NCVER

Issues affecting skill demand and supply in Australia's education and training sector

At a glance

This publication provides a summary of recent research into issues affecting the demand and supply of skills in relation to Australia's education and training sector.

The full report is available on the NCVER website, www.ncver.edu.au

Key issues

- The demand for skills has been influenced in recent years by the growth in part-time and casual employment.
- Labour market changes have been accompanied by increased demand for higher level skills.
- The level of educational attainment influences the likelihood of gaining employment and associated earnings.
- Completing senior secondary school or acquiring a basic vocational qualification is no longer adequate preparation for lifetime employment.
- Completing post-secondary education and training qualifications generally delivers good employment outcomes.
- Despite high school retention rates, growth across post-compulsory education and training sectors differs. Vocational education and training participation levels have risen steadily in recent years.
- Future growth in students in post-secondary education and training will become increasingly reliant on older people commencing or returning to some form of education and training due to Australia's ageing population.
- Australia has relatively high levels of post-secondary education participation compared with the Organisation for Economic Co-operation and Development average, especially amongst older people.

Australian National Training Authority

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Introduction

The requirements for skills in Australia are changing rapidly, reflecting the economic and social impact of developments in the world economy. The demand for skills is expanding from a relatively narrow range of technical and job-related competencies to include a far broader range of generic and transferable skills.

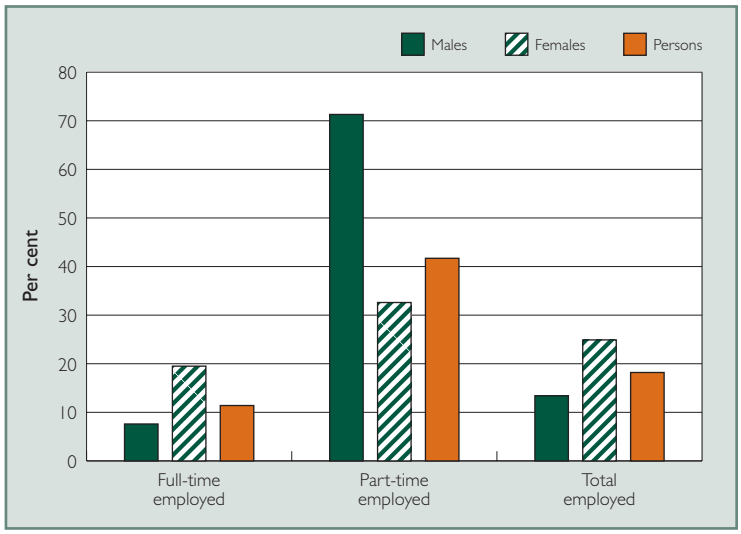
The nature of the employment contract has changed radically in the last 20 years. In recent years, the demand for skills has been influenced by the growth in part-time and casual employment, indicating the increasing importance of the service sector. The pool of part-time and casual employment has been expanded by increasing numbers of high school and tertiary students working part time while studying. Labour market changes have been accompanied by increased demand for higher level skills. At the same time, the actual number of people employed in lower skilled occupations has increased, although aggregate hours worked by lower skilled workers has declined.

Findings from a survey conducted by the Australian Industry Group (Allen Consulting 1999) indicated that the great majority of employers believed that within three-to-five-years' time more skills would be required of employees at all levels. In addition, an examination of the skills shortages identified by the Department for Employment, Work Relations and Small Business (DEWRSB 2001) indicated that higher order cognitive skills and knowledge were required in trades and in the professions.

Advances in information and communication technologies (ICT) have meant a change in workplace practices, with most workers now requiring basic computing skills. In addition, employers expect all workers to demonstrate proficiency in both occupation-specific and generic skills. There is also the expectation that the employee will take on more of the responsibility for upgrading their skills. There is also an increased demand for higher level cognitive skills.

Acquiring skills is an ongoing process in the lives of individuals. The supply of skills is a more complex issue. 'Skilling' Australia is not a simple task and requires an ongoing mix of supply strategies across post-compulsory education and training, as well as within business enterprises.

Figure 1: Growth in employment, 1991–2001



Source: Derived from *The labour force*, Australia, ABS cat. no. 6203.0, May, 1991, 1996, 2001

Issues affecting the demand for skills in Australia

Trends in the labour market, 1991–2001

The worldwide developments in skill needs and workplace requirements have been reflected in the changes that have taken place in the Australian economy and labour market over the last decade.

The Australian labour force participation rate has been relatively constant over the decade. However, part-time employment has grown at a faster rate than has full-time employment for both men and women (figure 1).

The changes in the proportion of the workforce employed part time have implications for the provision and delivery of education and training, since employers are less likely to fund the training of part-time employees. Furthermore, the education and training needs of part-time workers are different from those of full-time workers.

There have also been major changes to the Australian teenage labour market over the last two decades. At the start of the 1980s, almost four out of every five teenagers who were in employment were employed full time. In 2001, less than a third of teenagers in employment were employed full time.

Changing demographics of the workforce

The demand for education and training is influenced by the changing industrial and occupational employment profile of the economy, the ageing of the workforce and the lifetime career changes made by individuals as they age. Each of these factors affects the demand for skills.

In line with most Organisation for Economic Co-operation and Development (OECD) countries, the Australian workforce is ageing, with people in older age groups accounting for a growing proportion of the workforce. These demographic changes and subsequent effects on the supply of skills and labour will require a shift in vocational education and training (VET) policy. In addition to ensuring sufficient supplies of entry-level skills usually provided to younger people, more focus will have to be placed on upgrading or transforming the skills of existing workers from older age groups.

The change in the age profile of the workforce has implications for the provision of education and training and the relative demand for entry-level training compared to the demand for education and training related to upskilling and retraining.

An individual requires different skills over time because of changes in occupations during their lifetime. These changes need to be accommodated by the education and training system as the skills required for the labour market by a teenager are quite different from those of people in middle age and in the later stages of their working life.

Skills, educational attainment, employment and earnings

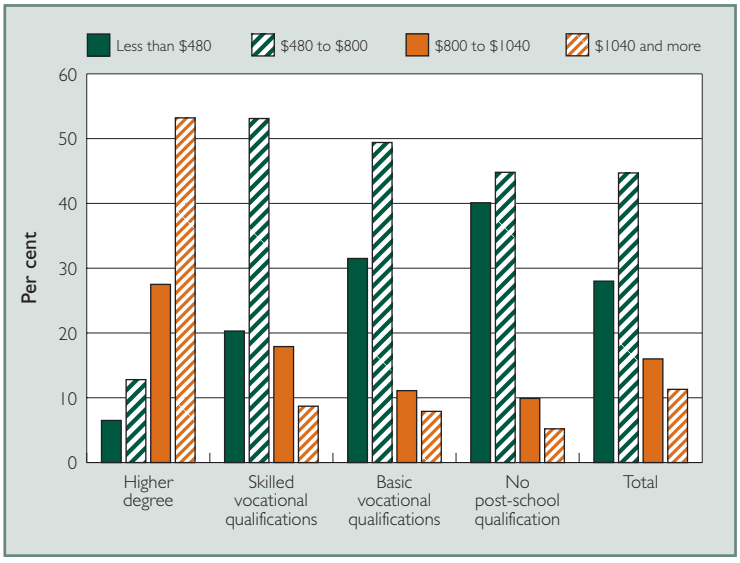
The successful transition from school to work is becoming a greater challenge for most nations. Labour markets are changing rapidly, requiring fewer low-skilled workers and a more and better educated and trained workforce. The completion of senior secondary school or a basic vocational qualification with no further education and training is no longer adequate education and training for lifetime employment.

The likelihood of employment varies by level of educational attainment. In particular:

- about 81% of people with a post-school qualification were employed in May 2000 compared with 64% of those without a post-school qualification
- for people who held a basic vocational qualification, the likelihood of employment was considerably lower than for people who had attained a higher level vocational qualification

The distribution of earnings also varies by the level of educational attainment (see figure 2), and earnings over a lifetime vary by the level of educational attainment. While employed workers with a qualification from the higher education sector

Figure 2: Full-time weekly earnings, by qualification, 1997



Source: Unpublished data from ABS Survey of Education and Training, 1997

generally achieve a higher level of income with age, the income level of workers with a skilled vocational qualification or basic vocational qualification remains relatively constant with age. Similarly, the level of income of workers without a post-school qualification does not vary with age.

Supply of skills from the education and training sector

Post-compulsory schooling

With post-compulsory education now an important requirement for gaining entry to the workforce, it is of no surprise to see school retention rates at high levels, with marked increases from those of the 1970s and 1980s. At the start of the 1980s, just over a third of students completed senior secondary school. By contrast, by 2000, only about 2% of all school students did not remain at school to complete Year 10; 15% did not complete Year 11, and just over a quarter did not complete Year 12.

Since the introduction of the VET-in-Schools Program, a growing number of schools are becoming registered training providers of VET. In addition, there is a considerable amount of other activity in technical and further education (TAFE) by school students.

Higher education

Despite the high school retention rates, growth in higher education has slowed, following strong growth in the early- to mid-1990s. For Australia's population aged 15 and above, participation in higher education reached 4.6% in 2000. This compares with 3.6% in 1990, and 4.3% in 1995.

Vocational education and training

In contrast to higher education, the number of VET students in Australia has grown markedly in recent times, resulting in participation levels rising from 8% in1994, to more than 11% by 2000.[1]

The biggest increases, in terms of student share, occurred for courses in the services, hospitality and transportation fields. The next highest proportional increase occurred for courses in health and community services. These increases correlate, to some degree, with the increased employment since the mid-1990s in the health and community services, and the accommodation, cafe and restaurant industries.

The vast majority (around 90%) of people undertaking VET do so on a part-time basis.[2] This is in contrast to higher education, where the majority (around 60%) study full time.

[1] Based on the number of VET students, including those at school, aged 15–64 years as a percentage of Australia's population aged 15–64.

[2] A student's status as full time is based on the number of hours of training reported, with those students who undertake more than 540 hours of training considered to be full time.

Apprenticeships and traineeships

Since the mid-1990s, Australia has experienced substantial growth in apprenticeships and traineeships, with numbers more than doubling, from 136 000 in June 1995 to almost 280 000 by June 2000.[3] As a result, 2.1% of Australia's working-age population was employed in an apprenticeship or traineeship in June 2000. This compares with only 1.1% in June 1995.

It should be noted that the surge in apprenticeship and traineeship numbers in the last half of the 1990s has been a major contributor to the growth in VET participation.

Enterprise-sponsored training

Not all employers provide training for their employees. The Australian Bureau of Statistics estimated that 61% of all employers in 1997 provided some form of training for their employees. A lower proportion provided structured training (35%), while a higher proportion provided unstructured training (53%). However, the vast majority (92%) of Australia's employees worked for an organisation that provided some form of training in the 12-month period.

More people with post-school qualifications undertake enterprise-sponsored training than without post-school qualifications. In fact, almost two-thirds (63.4%) of enterprise-sponsored training in 1997 was undertaken by people with post-school qualifications.[4] Similar proportions were identified for in-house training and for training outside the workplace. Of all enterprise-sponsored training, people with bachelor degrees or higher comprise the highest proportion of those with post-school qualifications, while people with some sort of vocational qualification comprise less than a quarter.

Australia's ageing population

Australia's population is projected to grow by less than 1% per year over the next 20 years. Assuming similar mortality rates and net patterns of immigration as today, the biggest growth is expected to occur in the over-40-year-old age group while those under 25 years are expected to be almost stagnant, resulting in a falling share of young people in Australia's population.

For total VET and university participation rates to be maintained, the number of students in the sectors will need to increase. VET student numbers would have to grow from 1.74 million to 2.18 million by 2020 to maintain current levels of participation (11.4%). At the same time, the number of higher education students would need to reach 871 000 (from 695 000) to maintain a participation rate of 4.6%. With little increase expected in the number of people aged 25 years or less in Australia's population in coming years, future growth in post-compulsory education and training will become increasingly reliant on older persons commencing or returning to some form of education and training.

[3] As of June 2001, there were almost 320 000 apprentices and trainees.

[4] Includes all training by those employees who indicated they had completed one or more training courses in the 12 months prior to the survey.

Outcomes

Completion of post-compulsory education and training generally appears to deliver good employment outcomes. Within higher education, over 80% of graduates available for full-time employment found employment within five months of completing their course. This compares with around 73% for VET, in general, and about 93% for those people who fully complete their apprenticeship or traineeship finding employment within the first three months.

There have been a number of studies evaluating the outcomes for particular groups of Australians from VET. Some of the key findings from these studies include the following:

- Subject outcomes from VET, nationally, are influenced by demographic factors.
- The likelihood of a TAFE graduate securing employment after graduation and level of income are influenced by the field of study and qualification attained.
- Members of disadvantaged groups are more likely to have taken lower level courses at TAFE and be employed in lower skilled occupations compared with other TAFE graduates.
- Subject failures were lowest in subjects undertaken more often by students who performed well at school compared with those who did not perform well; by those from English-speaking rather than from non-English-speaking backgrounds; and by students from high socio-economic backgrounds compared to students from low socio-economic backgrounds.

To date, no analysis has ascertained what skill attainment on its own may deliver in terms of employment outcomes, when compared with those without qualifications or without the necessary competencies.

International comparison

In international terms, overall participation of 15–19-year-old Australians in all forms of education is 80.3%, just above the OECD average of 76.9%. Australia ranks 13th out of the 29 OECD countries.

Australia has world-leading levels of participation in all forms of education amongst people between 30 and 50 years of age. Australia ranks equal second among the 29 OECD countries in participation of 30–39-year-olds, and first for those aged 40 years and over. In both cases, participation greatly exceeds the OECD averages. These rates of participation, however, include students studying part time, and it should be noted that Australia has a higher incidence of part-time students than most countries, particularly amongst older persons.

While Australia appears to have relatively high levels of participation, especially amongst older people, this has not translated into comparatively high levels of overall educational attainment. Australia has a high rate of university attainment by international standards; however, its performance in secondary education attainment is mixed. Australia's VET system is also more flexible and geared towards multiple entry and exit points. As a result, overall educational attainment in Australia is lower than the OECD average.

Implications for the future

As Australia transforms the basis of its economy from traditional industry to one based on knowledge industries and on innovation, skill requirements have evolved from a relatively narrow range of technical and job-related competencies to a far broader range of generic and transferable skills.

This change is not confined to any one sector of the economy but, rather, will have an impact across the whole economy and most (if not all) occupational areas. The need for training and skills formation strategies to change is required across all education and training delivery, public and private.

On the demand side, rapid technological change and globalisation are exerting a substantial impact on changing the type of skills required in Australia's workforce. These changes include:

- a shift in many, if not most, jobs away from low-level skills to higher level skills in line with a changing labour market. There can be no doubt that Australia's future will depend more and more on the efficiency with which it can develop higher level skills to take advantage of emerging opportunities. As a result, people can no longer rely on basic schooling or basic vocational skills to gain entry to the labour force; post-school qualifications have become important for lifetime employment.
- the need for employees to gain higher order cognitive and generic skills to enable them to perform in a complex modern working environment. These skills include highly developed analytical and research skills as well as interpersonal and human relations skills, networking and negotiation skills, computer skills and so forth.

There are many factors influencing the strong trend in skill demand, including:

- advances in technology, particularly the convergence of information and communication technologies
- transformation of the labour market; for example, the increasing importance of service industries that has led to increases in casualisation and part-time employment, which is often mixed with study
- demographic changes, with the Australian workforce rapidly ageing. It is estimated that by 2010, nearly half the population will be aged over 45 years. People are living longer and an increasing number are remaining in the workforce.

On the supply side, the key challenge is to develop skill formation systems that are able to change and reinvent themselves to meet the rapidly changing requirements in ways that have never been required in the past. Flexibility and responsiveness to the diverse needs of employers and learners will also be a key issue.

At the same time, there needs to be an understanding of the implications of Australia's rapidly ageing population. Employers will not be able to count on meeting their skill requirements through the recruitment of younger workers and will need to consider retraining existing workers, including older persons, to generate the skills they need.

These changes mean that Australia needs to rethink the ways in which education and training are provided. With post-school qualifications becoming more and more important to gaining lifelong employment, greater numbers of people are undertaking study combined with some

form of employment. In addition, people at different stages of life have different training requirements, in terms of the amount, type, and nature of training. This needs to be considered in future training delivery. For example, many young people have part-time jobs while studying for their main career qualification. In addition to their main study, they will require some training to undertake the part-time job. Also, many people already in the workforce will need to upgrade their skills or wish to retrain in order to take up new and different occupations.

References

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