.

In terms of vocational pathways, Serena Yu and her colleagues look at three different types of pathways. 'Low trajectory pathways' are characterised by high turnover and little movement into higher-skilled roles; 'high trajectory pathways' show upward movement through occupations and are experienced more by those in professional jobs; and 'pathways of marginal attachment' include periods of unemployment or not in the labour force (in *Understanding the nature of vocations today: exploring labour market pathways* and *Vocational trajectories within the Australian labour market*). This research is part of a collection of work which explores the notion of vocations as a means of improving pathways within education, within work and between education and work. Introducing the suite of research, Leesa Wheelahan, Gavin Moodie and John Buchanan in *Revitalising the 'vocational' in flows of learning and labour* establish the context for the three strands of research, which look at: entry to the labour market from school; pathways within tertiary education and within the labour force; and the nature of vocations in the labour market. Their conclusion is that pathways in education and occupations are segmented, making it difficult for students and workers to move around.

Leesa Wheelahan, Gavin Moodie and colleagues examine the pathways within and between VET and higher education. They find that the key reason students undertake a second qualification is work-related. The extent to which the second qualification is in the same field of education as their first qualification depends on whether there are well-defined pathways in the chosen occupation (in *The role of educational institutions in fostering vocations* and *Missing links: the fragmented relationship between tertiary education and jobs*).

Several pieces of research published in 2012 look at the education and training of existing workers and mature-aged workers who are trying to boost their skill levels. In *Studying beyond age 25: who does it and what do they gain?*, Michael Coelli, Domenico Tabasso and Rezida Zakirova find that, for more mature males, the key motivator for undertaking further study is to improve their employment prospects, such as getting a new job or a promotion. For women, particularly divorced women, the main reason for undertaking further study is to get a job in the first place. Jane Figgis in *Reskilling for encore careers for (what were once) retirement years* argues that VET can also play a role for older workers who are considering training for an encore career after retirement. Stephen Billett and colleagues find that existing workers undergoing further education and training prefer practice-based learning in their place of employment. However, they argue that the current training system is geared towards entry-level provision, rather than continuing education (in *Change, work and learning: aligning continuing education and training* and *Continuing education and training models and strategies: an initial appraisal*).

Building on previous research looking at skills mismatch, Kostas Mavromaras and colleagues in *The persistence of overskilling and its effect on wages* find that overskilling is persistent and skills mismatch is common for those who have been overskilled in the past. In particular, overskilling is higher for VET diploma graduates and those who did not finish school. Overskilling is lowest for university graduates. However, more so than other qualifications, the wages of university graduates are reduced by past overskilling, perhaps because they have better-paid jobs and more to lose. Other research shows that there is some evidence of credentialism for younger people. In *Over-education,*

under-education and credentialism in the Australian labour market, Alfred Michael Dockery and Paul Miller examine the issue of credentialism. They find that younger cohorts tend to be more educated than older cohorts. However, the impact of this credentialism on wages is modest, and there are still benefits to improving education levels.

Skills shortages: prevalence, causes, remedies and consequences for Australian businesses by Joshua Healy, Kostas Mavromaras and Peter Sloane find that skills shortages vary in complexity, with some types of shortages being simple and easier to respond to. Other shortages are more complex and persistent. Causes for skill shortages include lack of specialist knowledge, uncertainty in forecasting long-term demand, slow recruitment processes and high prevailing market wages. Australia has a history of relying on foreign labour to fill skill gaps and labour shortages. In *The role of qualifications in foreign labour mobility in Australia*, Josie Misko finds that qualifications play an important role in helping migrants to find work in the Australian labour market. But qualifications alone do not secure or guarantee employment, as employers also look for appropriate experience, specific skills, personal attributes and English proficiency. According to Chris Ryan and Mathias Sinning, non-native English speaking migrants tend to use their literacy skills at work less often than other workers, consistent with their being in low-level jobs. These workers would need significant literacy training if they are to escape low-skilled employment (in *The training requirements of foreign-born workers in different countries)*. Meaghan Leith shows that English language programs are valuable in helping migrants move into mainstream study and employment, although such programs alone are not enough to ensure permanent employment is gained. Instead, they act as a pathway to further study or low-level jobs (in *How learning English facilitates integration for adult migrants: the Jarrah Language Centre experience*).

Education is a powerful marker of social inclusion. Hielke Buddelmeyer, Felix Leung and Rosanna Scutella in *Educating oneself out of social exclusion* find early school leavers and those with lower-level qualifications (certificate II or less) experience social exclusion to a far greater degree than those with other levels of education. In *Geographical dimensions of social inclusion and VET: an overview*, Chandra Shah and colleagues outline the context for a program of research which aims to provide an understanding of the role that education and training can play in reducing the risk of social exclusion and in improving labour force participation. This research will be published in 2013—14.

Exploring the low education participation and achievement levels of Indigenous students compared with non-Indigenous students, Nicholas Biddle and Timothy Cameron find that low participation and achievement for Indigenous students appears at an early age, and worsens as students progress thorough the education system. Despite these persistent differences, once Indigenous students receive a tertiary admission rank, they are just as likely to go to university as non-Indigenous students (in *Potential factors influencing Indigenous education participation and achievement*). Investigating the experiences of VET students with a mental illness, Annie Venville and Annette Street find that students with a mental illness struggle to decide whether to disclose their illness or not. The students were afraid of experiencing stigma, prejudice and rejection, but decided to disclose their illness because they did not want to fail. Teachers held a different view and thought students should be responsible for their education and disclose their illness (in *Unfinished business: student perspectives on disclosure of mental illness and success in VET*).

David Curtis and colleagues looked at a peer-mentoring program for secondary school students from rural areas and those from low-socioeconomic status backgrounds. They found that students who received sustained mentoring were much more likely to go to university, demonstrating the potential benefits of mentoring to improve the education participation of students from disadvantaged

backgrounds (in *Peer-mentoring of students in rural and low socioeconomic status schools: increasing aspirations for higher education*).

Also looking at students planning to go to university, Xiaodong Gong, Rebecca Cassells and Alan Duncan in *Does part-time work at school impact on going to university?* find that for students who combine study and part-time work, some part-time work is fine, but working long hours does reduce the chance of going to university. However, combining work and study is fluid, and while students are more likely to work as they move further into their education, they also tend to work less in Year 12. As David Curtis, Peter Mlotkowski and Marilyn Lumsden find, the main reason students take a gap year before going to university is to work. Around 40% of students on a gap year are working, 33% are undertaking other study or training, and only 3% are travelling. The authors also find that the number of students taking a gap year is increasing, and one in five students who finish high school now take time off before going to university (in *Bridging the gap: who takes a gap year and why?*).

Building on previous research looking at the value of completing Year 12, Jacqueline Homel and colleagues find that material factors, measured through family income, only have a small effect on whether a student completes Year 12, whereas cultural factors, such as poor school experiences, aspirations, and risky activities like smoking and drinking alcohol are the main predictors of Year 12 completion (in *School completion: what we learn from different measures of family background*).

Kira Clarke and Veronica Volkoff look at the pathways from school into the labour market and further study after undertaking a VET in Schools program. The authors find that industry is not convinced that VET in Schools qualifications are enough to equip students for the workplace. Instead, they suggest that, rather than being viewed as preparation for the workforce, VET in Schools needs to be reconceptualised as a pathway into post-school VET (in *Entry to vocations: current policy trends, barriers and facilitators of quality in VET in Schools* and *Entry to vocations the efficacy of VET in schools* by Kira Clarke).

Irrespective of the pathway taken into the labour market — VET or university — compared with other countries, Australia has relatively low youth unemployment. Tom Karmel argues that there are two key reasons for this being the case: the high levels of post-school education mean there is not a large number of young people flooding the labour market after school finishes; and a flexible education system which offers choice to students. However, these factors are unlikely to be effective without a strong economy (in *Youth transitions in Australia: lessons for other countries?*). As Ha Vu, Tue Gørgens and J Rob Bray find, young people are more vulnerable in the labour market during economic downturns compared with older people, as they experience sharper rises in unemployment rates and longer periods of recovery. In poor economic times, young people 'retreat' into education, in particular by undertaking additional secondary education (in *How did young people fare in the 1990s economic downturn?*).

The tertiary education sector is not without challenges. In contemplating the evolution of the Australian apprenticeship and traineeship system and the challenges it faces, Brian Knight concludes that the system does need to address some major issues, as much of the training is at low qualification levels with little or no economic return and is potentially neglecting the general education needs of young people (in *Evolution of apprenticeships and traineeships in Australia: an unfinished history*).

Looking at mixed-sector institutes, Leesa Wheelahan and colleagues find that there are challenges for different types of mixed-sector institutions. Mixed-sector TAFE (technical and further education) institutes and private providers have challenges in developing scholarly practice and academic

governance, while mixed-sector universities have difficulties meeting VET's requirement for industry currency. All the mixed-sector providers find complying for regulatory requirements for both the VET and higher education sectors to be onerous (in *Shaken not stirred? The development of one tertiary education sector in Australia*). Looking at private providers in *Two sides of the same coin: leaders in private providers juggling educational and business imperatives*, Roger Harris and Michele Simons find that different types of registered training organisations have different goals, and business and educational imperatives should not be seen as competing with each other; rather, they should be treated as two integrated components of educational leadership.

There is also a greater role for the tertiary education sector to build links with industry. As Andrew Smith and colleagues find in their study, *Building the capacity to innovate: the role of human capital*, links with the tertiary sector, though rare, can facilitate training and recruitment and the development of applied research to assist innovation.

In a conference paper exploring the industry-led nature of the Australian VET sector (in *VET research for industry*), Tom Karmel notes that industry has always had a key role in vocational education and training, and will continue to do so. However, he argues that much of vocational education training in Australia tends to be training towards generic skills and vocationally oriented general education. Karmel suggests that this may be challenging for the notion of industry-driven skills and training packages. Another challenge to the notion of an industry-led system is the move towards entitlement funding and an individual-focused system, which appears to be spreading across the jurisdictions. This and other issues will no doubt influence the research agenda in the coming years.

Assessing the impact of research: a case study of the LSAY Research Innovation and Expansion Fund

Jo Hargreaves

The purpose of this project is to apply the framework developed by the National Centre for Vocational Education Research for measuring research impact to assess the outcomes of the research and activities funded under the Longitudinal Surveys of Australian Youth (LSAY) Research Innovation and Expansion Fund (RIEF). LSAY provides a rich source of information about young people and their transitions from school to post-school destinations. The purpose of the Research Innovation and Expansion Fund was to facilitate an increase in the quantity, quality, distribution and accessibility of youth transitions research and analysis using LSAY data in the academic and public policy communities. The RIEF involved a variety of activities, including a competitive research grants program and a fellowship, and has led to the publication of six research reports, a national youth policy forum and data workshops.

Key messages

The purpose of the fund — to expand the use of LSAY data — was achieved through:

- providing a number of researchers with the opportunity to undertake projects using LSAY data, many for the first time, and developing their skills to subsequently engage in other projects using LSAY data
- extending the awareness of LSAY data to national and international research communities
- imparting end-users with the knowledge and awareness of how LSAY data can be used
- disseminating research to a wide range of policy and practitioner networks.

The results of the fund have proved useful to key stakeholders. In terms of direct evidence of the impact on policy, one of the research reports was cited in a parliamentary legislation amendment bill. Research was also used to validate initiatives already underway or to inform the establishment of new programs.

This study reinforces the point that the interplay between research and policy is complex. Nevertheless, in this case, connections between policy, practice and research have been strengthened as a result of the Research Innovation and Expansion Fund. This study also confirms the effectiveness of NCVER processes for the dissemination of research. We note the importance of a media release for immediate impact. Policy forums and engaging directly with policy-makers and other stakeholders can also play a very positive part.

Note: This publication was produced through the Longitudinal Surveys of Australian Youth Program; see page 53 for details.

Assessing the impact of research: a case study of the LSAY Research Innovation and Expansion Fund can be found on NCVER's website <www.ncver.edu.au/publications/2513.html>.

Associate degree or advanced diploma? A case study

Tom Karmel and Tham Lu

This paper presents a case study in which the authors attempted to understand the impact, on student choice, of reforms in tertiary education in Australia, namely, a shift towards a demand-driven system and the blurring of the distinction between vocational education and training and higher education.

The authors compared the advanced diploma and the associate degree in engineering and related technologies offered as a pathway to a four-year degree, using data available in October 2011 on the websites of providers and from the Victorian Government, the first jurisdiction to adopt an entitlement model and the state in which most mixed-sector tertiary institutions operate.

Key messages

- A VET advanced diploma is a substantially cheaper proposition than a higher education associate degree.
  - This makes the advanced diploma very attractive from the perspective of a student seeking a two-year qualification for immediate entry to the labour market.
- If the student subsequently wishes to articulate into a four-year degree, then the associate degree is the better proposition.
  - This is because the associate degree is given more credit in a degree program (and so the advanced diploma graduate has to bear the cost of delayed entry into the labour market).
  - The advanced diploma would need to be restructured if it were to provide as much credit as the associate degree.
- From a provider's perspective, government-funded higher education places are worth more than VET (at least in engineering).

The case study shows that the differences in fees, academic credit arrangements and level of government funding are likely to impact on both student choice and institutes' provision of education and training.

Note: This publication was produced through the NCVER Core Research Program; see page 53 for details.

Associate degree or advanced diploma? A case study can be found on NCVER's website <www.ncver.edu.au/publications/2523.html>.

Bridging the gap: who takes a gap year and why?

David D Curtis, Peter Mlotkowski and Marilyn Lumsden

Taking a break between completing high school and entering university is common overseas, and is becoming more popular in Australia. There are many reasons why young people take a gap year. It may be to travel, to take a break, to study, or to work. Our definition of a 'gapper' is a young person who commenced university one to two years after completing Year 12.

While the concept of a gap year is related to the deferral of a university offer, it is different. Some gappers have deferred, others decide to enrol during their gap year, not beforehand. Similarly, some who defer a university offer subsequently do not take up a place and are thus not defined as gappers.

This report was prepared for the Department of Education, Employment and Workplace Relations in 2009 prior to the Australian Government's announcement of proposed changes to Youth Allowance as an initiative in the 2009—10 Budget and the subsequent reforms based on recommendations from the *Review of student income support reforms*.

The research uses data from three cohorts of the Longitudinal Surveys of Australian Youth to throw light on the incidence of gap-taking, the characteristics of those taking a gap year, the activities undertaken in the gap years, and subsequent study and employment outcomes. The report also looks at whether there is any evidence that young people were taking a gap year in order to qualify for Youth Allowance payments.

Key messages

- The incidence of gap-taking has increased and it is estimated that around 20% of Australian students who complete high school will take a gap year.
- Gap-takers tend to be weaker academically, with lower-than-average tertiary entrance rank (TER) scores, lower than average Year 9 mathematics achievement, and less favourable attitudes to school. In addition to academic factors, young people from English speaking backgrounds and from regional locations are more likely to take a gap year. Students who do not receive Youth Allowance payments while at school (and thus who were from higher socioeconomic status families) are also more likely to take a gap year.
- The most common activities of Australian gap students are work (40%) and study or training (33%), with only 3% reporting travel as their main activity.
- It appears that relatively few took a gap year principally to qualify for Youth Allowance: four out of 69 who deferred a university place gave 'needing to qualify for Youth Allowance' as a reason for their deferral.
- The university completion rates of 'gappers' are a little lower than 'non-gappers'.

Note: This publication was produced through the NCVER Longitudinal Surveys of Australian Youth Program; see page 53 for details.

Bridging the gap: who takes a gap year and why? can be found on NCVER's website <www.ncver.edu.au/publications/2494.html>.

Building the capacity to innovate: the role of human capital

Andrew Smith, Jerry Courvisanos, Jacqueline Tuck and Steven McEachern

This report examines the link between human resource management practices and innovation. It is based on a conceptual framework in which 'human resource stimuli measures' — work organisation, working time, areas of training and creativity — feed into innovative capacity or innovation. Of course, having innovative capacity does not necessarily mean that a firm will be innovative.

One of the issues of this approach is that, while innovation can be directly observed, innovative capacity is a more abstract concept. The study comprises a survey of firms as well as some case studies, and the survey captures data on innovative capacity through a series of questions relating to a firm's perception of its capacity to innovate. Based on the survey data, the authors find that certain human resource practices do improve innovative capacity (or at least firms' prediction of their capacity) but they have a very weak link with innovation directly. Therefore appropriate human resources practices and the capacity to innovate can be thought of more as necessary conditions for innovation rather than as sufficient. This leads to thinking about the mediating factors that transform the capacity to innovate into innovation. The purpose of the case studies was to throw some light on these mediating factors.

Key messages

- Human resource practices, creativity management and knowledge management impact on innovation indirectly through their effect on innovative capacity rather than impacting directly.
- Three sets of management practices assist the development of innovative capacity:
  - people management; for example, practices such as team-based work organisation, support for training and flexible work practices
  - the development of a learning culture
  - external linkages, especially with educational institutions.
- In the case studies the one factor that appears to assist innovative capacity translating to innovation is links with the tertiary education sector. Assistance from universities or the VET system can facilitate training and recruitment and the development of applied research to assist product innovation.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Building the capacity to innovate: the role of human capital can be found on NCVER's website <www.ncver.edu.au/publications/2474.html>.

Change, work and learning: aligning continuing education and training

Stephen Billett, Amanda Henderson, Sarojni Choy, Darryl Dymock, Fred Beven, Ann Kelly, Ian James, Jason Lewis and Ray Smith

This working paper is the first publication to emerge from a three-year program of research investigating how Australia's tertiary education and training system might best cater for continuing education and training requirements. The authors argue that the current training system is geared towards entry-level provision. They further contend that a range of training models are likely to be required to accommodate the diverse training needs across workers' lives.

The paper sets the scene for the next stages of research. It provides a description of current models of education and training, in this way presenting a framework for understanding the continuing learning needs of Australian workers across their working lives.

The following are covered:

- the purposes of continuing education and training — for the individual, employers and government
- current education and training models
- the various pedagogic practices that support the various education and training models.

The next stage of research involves engaging two industries — health and community services, and transport and logistics — with the aim of appraising how useful the current training and education models are to the continuing training needs of workers in those industries.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Change, work and learning: aligning continuing education and training can be found on NCVER's website <www.ncver.edu.au/publications/2484.html>.

Continuing education and training models and strategies: an initial appraisal

Stephen Billett, Amanda Henderson, Sarojni Choy, Darryl Dymock, Ann Kelly, Ray Smith, Ian James, Fred Beven and Jason Lewis

This report arises from a three-year program of research that aims to investigate how best the tertiary education and training system might be organised to maintain the employability of Australian workers across their working lives. Through an investigation of two different industry sectors — community services and health and transport and logistics — the authors evaluate a number of potential training models and strategies that might constitute a national approach to continuing education and training.

Practice-based learning at work with guidance from co-workers was overwhelmingly the preferred model of learning for the workers interviewed and was the most commonly used. Four basic requirements were found to support practice-based learning to enable workers to gain the expertise valued by industry: workplace experience, direct support from experienced others, individualised support for learning and learner engagement.

The authors tentatively propose that an effective continuing education and training system should encompass the following six elements:

- organisation and provision of learning experiences: to assist individuals to gain the knowledge and skills required for their work
- support for developing occupational capacities: includes guidance by experienced and knowledgeable others
- active participation by learners: individuals need to be engaged in learning to improve outcomes
- development of learner agency: managers and those in supervisory roles need to promote the active participation of learners, especially in the absence of more expert partners
- nationally recognised occupational certification: to provide recognition of an individual's capability to perform a particular occupation
- fulfilment of particular workplace requirements: the proposed continuing education and training system needs to accommodate the variability inherent in occupational practice.

In the next phase of the project, workers and managers in other industries and representatives of tertiary education and training organisations will be interviewed to assess the ideas developed in this research.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Continuing education and training models and strategies: an initial appraisal can be found on NCVER's website <www.ncver.edu.au/publications/2571.html>.

Does part-time work at school impact on going to university?

Xiaodong Gong, Rebecca Cassells and Alan Duncan

Combining school study with part-time or casual work is an increasing trend for Australian high school students. For some, it is a way of earning some extra cash and having a bit of freedom from their parents, or it is an opportunity to get some experience in an occupation they are interested in. This paper looks at the impact that working while studying has on students' intentions to go to university as well as their actual enrolments.

The authors use data from the Longitudinal Surveys of Australian Youth 1998 cohort to observe the work and study patterns of young people over a period of time. The paper confirms the findings of other research: that students are more likely to combine study and work as they progress through their school years, with over half of students working in Year 12. The study also found that girls are more inclined to combine study and work, but boys tend to work more intensively than girls. Combining some work with study does not change the likelihood of enrolling in university, but working intensively — more than 15 hours per week — does reduce the chances of going to university, especially for girls. This paper adds new detail to what is emerging quite clearly: that some part-time work for full-time students is fine, but long hours do impact on academic progress.

Key messages

- Combining work and study is fluid, with students moving in and out of work throughout the year. While the likelihood of working increases as a student moves further into their education, students do tend to work less intensively in Year 12, perhaps indicating that they regulate their work hours as their study commitments increase.
- The influence of school peers can be seen in students' study and work choices, with students more likely to combine study and work if a higher proportion of their school mates do so. Similarly, peer effects also play a role in students' intentions to go to university and in their likelihood to enrol.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Does part-time work at school impact on going to university? can be found on NCVER's website <www.ncver.edu.au/publications/2539.html>.

Educating oneself out of social exclusion

Hielke Buddelmeyer, Felix Leung and Rosanna Scutella

Providing more education and training is considered one means by which to reduce the extent of social exclusion and consequently has been a key focus in recent public policies.

Using the first ten waves of the Household, Income and Labour Dynamics in Australia (HILDA) Survey as well as data from the Survey of Education and Training, the research builds a multi-dimensional measure of social exclusion comprising: material resources (household income and expenditure); employment; education and skills (literacy and numeracy, educational attainment, work experience); health and disability; social interactions; community (neighbourhood quality, civic participation, volunteerism); and personal safety. The authors are then able to show how social exclusion varies across different levels of educational attainment and over time.

The authors also simulate the effect on the measure of multi-dimensional social exclusion of the Council of Australian Governments (COAG) target: halving, between 2009 and 2020, the proportion of 20 to 64-year-olds without at least a certificate III qualification. This mind experiment takes advantage of the correlations between the various dimensions by assuming that the outcomes of the 'new certificate III graduates' are the same as the 'previous certificate III' graduates. In a sense therefore it is a 'best case' simulation and assumes that the quality of the education expansion induced by the COAG target is high.

Key messages

- The level of social exclusion has declined over the decade beginning in 2001, except during the period around 2008—10, presumably as a result of the Global Financial Crisis.
- Education is a powerful marker of social exclusion. Those who are early school leavers or have a certificate II as their highest qualification suffer from social exclusion to a far greater degree than those with other levels of educational attainment. This is true for all dimensions of the index.
- The impact of improved basic educational levels on social inclusion is potentially very significant; for example, if we calibrate our cut-off of the measure of social exclusion so that around 10% of the population is in the socially excluded category and then conduct the COAG target simulation, the percentage of the population who are socially excluded drops to under 7%.

Notwithstanding its statistical complexity, the research clearly shows the power of attacking poor levels of education to reduce social exclusion.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Educating oneself out of social exclusion can be found on NCVER's website <www.ncver.edu.au/publications/2528.html>.

Entry to vocations: current policy trends, barriers and facilitators of quality in VET in Schools

Kira Clarke and Veronica Volkoff

This working paper is part of a wider three-year program of research, 'Vocations: the link between post-compulsory education and the labour market', which is investigating the educational and occupational paths that people take and how their study relates to their work. This particular paper looks at entry to the labour market or further study from school after undertaking a VET in Schools program.

The authors describe the current 'in schools' element of VET in Schools and the differences across jurisdictions in Australia. Further research in this strand will involve quantitative analysis and the mapping of VET in Schools participation, case studies and international comparisons. They take as their starting point an assumption that effective VET in Schools should have a vocational outcome, in terms of a job or further vocational study.

The paper raises a number of key questions, which will be explored in future research. These include:

- Are more intense programs of VET in Schools needed to deliver stronger labour market outcomes or to ensure they are more directly aligned with post-school VET programs?
- How do we make VET in Schools a career pathway rather than a retention strategy for non-academically inclined students?
- What preparation is needed for the effective teaching of VET in Schools? Should teachers have undertaken full teacher training like other school teachers or, as is the case with VET teachers, the current Certificate IV in Training and Assessment?

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Entry to vocations: current policy trends, barriers and facilitators of quality in VET in Schools can be found on NCVER's website <www.ncver.edu.au/publications/2536.html>.

Entry to vocations: the efficacy of VET in Schools

Kira Clarke

This report is part of a wider three-year program of research, 'Vocations: the link between post-compulsory education and the labour market', which is investigating the educational and occupational paths that people take and how their study relates to their work. It is specifically interested in exploring the relationship between vocational education and training in schools and the labour market.

The author uses four models of VET in Schools provision as case studies — a technical education centre, a partnership between a government secondary college and a TAFE institute, a catholic senior secondary college and a government vocational college — to detail the practices and approaches to delivering the programs. Of particular interest were how the role of VET is conceptualised and the success of the programs in promoting entry into specific occupations and further VET study. Interviews and surveys were also used to gather feedback from a range of stakeholders on ways to strengthen the programs.

Key messages

- The way VET in Schools is incorporated in senior secondary school certificates varies across jurisdictions. The jurisdictions have varying ideas on its role, with the difference essentially relating to the balance between broader education and more instrumental vocational training.
- Industry is not convinced that the vocational qualifications obtained at school equip students for the workforce. The main perceived deficiency is insufficient experience in the workplace.
- Secondary school students are provided with copious advice on university pathways relative to advice on vocational pathways, thus providing an unbalanced view of post-school opportunities.

The author argues that VET in Schools needs to be reconceptualised with the distinct aim of providing a clear pathway to post-school vocational training (including apprenticeships) rather than preparing students for direct entry into the workforce.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Entry to vocations: the efficacy of VET in Schools can be found on NCVER's website <www.ncver.edu.au/publications/2567.html>.

Evolution of apprenticeships and traineeships in Australia: an unfinished history

Brian Knight

This paper traces the evolution of Australia's apprenticeship and traineeship system since permanent European settlement in 1788. The system was imported from Great Britain; it has evolved and diverged in some areas but retains many of the features of the British model. Most major changes have occurred in the last 25 years.

The apprenticeship model — a combination of paid employment, on-the-job and institutional training — has always had particular appeal for meeting intergenerational skills transfer: it provides employers with a source of low-cost labour, the apprentice with paid employment, and an opportunity for government to subsidise employment for those needing help to establish themselves in the labour market. Indeed, the community, employees, unions, employers and government have come to regard apprenticeships as the system for training in the trades and have tolerated few alterations to the system, beyond those resulting from shifts in the occupational and industry mix in the Australian economy and changes in secondary schooling arrangements.

The first important reform to apprenticeships occurred in 1985 with the introduction of traineeships, which extended the model to a much wider range of occupations, generally at lower qualification levels. The second was in the mid-1990s when the Australian Government began paying incentives on a large scale to employers to help offset the costs of apprenticeships and traineeships and to encourage more commencements. This had a spectacular impact on traineeship numbers but much less effect on trades apprenticeships. Other significant changes were introduced in 1998; these allowed school students, existing workers and part-time workers to undertake apprenticeships and traineeships.

In short, since 1985 the system has moved from one dominated by young males undertaking apprenticeships in the trades, to one that provides apprenticeships and traineeships to people of all ages and both sexes, and in a much wider range of occupations.

Key messages

- The apprentice and trainee system needs to address some major issues. Much of the training is at low qualification levels with little or no economic return. And it can be argued that it is neglecting the general education needs of young people
- The system needs greater capacity to adapt and respond quickly to changing labour market demands. Australia might look to the experience of countries that use an institutional training model for trade training, which may be much easier to ramp up quickly.
- By any standards the cost of Australia's current system places a hefty burden on the public purse, estimated at $2.9 billion in 2008—09.

Note: This publication was produced through the NCVER Core Research Program; see page 53 for details.

Evolution of apprenticeships and traineeships in Australia: an unfinished history can be found on NCVER's website <www.ncver.edu.au/publications/2444.html>.

Geographical dimensions of social inclusion and VET: an overview

Chandra Shah, Sue Webb, Aaron Nicholas, Denise Beale, Anita Devos and Miriam Faine

This paper provides an overview and context for the program of research being undertaken by Monash and Deakin Universities, 'Geographical dimensions of social inclusion and VET in Australia'. The overarching purpose of the research is to provide an understanding of the role that education and training can play in reducing the risk of social exclusion and in improving labour force participation.

The projects that constitute the program of research all address aspects of disadvantage faced by groups in different locations. The three projects are:

- *Willingness-to-move: the influence of job conditions on geographic mobility* — this project examines the link between geographic mobility and the type of work available in areas with apparent excess labour demand. The project is investigating the value that individuals place on various characteristics, such as wages, in their 'willingness to move' decision.
- *Migrant women in regional Australia: the role of education and training in improving social inclusion* — this project explores the underutilisation of the skills of migrant women in regional areas and the possible role of education and training in removing barriers, if any, to their participation in the labour force and in other social activities.
- *Neighbourhood factors in the decision to participate in post-school education and training and the labour market* — this project compares the outcomes of education and training in areas of low and high social disadvantage, taking into account differences between the regions in their access to high-quality education and training and other community infrastructure.

This paper considers the socioeconomic and policy context for the research. The various frameworks for conceptualising disadvantage — social capital, the capability approach and social inclusion — are also discussed to enhance understanding of the issues being investigated.

The three research projects span the years 2011 to 2013, with all the reports arising from the research becoming available from NCVER from early 2014.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Geographical dimensions of social inclusion and VET: an overview can be found on NCVER's website <www.ncver.edu.au/publications/2517.html>.

Have a heart: challenges for lead vocational teachers in the changing VET landscape

Jennifer Davids

Building the research capacity of the vocational education and training sector is a key concern of the National Centre for Vocational Education Research. To assist with this objective, NCVER supported an academic scholarship program, whereby VET practitioners were sponsored to undertake university study at honours, master's or doctorate level.

Jennifer Davids received an academic scholarship in 2008 to assist with her doctorate. Her research investigates the role of 'lead vocational teachers', a classification created by TAFE Queensland in 2005 to provide a career pathway for teachers at the top of the pay scale. Through the use of focus groups, Jennifer explores the current roles of these teachers and their personal and career development needs. This report is a snapshot of her research.

Key messages

- Lead vocational teachers view their profession as a 'calling' and see serving their students as a priority.
- With greater emphasis being placed on financial decisions within VET workplaces and the introduction of increased reporting requirements, these teachers feel that they are operating in environments with low levels of trust. Overall, lead vocational teachers consider that their teaching practices were undervalued.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Have a heart: challenges for lead vocational teachers in the changing VET landscape can be found on NCVER's website <www.ncver.edu.au/publications/2462.html>.

How did young people fare in the 1990s economic downturn?

Ha Vu, Tue Gørgens and J Rob Bray

As new entrants to the labour market, young people generally fare less well in economic downturns. They experience much sharper rises in unemployment rates and, relative to more experienced older workers, slightly longer periods of recovery. With this increased risk of being unemployed and of potentially lower earnings, young people face decisions about whether to seek employment or to undertake additional education and training.

To provide insights into how young people may fare in the current economic downturn, this study examines the experience of young people between 16 and 26 years of age in a previous downturn. Specifically, the study seeks to tease out the effects of the major economic downturn of 1990—91 on young people's employment and their participation in education.

The dataset used for the analysis in this paper consists of eight waves of the Australian Youth Survey (AYS) 1989—96 — the predecessor to the Longitudinal Surveys of Australian Youth — which covers the previous economic cycle and therefore includes the downturn of 1990—91. It is rare in Australia to have this span of longitudinal data for examining long-term trends and the effects of cyclical events such as recessions.

Key messages

- Young people are clearly more vulnerable in the labour market during economic downturns by comparison with the older population, with young men feeling the impact more than young women (with a one-percentage-point increase in the adult unemployment rate associated with a 1.7-percentage-point increase for males, compared with a 1.2-percentage-point increase for females).
- In poor economic times young people 'retreat' into education, in particular undertaking additional secondary education. Again, this effect is more marked for young men (with a one-percentage increase in the adult unemployment rate associated with a 2.9% increase in school participation for males aged 17, compared with a 1.5% increase for females aged 17).
- The greater impact of tougher economic times on young men's employment is likely to be a reflection of their working in occupations affected by business cycles.
- In examining whether the risk of being unemployed varies across young people of different backgrounds, the analysis undertaken in this paper did not find statistically significant results.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

How did young people fare in the 1990s economic downturn? can be found on NCVER's website <www.ncver.edu.au/publications/2512.html>.

How learning English facilitates integration for adult migrants: the Jarrah Language Centre experience

Meaghan Leith

Building the research capacity of the vocational education and training sector is a key concern for the National Centre for Vocational Education Research. To assist with this objective, NCVER supported an academic scholarship program, whereby VET practitioners are sponsored to undertake university study at honours, master's, or doctorate level. NCVER then published a snapshot of their research.

Meaghan Leith received an academic scholarship in 2009 to assist with her doctoral studies at the University of Melbourne. Meaghan is an English as a second language teacher of adult migrants and international students at Holmesglen in Melbourne. Her research explores how studying English as a second language can help adult migrants to integrate into Australian society.

A survey was distributed to migrants at the commencement of their English studies at the Jarrah Language Centre to gather demographic data. Fourteen were selected from this group to be interviewed four times over a period of approximately two years to garner a sense of their post-course experiences, their level of integration and any changes to their circumstances during that time.

Key messages

- Not being competent and confident in using English was seen by migrants and language centre teachers and staff as the biggest barrier to integration.
- Most migrants undertook English as a second language classes to improve their spoken English and valued the speaking opportunities provided in their classes, but they would like more opportunities to speak everyday English in class.
- Migrants found undertaking English language classes valuable in helping them to move into mainstream study and employment. By the time of the last interview, most migrants were either in full- or part-time work or were continuing with mainstream study.
- English as a second language programs, on their own, are not enough to ensure gaining permanent employment. Instead, they are a pathway to further study or low-level jobs. Having a language centre located in a TAFE institute also encourages movement into further study.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

How learning English facilitates integration for adult migrants: the Jarrah Language Centre experience can be found on NCVER's website <www.ncver.edu.au/publications/2461.html>.

Lifting the lid on completion rates in the VET sector: how they are defined and derived

Alice Bednarz

With the recent policy focus on completions in the vocational educational and training sector, completion rates are under the spotlight. Demand for completion rates data has grown over recent years, and to this end the National Centre for Vocational Education Research has released several publications about completion rates, both for VET students and for apprentices and trainees. This paper draws these earlier publications together.

This occasional paper aims to 'lift the lid' on completion rates, explaining how they are defined and how they are calculated. Beyond this, the paper considers the value of completing a VET qualification, revealing that the pay-off varies for different groups of learners.

Note: This publication was produced through the National Vocational Education and Training Statistical Program; see page 53 for details.

Lifting the lid on completion rates in the VET sector: how they are defined and derived can be found on NCVER's website <www.ncver.edu.au/publications/2467.html>.

Lower-level qualifications as a stepping stone for young people

Damian Oliver

Lower-level qualifications (certificate I and II programs) provide little or no immediate return to the individual in terms of increased wages. However, lower-level qualifications are intended to prepare students who would otherwise not be capable of enrolling in and completing a higher-level qualification or making a successful transition into the workplace, because of their ability, social circumstances, or previous educational experiences. The aim of this report is to test whether lower-level qualifications serve a broader purpose by functioning as a 'stepping stone' to further study or into the labour market.

The critical part of the methodology is the selection of the comparison group. Using data from the Longitudinal Surveys of Australian Youth, the research matches certificate I and II graduates to other young people who share similar characteristics but who have neither completed nor are undertaking study or training at a higher level. The report compares their further study, training, employment and overall wellbeing outcomes two years after graduation and at age 26. The findings do not relate to certificate I or II qualifications completed as part of an apprenticeship or traineeship.

Key messages

- Two years after completing a certificate I or II qualification, young males are more likely to have undertaken an apprenticeship or traineeship, when compared with other individuals with similar background characteristics.
- After two years, young female certificate I and II graduates are more likely to be employed and to have undertaken an apprenticeship or traineeship when compared with other similar females.
- At age 26, the benefits of completing a certificate I or II qualification are still apparent for males, but at the same age females in the control group have caught up to their counterparts who are certificate I and II graduates.
- The benefits of completing a certificate I or II qualification are strongest amongst the most disadvantaged learners within the pool of certificate I and II graduates.

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Lower-level qualifications as a stepping stone for young people can be found on NCVER's website <www.ncver.edu.au/publications/2546.html>.

Missing links: the fragmented relationship between tertiary education and jobs

Leesa Wheelahan, Mary Leahy, Nick Fredman, Gavin Moodie, Sophie Arkoudis and Emmaline Bexley

This report is part of a wider three-year program of research, 'Vocations: the link between post-compulsory education and the labour market', which is investigating the educational and occupational paths that people take and how their study relates to their work. It is specifically interested in exploring the transitions that students make in undertaking a second qualification (that is, whether they change field of education and/or move between the VET and higher education sectors). It also looks at the reasons why they decide to undertake another qualification.

The authors use a combination of data from the 2009 Australian Bureau of Statistics Survey of Education and Training and interviews with students and graduates, as well as managers, careers advisors, learning advisors, teachers and academics, to examine these transitions. The finance, primary, health and electrical trades/engineering industries are used as case studies.

Key messages

- Some fields of education have tight links to the workplace (for example, nursing), while others have a much weaker relationship with specific jobs, such as in finance and agriculture.
- The extent to which students stay within their initial field of education depends on how narrowly vocational the field of education is. Those with well-defined occupational pathways tend to stay within their field of education when undertaking their second qualification.
- Students' reasons for undertaking an initial and subsequent qualification are dominated by work-related imperatives.
- Typically, students follow educational pathways for two main reasons: first, because the first credential allows entry into the higher program; and, second, to build confidence in their ability to study.

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Missing links: the fragmented relationship between tertiary education and jobs can be found on NCVER's website <www.ncver.edu.au/publications/2554.html>.

Over-education, under-education and credentialism in the Australian labour market

Alfred Michael Dockery and Paul W Miller

We know that, in general, the more years of education individuals acquire, the more money they are likely to earn. Recent responses from Australian governments to the demands for economic growth will see an increase in the proportion of workers holding educational qualifications, particularly higher-level qualifications. There is always a concern that there will not be enough jobs that require the proportionate level of education, and that the increase in those with higher-level qualifications will lead to credentialism rather than to a more skilled workforce.

Using data from the 2006 Census of Population and Housing and the Household, Income and Labour Dynamics in Australia Survey, Dockery and Miller examine the issue of credentialism by comparing the reference or required level of education for occupations and the actual education level held by an individual. They employ the 'ORU' model, where O refers to over-education (having more years of education than is required for the job); R refers to the reference or required level of education for a particular job; and U refers to under-education (having fewer years of education relative to the reference level). The credentialism dimension is captured by looking at whether the level of over-education is greater among younger cohorts and the extent to which there is a wage penalty attached to this 'over-education'.

Key messages

- Increasing education levels have given rise to a degree of credentialism, with young age cohorts having greater numbers who are over-educated relative to older cohorts.
- But the degree of credentialism is quite modest: the (wage) return from years of over-education is 6% compared with 9% for required years of education.
- The penalty for credentialism is about the same as that attached to labour market mismatch, whereby, as part of the usual dynamics of the labour market, individuals are in jobs for which they are over-educated.

While the authors find some evidence for credentialism, the results are somewhat reassuring for governments intent on improving education levels. While more members of younger cohorts with specific higher-level qualifications may end up in jobs not commensurate with their qualifications (relative to older cohorts), there is still a healthy return from the implied 'over-education'.

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Over-education, under-education and credentialism in the Australian labour market can be found on NCVER's website <www.ncver.edu.au/publications/2521.html>.

Peer-mentoring of students in rural and low socioeconomic status schools: increasing aspirations for higher education

David D Curtis, Aaron Drummond, John Halsey and Michael J Lawson

Students from rural and low socioeconomic backgrounds do not pursue university education at the same rate as those from metropolitan areas or from higher socioeconomic backgrounds. This has been a long-standing issue for government.

This study explores the aspirations and intentions for university education among low socioeconomic status (SES) and regional school students and looks at how peer-mentoring might influence them.

Through an analysis of the 2003 cohort from the Longitudinal Surveys of Australian Youth, the study found that:

- Although there is a substantial difference in the rates of higher education participation of metropolitan and rural young people, this difference is not attributed simply to location but rather to other factors associated with location. These factors include the lower socioeconomic backgrounds of rural youth, the presence of fewer young people of immigrant backgrounds in rural communities and the lower aspirations for higher education and professional careers among rural youth.
- Compared with their peers from higher socioeconomic backgrounds, low-SES students have less favourable attitudes towards school, lower achievement at school, less ambitious post-school study and career aspirations and lower participation in higher education.

An analysis of data collected from school students who were being mentored by university students showed that:

- Students who received sustained mentoring revealed a significantly higher estimated likelihood of enrolling in a university course. Mentoring appeared to raise students' identification with university 'in-groups' and reduce perceived barriers to university study.
- While mentoring increased aspirations for university study, it did not reduce aspirations for vocational education and training programs.

While this study is limited to the findings from one program administered at two schools, it provides a useful case study, in that it demonstrates the potential benefits of mentoring.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Peer-mentoring of students in rural and low socioeconomic status schools: increasing aspirations for higher education can be found on NCVER's website <www.ncver.edu.au/publications/2562.html>.

The persistence of overskilling and its effect on wages

Kostas Mavromaras, Stéphane Mahuteau, Peter Sloane and Zhang Wei

Overskilling is the phenomenon whereby a worker's skills are underutilised in his or her job. Overskilled workers are employed, but they are underutilised and mismatched, in that their skills and abilities are not a good match with the requirements of the job. Overskilling can lead to decreased wages and job satisfaction, which suggests that the investment in skills for that individual has been somewhat wasted.

Overskilling mismatch has been shown to be persistent; that is, present overskilling mismatch increases the probability of future overskilling mismatch. However, the previous research showing this extends back only one year. This report examines the persistence of mismatch over a longer (up to three years) time period and its effect on wages.

An obvious explanation for the persistence of overskilling is that it reflects personal unobserved characteristics (such as the person having an inflated view of their own skills). This paper exploits longitudinal data to show that persistence is more than this, with the probability of being overskilled increasing if the individual has been overskilled in the previous period, after allowing for unobserved characteristics.

Key findings

- Overskilling is persistent: overskilling mismatch is common among those who have been overskilled in the past. Persistence varies by educational level, with its being lowest among university graduates and highest among VET diploma graduates and those who did not finish high school.
- The wages of university graduates are reduced by past overskilling, more so than for any other education level.

A possible reason for the second finding is that graduates tend to be in better-paid jobs and therefore there is more at stake for them. This observation is supported by the results of quantile regressions, which differentiate the impact of overskilling by whether an individual is at the top or the bottom of the earnings distribution. With the exception of certificate III and IV graduates, workers who are better paid among their peers are more likely to suffer higher wage penalties from being overskilled.

Readers may be interested in looking at earlier research reports on overskilling: *The incidence and wage effects of overskilling among employed VET graduates* available at <www.ncver.edu.au/publications/2231.html> and *Over-skilling and job satisfaction in the Australian labour force* available at <www.ncver.edu.au/publications/2365.html>.

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The persistence of overskilling and its effect on wages can be found on NCVER's website <www.ncver.edu.au/publications/2471.html>.

Potential factors influencing Indigenous education participation and achievement

Nicholas Biddle and Timothy Cameron

This report examines two sets of issues, the first being whether Indigenous Australians obtain a lower return on investment in education and training than other Australians. If they do, then this would partly explain why, in general, Indigenous participation in education and training is relatively low. The second issue is whether Indigenous participation is different once background characteristics — such as remoteness — are taken into account. To investigate these questions, the research uses previous research and a number of datasets: the National Aboriginal and Torres Strait Islander Social Survey, the Census of Population and Housing, the Australian Early Development Index and the Longitudinal Surveys of Australian Youth.

Key messages

- In terms of the return from education and training:
  - On average, Indigenous Australians are happier at school than other Australians, suggesting that a low level of happiness is not the main reason for low completion rates.
  - Once Indigenous students receive a tertiary admission rank they are as likely as non-Indigenous students to go to university.
- In terms of the effect of controlling for background characteristics:
  - Differences between Indigenous Australians and other Australians in education participation remain after controlling for remoteness and socioeconomic status.
  - Indigenous females may need to have a higher level of education than Indigenous males to experience the same level of wellbeing.

The overall message is that, on the whole, Indigenous Australians have a positive return from education and training. Therefore it can be concluded that differential returns are not especially important in understanding differences in participation. The authors also find that, almost universally, background characteristics (including academic achievement at an earlier age) do not explain differential participation. Differences appear at an early age and then compound through the schooling system.

This research was funded through the National Centre for Vocational Education Research fellowship program, which encourages researchers to use NCVER datasets to improve our understanding of education.

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Potential factors influencing Indigenous education participation and achievement can be found on NCVER's website <www.ncver.edu.au/publications/2560.html>.

Reskilling for encore careers for (what were once) retirement years

Jane Figgis

Encouraging older workers to stay in the workforce has become a policy priority, not least because the life expectancy of Australians has increased dramatically over the past several decades, effectively inserting a new stage in life, often called the 'third age'.

This report explores the possibility of using that third age to embark on an 'encore' career. The author describes the encore career concept and why it might be an attractive alternative to retirement or to continuing in the same job past the traditional age of retirement. Then, drawing on interviews with TAFE institutes and other registered training organisations, she discusses how the encore career concept might be enacted in Australia.

Key messages

- Encore careers are well established in the United States, where they have been defined as work with a social purpose in the second half of life. This study suggests that Australians have a consistent and clear view about the basic shape of an encore career. It would:
  - be flexible, in terms of time, and allow for a sense of autonomy
  - start at or after the usual retirement age
  - involve a serious time commitment but not necessarily financial remuneration
  - take the person in fresh directions.
- The vocational education and training sector may have a role to play in providing training for encore careers but such training will be difficult to accommodate within the current funding arrangements.

Despite an initial enthusiasm in TAFE institutes and other registered training organisations to develop programs that would help older Australians embark on encore careers, other priorities and a lack of resources meant that the idea generally has not been taken any further. Nevertheless, Jane Figgis has given us something to think about, with her alternative to the standard rhetoric of keeping older workers in their current jobs longer.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Reskilling for encore careers for (what were once) retirement years can be found on NCVER's website <www.ncver.edu.au/publications/2457.html>.

Revitalising the 'vocational' in flows of learning and labour

Leesa Wheelahan, Gavin Moodie and John Buchanan

This discussion paper introduces a three-year research program, 'Vocations: the link between post-compulsory education and the labour market', which is investigating the educational and occupational paths that people take and how their study relates to their work. The program also explores the notion that a new conceptualisation of 'vocation' would be useful in improving the way the links between education and the labour market operate. The researchers hope that the research program will produce an operational definition of 'vocation' and 'vocational stream'. They have in mind an amalgam of the alternative dictionary definitions of vocation as: a mission to engage in a line of work; and a synonym for an occupation. Thus a vocational stream in, say, health would encompass occupations from aged care, to nursing, to medical specialities.

The research program comprises three different strands: entry to the labour market from school; pathways within tertiary education and within the labour force; and the nature of vocations in the labour market.

This paper outlines the key findings from the initial investigations of each of the research strands covering:

- *Transition systems and deepening capability*: the impact of the economy and social institutions on education; skills ecosystems; transition systems with an employment or educational logic; capability; and rethinking overseas vocational qualifications.
- *Dilemmas*: Year 12 is no longer enough; rethinking VET in Schools; is any job better than none?; the loose fit between work and qualifications; intermediate skills; pathways within tertiary education; and how vocational pathways can be constructed within vocational streams.

The paper ends with a number of issues to be investigated in the subsequent stages of the project:

- strengthening VET in Schools
- strengthening the development of intermediate skills in order to meet the requirements for higher-skilled workers
- developing the notion of capability to link education and general personal development with employment and broader social participation
- examining the structures and processes that build trust between educational institutions and sectors, between employers and labour sectors, and between education and work.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Revitalising the 'vocational' in flows of learning and labour can be found on NCVER's website <www.ncver.edu.au/publications/2535.html>.

The role of 'culture' in apprenticeship completions

Tom Karmel and David Roberts

This paper documents and finalises some work undertaken for the Apprenticeships for the 21st Century Expert Panel. It aims to explain the extent to which variation in apprenticeship completion rates can be attributed to factors relating to the 'culture' of the employer and the apprentice. Data on these types of factors are very difficult to obtain, and the authors go to considerable trouble to create two variables that reflect some aspects of 'culture'. These are the social background of the apprentice and the size of the employer. The first is based on population census data and consists of the proportion of those in trades employment in particular areas. The idea was that apprentices from areas of high trade intensity would benefit from higher levels of social support, and this support in turn is likely to be conducive to undertaking an apprenticeship. The second of these was obtained by taking one quarter's data from the National Apprentice and Trainee Collection and clerically matching employer names with apprentices to count the number of apprentices employed by each employer. The study also looked at the role of employer type (government, group training organisations and private employers).

Key messages

- Size matters: employers with at least 25 apprentices have much higher apprenticeship completion rates than smaller employers.
- Social background matters: those apprentices who live in areas where there is a greater concentration of trade employment have higher completion rates than those who live in areas with a low concentration of trade employment.
- Employer type matters: apprentices with government employers have much higher completion rates than those with private employers. Group training organisations have completion rates a little higher than private employers.

The authors point out the challenges in making use of these findings. In particular, the low apprenticeship completion rates associated with small employers are likely to be difficult to address, primarily because there are large numbers of such employers, and they employ a very large proportion of apprentices.

Note: This publication was produced through the NCVER Core Research Program; see page 53 for details.

The role of 'culture' in apprenticeship completions can be found on NCVER's website <www.ncver.edu.au/publications/2498.html>.

The role of educational institutions in fostering vocations

Gavin Moodie

This research explores how the connections between qualifications and work can be improved to help strengthen educational pathways and occupational outcomes. This working paper is an initial examination of what is known about pathways in tertiary education as well as the loose associations between vocational qualifications and the jobs graduates do. The next stage of the research will explore these pathways in more detail through interviews with tertiary students, graduates, teaching staff and managers.

This paper is part of a wider three-year program of research, 'Vocations: the link between post-compulsory education and the labour market', which is investigating the educational and occupational paths that people take and how their study relates to their work. This particular paper looks at these pathways within and between VET and higher education.

Moodie is also interested in the link between educational qualifications and work. He notes that these are not as strong as might be expected in a vocationally oriented tertiary education system like Australia's. The next part of the research will therefore consider whether broader notions of occupation can deliver closer matches between skills and occupations.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

The role of educational institutions in fostering vocations can be found on NCVER's website <www.ncver.edu.au/publications/2537.html>.

The role of qualifications in foreign labour mobility in Australia

Josie Misko

Australia has had a long history of using migrants to fill skill gaps and labour shortages, and continues to target skilled foreign workers for permanent and temporary migration. The purpose of this report is to investigate the role of qualifications in the labour mobility of these foreign workers, especially as those who do not have employer sponsorship are not guaranteed a job in their area of expertise on arrival. Misko argues that a good match between overseas qualifications and jobs obtained in Australia on arrival signals a clear role for qualifications in facilitating migration as a source of skilled workers for the Australian labour market.

Key messages

- Non-school qualifications play an important role in helping migrant workers into the Australian labour market, especially primary applicants for skilled migration.
- Qualifications do not act alone in securing employment and employment that is suitable (including for regulated occupations). Along with appropriate experience and general English proficiency, employers look for specific skills and knowledge and the personal attributes that signal willingness to work, availability for work and a good cultural fit.
- Employers say they prefer to source skilled labour from suitably qualified Australians or foreign workers already in Australia rather than to conduct overseas recruitment campaigns. The exceptions are international companies moving their own workers around the globe and Australian companies requiring workers with expert knowledge and experience in specific techniques and technologies.

While qualifications are clearly important, they need to be credible. Employers are wary of unfamiliar qualifications and providers. Perhaps this is one area where the government can assist by providing employers with more confidence in the overseas qualifications of migrants.

Note: This publication was produced through the NCVER Core Research Program; see page 53 for details.

The role of qualifications in foreign labour mobility in Australia can be found on NCVER's website <www.ncver.edu.au/publications/2542.html>.

School completion: what we learn from different measures of family background

Jacqueline Homel, Astghik Mavisakalyan, Ha Trong Nguyen and Chris Ryan

This paper examines how disadvantage affects educational outcomes, in this instance, Year 12 completion. While previous studies have found a strong link between parental education or occupational status and Year 12 completion, this research was able to capture a broader set of cultural, material and resource aspects of disadvantage. It did this by undertaking a comparative analysis of two datasets — the Longitudinal Surveys of Australian Youth, which collects the more familiar information about parental education and occupational status, and the Youth in Focus (YIF) survey, which provides an additional set of disadvantage measures, including family income and welfare receipt history, as well as information about the respondent's earlier educational experiences and risky behaviour.

Key messages

- Cultural factors, including poor school experiences, participation in risky activities such as smoking and alcohol consumption, and aspirations are the main predictors of Year 12 completion.
- Material factors, as measured through current family income, have only a small effect on Year 12 completion.
- The role of the commonly used indicators of disadvantage associated with school completion, including parental education and occupational status, is shown to be less significant than previously indicated.

This report shows the importance of getting behind simple measures of family background in understanding the relationship between disadvantage and educational outcomes.

Note: This publication was produced through the NCVER Longitudinal Surveys of Australian Youth Program; see page 53 for details.

School completion: what we learn from different measures of family background can be found on NCVER's website <www.ncver.edu.au/publications/2503.html>.

Shaken not stirred? The development of one tertiary education sector in Australia

Leesa Wheelahan, Sophie Arkoudis, Gavin Moodie, Nick Fredman and Emmaline Bexley

The number of 'mixed sector' institutions is likely to increase as the boundaries between vocational education and training and higher education become progressively blurred. Even though the sectoral divide is being eroded, it still shapes institutional relations and emerging hierarchies.

In 2009 the National Centre for Vocational Education Research published research examining the nature of higher education offered by public VET providers (*Higher education in TAFE* by Leesa Wheelahan et al.). This project extends that research by examining universities that offer a small amount of VET, and private providers that offer both VET and higher education.

Key messages

- The structure of provision differs by type of institution:
  - Unlike dual-sector universities, universities that offer a small amount of VET do so in a narrow range of fields for specific purposes.
  - Many mixed-sector TAFE institutes are seeking to become new types of tertiary education institutions, such as polytechnics, which offer a comprehensive and complementary range of programs in both sectors.
  - Mixed-sector private providers generally focus on one or two fields of education. They are emerging as specialist providers geared to a particular industry.
- Mixed-sector TAFE institutes and private providers have similar challenges in developing scholarly cultures and strong academic governance, while mixed-sector universities have challenges in meeting VET's requirement for industry currency.

All mixed-sector providers argue that the requirements of complying with two different regulatory, quality assurance, funding, reporting, registration and accreditation regimes are onerous. Streamlined regulatory arrangements and a single statistical collection would be very helpful in supporting an integrated education sector.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Shaken not stirred? The development of one tertiary education sector in Australia can be found on NCVER's website <www.ncver.edu.au/publications/2450.html>.

Skill shortages: prevalence, causes, remedies and consequences for Australian businesses

Joshua Healy, Kostas Mavromaras and Peter J Sloane

Despite the attention paid to skill shortages, the evidence used to evaluate their incidence and the causes and responses by firms remains thin.

This study, based on the answers from small to medium-sized businesses who responded to questions about skill shortages in the Australian Bureau of Statistics (ABS) Business Longitudinal Database, offers a business-level perspective on skill shortages. If a business reported that a shortage existed, based on whether they 'experienced an insufficient supply of appropriately qualified workers available or willing to work', they were then asked to identify the causes and their responses to it.

Key messages

- While the causes of shortages are diverse, a lack of specialist knowledge is the dominant factor. The uncertainty in forecasting long-term demand, slow recruitment processes and high prevailing market wages are also involved.
- Complexity matters, with firms encountering either simple or complex shortages. Most firms respond to simple skill shortages by better utilisation of their existing workers, such as increasing their hours. More extreme options such as reducing output are only activated when there are multiple causes.
- Simpler skill shortages are an indication of firm success, are less persistent over time and are positively associated with firm survival, higher investment and higher sales.
- The implications of complex skill shortages are less clear, tend to be persistent over time and can be associated with firm decline.
- Agriculture, construction, and personal and other services are the industries most likely to report complex skill shortages.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Skill shortages: prevalence, causes, remedies and consequences for Australian businesses can be found on NCVER's website <www.ncver.edu.au/publications/2464.html>.

Starting from scratch: teacher to researcher and back again

Berwyn Clayton

Berwyn Clayton has been involved in the VET sector for over 25 years. After beginning her career as a teacher, Berwyn became a pioneer in promoting the value of research. With a record of over 30 publications and 25 conference papers or journal articles, Berwyn has created an impressive body of knowledge, particularly in areas such as assessment and the capability of the VET workforce. Berwyn is also dedicated to supporting and mentoring new researchers, in particular those who were formerly VET practitioners, as she was. Berwyn is currently the Director of the Work-based Education Research Centre (WERC) at Victoria University.

It was these attributes that saw Berwyn named VET Researcher of the Year and give a keynote speech at the National Centre for Vocational Education Research's 2011 National VET Research Conference (No Frills). This speech provides an insight into Berwyn's journey into VET research and demonstrates her hallmark presentation style using pictures (chosen for their amusing as well as didactic impact) to guide us through the story. Her messages are directed at practitioner researchers.

Key messages

- Research can help practitioners to find solutions to persistent problems — the itches that irritate them at work — or at least help them to better understand the issues.
- Researchers need consciously to go beyond their comfort zone and look impartially at issues from a different perspective, including that of their potential audiences.
- Practitioner researchers need to seek out mentors and they need to ensure they find the time to write up their work, so that it has a chance to influence practice beyond their immediate circle. That influence may take many years to be felt.
- Practitioner researchers should be prepared to cope with adverse reactions to — and sometimes misuse of — research findings.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Starting from scratch: teacher to researcher and back again can be found on NCVER's website <www.ncver.edu.au/publications/2472.html>.

Studying beyond age 25: who does it and what do they gain?

Michael Coelli, Domenico Tabasso and Rezida Zakirova

Why should we keep studying beyond our mid-20s? After all, education and training at a younger age provide for the longest period over which the return on the investment can be harvested. On the other hand, individuals in their 40s (or even 50s) can expect to work for another 20 years or so, allowing plenty of time to recoup the cost of the investment in education and training.

Using data from the Household, Income and Labour Dynamics in Australia Survey and the Survey of Education and Training (SET), this study investigates what prompts people to participate in education and training at more mature ages and the impact of this participation on their labour market outcomes. The report describes the main characteristics of Australians who choose to participate in formal education at more mature ages, investigates a number of potential outcomes of such investments and explores why Australian participation rates are higher than those in other Organisation for Economic Co-operation and Development (OECD) countries. The authors find that more educated individuals are more likely to undertake further education or training.

Key messages

- For males, the desire to change their current employment situation (for example, gain a promotion or obtain a different job) was a key motivator for studying after the age of 25 years. For females, simply getting a job was a major driver, especially for women who were divorced or separated.
- Labour market outcomes differed also by gender. For women who were not employed previously, enrolling in, or completing, a vocational education and training course increased the likelihood of finding a job by around one-third. For men, completion of university qualifications resulted in higher hourly wages.
- A shared outcome for both males and females was a sustained increase in job satisfaction following the course of study, which may be related to increases in levels of skills use in the job. The increases in reported skills use during and after study are sizeable, particularly for men, and persist after training has been completed.

Overall, Coelli and his colleagues conclude that the positive effects of mature-age education are quite modest, although there are clear examples of positive pay-off — women who are not employed, for example. They suggest this supports the notion of targeted, as opposed to universal, government support.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Studying beyond age 25: who does it and what do they gain can be found on NCVER's website <www.ncver.edu.au/publications/2530.html>.

The training requirements of foreign-born workers in different countries

Chris Ryan and Mathias Sinning

Compared with native-born workers, immigrants possess different sets of educational qualifications and experience, gained before immigrating to Australia. Consequently, it is likely that they will have different training needs from the native-born.

The motivation for this research is to arrive at a better understanding of these differences in training needs. The relationship between skill level, skill use and participation in further training allows us to throw some light on the issue. The authors examine this relationship by using the results of the International Adult Literacy Survey (IALS) and the Adult Literacy and Life Skills Survey (ALLS) across four predominantly English-speaking countries — Australia, New Zealand, Canada and the United States.

The researchers use information on individual literacy skills and how they are used at work to calculate a measure of relative skill use. This measure allows us to make inferences about possible skill mismatches, which may help to identify groups who require further education and training.

Key messages

- In Australia, relative skill use in native-born workers and native English-speaking migrants is very similar, suggesting that the training requirements for these two groups are probably comparable. Non-native English-speaking migrants, however, tend to use their literacy skills at work less often than the other two groups, suggesting that they are working in low-level jobs.
- A similar pattern of skill use is found in the United States, where native-born workers and native English-speaking migrants are similar in their use of literacy skills in the workplace. Non-native English-speaking migrants appear to be employed in low-skilled jobs that make little use of the skills they possess.
- The use of literacy skills for native-born workers and migrants differed in New Zealand and Canada. In these two countries, native English-speaking migrants reported greater use of their literacy skills at work than native-born workers, perhaps suggesting that these migrants have a better match of skills and jobs than the native-born. But, similar to Australia and the United States, migrants with language backgrounds other than English did not tend to make full use of their skills.
- The upshot of the research is that non-native English-speaking migrants are working in low-skilled jobs and that literacy-related training is not needed to do their jobs. The corollary of this is that in all probability they will need very significant literacy training if they are to escape the low-skilled jobs.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

The training requirements of foreign-born workers in different countries can be found on NCVER's website <www.ncver.edu.au/publications/2520.html>.

Two sides of the same coin: leaders in private providers juggling educational and business imperatives

Roger Harris and Michele Simons

Previous work on leadership in vocational education and training providers has mainly focused on public providers. This report builds on this research by specifically investigating leadership in private providers.

The researchers have used case studies to explore leadership across the different types of providers that make up private registered training organisations: enterprise, industry-sponsored and commercial. Through interviews with senior leaders and managers, as well as trainers, the research examines the overarching question of how leaders in these various private registered training organisations juggle the educational and business imperatives of their organisation.

Key messages

- Leadership is shaped by the structures and cultures of the host organisation, including the state of the business and its competitive position in relation to other providers.
- In industry and enterprise registered training organisations, leaders are driven primarily by the goal of ensuring that training adds value to the enterprise. On the other hand, leaders in commercial registered training organisations see outcomes for learners as fundamental, recognising that these can be assisted by industry connections in their market niche.
- The business and educational imperatives of the organisation should not be seen as competing with each other. Rather, they should be treated as two integrated aspects of educational leadership.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Two sides of the same coin: leaders in private providers juggling educational and business imperatives can be found on NCVER's website <www.ncver.edu.au/publications/2510.html>.

Understanding the nature of vocations today: exploring labour market pathways

Serena Yu, Tanya Bretherton, Johanna Schutz and John Buchanan

This paper is part of a wider three-year program of research, 'Vocations: the link between post-compulsory education and the labour market', which is investigating the educational and occupational paths that people take and how their study relates to their work.

This paper uses data from the Household, Income and Labour Dynamics in Australia Survey to initially explore the movements individuals take through the labour market. The authors use the notion of 'vocation' — occupations with an underlying similarity of practice — as the basis of their analysis. An example of a 'vocation' is care work, which encompasses occupations such as nursing, aged care and childcare.

The paper focuses on four areas: financial services, primary industry, community services and healthcare, and trades and engineering.

Key messages

- Most workers spend long periods of time in one occupation. The authors call this occupational stasis, and it is particularly evident in the health sector.
- Labour market movements tend to follow three pathways:
  - *High trajectory* pathways, which show upward movement through occupations and which are experienced more by those in professional roles. More defined occupational labour markets (that is, those that require registration) also have greater upward mobility
  - *Low trajectory* pathways, which are characterised by high turnover and little movement into higher skilled roles. They are experienced more by sales workers and labourers
  - Pathways of *marginal attachment*, which include periods in unemployment or not in the labour force. These pathways are experienced more by women moving in and out of the labour force, as well as by some older workers.
- There are entrenched social and labour market settings (that is, labour market segmentation), which make movement from low-skilled occupations to high-skilled occupations a rarity, even within a single vocational stream.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Understanding the nature of vocations today: exploring labour market pathways can be found on NCVER's website <www.ncver.edu.au/publications/2538.html>.

Unfinished business: student perspectives on disclosure of mental illness and success in VET

Annie Venville and Annette Street

Of all the different types of disability, mental illness can be particularly disruptive to education and training outcomes. In this report, Venville and Street explore the factors contributing to successful course completion for students with a mental illness. The authors especially focus on the role of disclosure and the reasons why students choose to either disclose or not disclose their mental illness. This is important, as rates of disclosure of mental illness by students in the vocational education and training sector appear to be low, meaning that many students may not be accessing the support potentially available to them.

One of the particular strengths of this report is that it presents the perspectives of the students with a mental illness themselves — something that has been largely missing from the research literature.

Key messages

- For students, the decision to disclose or not disclose their mental illness is difficult. They struggle to decide whether it is better to disclose or not.
- Students spoke of the fear of stigma, prejudice and rejection as reasons for not disclosing their mental illness. However, for most students in the study, the desire not to fail — yet again — was the main reason for choosing to disclose their illness.
- Students and staff differed greatly in their views on disclosure. Most staff members expected students to disclose their illness. Reluctance to seek assistance was considered as being unwilling to take responsibility for their education.

An obvious strategy to overcome an unwillingness to disclose mental illness is the provision of support and reasonable adjustment for all students, not merely those with an illness. But this would require significant resources.

Readers may also be interested in another report on a similar topic, *Who's supporting us? TAFE staff perspectives on supporting students with mental illnesses*, available from <www.ncver.edu.au/publications/1834.html>.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Unfinished business: student perspectives on disclosure of mental illness and success in VET can be found on NCVER's website <www.ncver.edu.au/publications/2465.html>.

The value of completing a VET qualification

Tom Karmel and Peter Fieger

Completion rates are an obvious performance indicator for the vocational education and training sector. Previously published figures indicated overall completion rates as low as 27%. One response to this is the argument that there are many students who do not need to complete their qualification as they acquire the skills they need without going through the entire curriculum of a qualification. For them, completion is not an issue.

To throw further light on this issue this paper identifies groups of students for whom there is a clear benefit in completing their qualification. The authors use data from the 2009 Student Outcomes Survey to test whether completion is beneficial in relation to a number of predefined post-study outcomes. These are employment, further study, a combination of employment or further study, 'improved' employment, occupational status and salary. The authors find that completion has an overall strong positive effect on these pay-off variables. However, the extent of the pay-off varies greatly across different groups of students.

Key messages

- Completion of a VET qualification is beneficial, on average, across all of the outcome variables considered.
- The overall pay-off from completion is greatest for the 'further study' outcome, with the likelihood of a graduate engaging in further study more than double that of a non-completer.
- In relation to being employed after training, those students who were not in employment prior to training benefit greatly from the completion of their qualification.
- The two groups for whom there is a significant pay-off from completion in terms of wages are those undertaking diplomas and above and those who were not employed before training and who are undertaking a certificate III/IV.

Clearly completion matters, but not in all circumstances.

Note: This publication was produced through the NCVER Core Research Program; see page 53 for details.

The value of completing a VET qualification can be found on NCVER's website <www.ncver.edu.au/publications/2526.html>.

VET research for industry

Tom Karmel

This paper was a keynote address at the Australian Vocational Education and Training Research Association (AVETRA) conference held in Canberra in April 2012. Karmel notes that industry is arguably the key stakeholder in the Australian vocational education and training sector, but is not a single actor nor a disinterested consumer of training. Rather, industry consists of a range of bodies, all of whom are active players in the sector.

The paper discusses six areas of research which are pertinent to industry. These areas are:

- the value of completing an apprenticeship or traineeship
- the role of wages in completion rates for apprenticeships and traineeships
- the value of completion of VET qualifications
- the level of matching between what people are training in and the jobs they get
- the role of VET in innovation
- VET and workforce development.

All of this research raises questions about VET and industry, either in terms of how public training funds are allocated or the educational principles on which VET is based. In particular, the major points made are that the value of training is quite variable and this should be a consideration in its public funding, and the narrow industry focus of VET needs to be leavened with more general education.

Note: This publication was produced through the NCVER Core Research Program; see page 53 for details.

VET research for industry can be found on NCVER's website <www.ncver.edu.au/publications/2497.html>.

Vocational trajectories within the Australian labour market

Serena Yu, Tanya Bretherton and Hanna Schutz

This report is part of a wider three-year program of research, 'Vocations: the link between post-compulsory education and the labour market', which is investigating the educational and occupational paths that people take and how their study relates to their work. This report is specifically interested in exploring the movements workers make in the labour market. The authors consider whether these movements can be characterised as vocational pathways, which they describe as movement between linked occupations — occupations that share an underlying field of practice, such as the health workforce.

The authors look at these pathways by interviewing individuals about their employment and study history, career progression and reasons for any movements. This work builds upon a previous working paper, which used quantitative data to explore these movements. The finance, primary, health and electrical trades/engineering industries were used as case studies.

In that work, three pathways were distinguished:

- high-skill trajectories: those accessing high-skill occupations, often including long tenures in the occupation
- low-skill trajectories: those characterised by entrenchment in low-skill work
- marginal attachment: clusters of activity outside the labour market, interspersed with periods of paid employment.

Key messages

- There are two ways that workers progress within medium- to high-skill roles. They either move upwards to roles with greater leadership or organisational responsibilities, or they move laterally into related roles, where they expand their technical skills and knowledge.
- Within low-skill roles, movements are associated with ensuring an ongoing livelihood rather than a career pathway. There are also fewer opportunities for skill formation than in higher-skill roles.
- The way employers recruit, develop and promote skills within different industries is diverse.

The variation across industries means that any attempts to promote vocational pathways through educational policy need to take account of labour market structures, including industrial and economic settings.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Vocational trajectories within the Australian labour market can be found on NCVER's website <www.ncver.edu.au/publications/2557.html>.

Workforce skills development and engagement in training through skill sets

John Mills, David Crean, Danielle Ranshaw and Kaye Bowman

Skill sets are a grouping of one or more competencies below the level of a full qualification that meet a client skills need, such as a licensing or compliance requirement or specific knowledge in an emerging area. They are contained in training packages, which are the mechanism by which learning outcomes are defined in Australia's vocational education and training system.

A point of debate is the role that skill sets play compared with full qualifications, which are seen as the foundation of the VET system. To throw some light on this issue, John Mills and his colleagues undertook a case study of agrifood students, which investigated the use of skill sets by students enrolled in Rural Production Studies skill sets developed by TAFE NSW and those enrolled in the Diploma of Agriculture.

Key messages

- Licensing and compliance, upgrading skills and gaining specific knowledge in an emerging area are the main reasons for undertaking skill sets training.
- In many cases skill sets aided engagement in VET and were used as a stepping stone to the completion of full qualifications, suggesting that skill sets should not be seen as a threat to full qualifications.

Skill sets can be defined in training packages, or developed by individual registered training organisations. The authors see the distinction between the two as an artificial construct and suggest that both should have equal status. They are also critical of the rules associated with skill sets, in particular rules that affect the responsiveness of the VET system, including not allowing for flexibility in the design of skill sets and the process whereby industry skills councils endorse skill sets in training packages.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Workforce skills development and engagement in training through skill sets can be found on NCVER's website <www.ncver.edu.au/publications/2568.html>.

Workforce skills development and engagement in training through skill sets: literature review

John Mills, Kaye Bowman, David Crean and Danielle Ranshaw

This literature review examines the available research on skill sets. It provides background for a larger research project *Workforce skills development and engagement in training through skill sets*, the report of which will be released early next year.

This paper outlines the origin of skill sets and explains the difference between skill sets developed by national vocational education and training industry bodies for training packages and those developed by registered training organisations (RTOs) for particular clients. The researchers consider the rationale for skill sets and explain their role in the national training system.

Key messages

The review identifies a number of perspectives on skill sets and their contribution to the VET system:

- Some research suggests that skill sets are a valuable VET solution because of their flexibility and capacity to be responsive to changing labour market needs.
- Skill sets may also provide a quick and more cost-effective option for learners and may appeal to those who might be daunted by the prospect of having to undertake a full qualification.
- Conversely, some suggest that skill sets may confine individuals to narrow job roles and reduce their labour mobility.

The larger project, which will draw on quantitative and qualitative TAFE NSW data on the uptake of skill sets in the Agrifoods sector, will test these assertions.

Note: This publication was produced through the National Vocational Education and Training Research Program; see page 53 for details.

Workforce skills development and engagement in training through skill sets: literature review can be found on NCVER's website <www.ncver.edu.au/publications/2483.html>.

Youth transitions in Australia: lessons for other countries?

Tom Karmel

This paper was presented to the third International Congress on Technical and Vocational Education and Training, 13—16 May 2012, Shanghai.

Compared with many countries, Australia has relatively few young people who are unemployed. The presentation examines the features of Australia's education system and labour market to see the extent to which they contribute to this outcome. These features include: recent increases to the school leaving age and an emphasis on post-school education; the apprenticeship and traineeship system; the vocational stream of education within the schooling system; and the high proportion of students undertaking part-time work. It argues that there are two key factors behind Australia's good performance in this area: high levels of post-school education with the consequence that there is not a large cohort of people in their mid-to-late teens flooding onto the labour market; and a flexible education system, which gives individuals multiple choices. However, these factors are not sufficient and are unlikely to be effective without a strong economy — it is very difficult to absorb teenage and young adults' labour in a depressed labour market.

Note: This publication was produced through the NCVER Core Research Program; see page 53 for details.

Youth transitions in Australia: lessons for other countries? can be found on NCVER's website <www.ncver.edu.au/publications/2529.html>.

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- **Longitudinal Surveys of Australian Youth Program**

  The Longitudinal Surveys of Australian Youth is a research program that tracks young people as they move from school to post-school destinations. This work has been produced by NCVER on behalf of the Australian Government and state and territory governments, with funding provided through the Australian Department of Education, Employment and Workplace Relations.

- **National Vocational Education and Training Research Program**

  This work has been produced by NCVER on behalf of the Australian Government and state and territory governments. Funding is provided through the Department of Industry, Innovation, Science, Research and Tertiary Education. The NVETR Program is based on national research priorities approved by ministers with responsibility for vocational education and training.

  The author/project team was funded to undertake this research via a grant under the NVETR Program. The research grants are awarded to organisations through a competitive process, in which NCVER does not participate. To ensure the quality and relevance of the research, projects are selected using an independent and transparent process and research reports are peer-reviewed.

- **National Vocational Education and Training Statistical Program**

  This work has been produced by NCVER on behalf of the Australian Government and state and territory governments, with funding provided through the Department of Industry, Innovation, Science, Research and Tertiary Education under the National Vocational Education and Training Statistics Program.

- **NCVER Core Research Program**

  NCVER's in-house research and evaluation program undertakes projects which are strategic to the vocational education and training sector. These projects are developed and conducted by NCVER's research staff and are funded by NCVER.

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National Centre for Vocational Education Research Ltd
Level 11, 33 King William Street, Adelaide, South Australia
PO Box 8288, Station Arcade, SA 5000 Australia
Telephone +61 8 8230 8400 Facsimile +61 8 8212 3436
Website www.ncver.edu.au Email ncver@ncver.edu.au