



'No Frills' conference discussion paper

## The student journey: skilling for life

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The future nature of work is projected to experience rapid and disruptive change, meaning workers must prepare for evolving skills requirements. As jobs and industries are transformed, workers will require ongoing upskilling and reskilling to remain productive in the workforce. This signals the vital role of lifelong learning in the provision of contemporary, relevant and transferable skills.

*The student journey: skilling for life* is the theme for the 28th National Vocational Education and Training Research Conference 'No Frills'.

This year we look at how vocational education and training (VET) supports lifelong learners. We explore VET's role in assisting lifelong learning and seek to understand how the VET system will need to transform itself to confront the challenges of an increasingly complex and changing world. We also explore the profile of the various lifelong learner types and how their needs often differ, and may change, over the life journey.

Our lifelong learning theme builds on *Skills for a global future* (Payton & Knight 2018), last year's 'No Frills' discussion paper. Identifying the technological, economic, demographic and social changes occurring around the world, the 2018 paper revealed the crucial role VET plays in preparing people for an increasingly global workforce. Lifelong learning, enabled by VET, is pivotal to addressing the future challenges faced by both employers and employees.

In the Australian context, VET is very closely connected to the world of work and is sensitive to changes in economic cycles, occupational demands and patterns of work. When, where and how learning occurs is changing, posing significant challenges for the training system in terms of its ability to address the needs of traditional learners while accommodating the new learners of tomorrow.

# What is lifelong learning?

Lifelong learning<sup>1</sup> (or skilling for life) is the learning that all people undertake as they move through different stages of life and work, and is the key to successfully entering, navigating and changing jobs and careers. Lifelong learning includes formal learning undertaken at schools, training organisations and universities, as well as the informal learning that might occur at home, on the job or in the community (UNESCO 2019).

Every person's life journey is different. Some individuals have already changed jobs or expect they will regularly change their jobs. Many people upskill constantly to maintain the currency of their work-based skills and knowledge. Others will continue to acquire new skills simply because they find them interesting or will assist them in their personal growth.

## Why is lifelong learning important to the future of work?

### Technology

The nature and rate of technological change will impact on the future of work, and the rate at which this occurs is dependent upon how employees and employers embrace it and are able to integrate it into the workplace (Productivity Commission 2017b). In their 2016 study of Australia's future workforce, Hajkowicz et al. identified the potential of automatic devices to perform tasks more quickly, safely and more efficiently than people, likely leading to more workplace tasks performed by machines. Machines however will still require people to operate them, meaning that highly technological workplaces will require workers with new, highly technical skills.

A major technological trend discussed by Payton in the 2017 'No Frills' conference background paper, *Skilling for tomorrow*, and argued to be exerting a substantial impact on the labour market is the 'Internet of Things' (Hajkowicz et al. 2016), where devices are connected to each other and the internet. Possessing the appropriate skills to manage and use this technology productively is a valuable capability for workers. As Seet et al. (2018) confirm, digital skills have now become a fundamental skill and demand for digital skills is expected to rise. Recent analyses of internet job postings in Australia indicated that, within the next two to five years, more than 90% of Australia's current workforce will need to be at least 'a digital citizen' – using technology to communicate, find information and transact – to function effectively (Foundation for Young Australians 2017). Importantly, 60% will need to be higher-level 'digital workers', such as those who configure and use systems. Lifelong learning is the way many existing workers will acquire digital skills.

### Job markets

The past few years have seen a renewed focus on lifelong learning, both in Australia and overseas. Continuing to develop new skills throughout life is seen as vital to participate in the economy of tomorrow. In their 2017 discussion paper, Payton raised the question of whether the current generation might be the last to have traditional ongoing full-time work, with part-time employment trebling in Australia since the 1970s. The Organisation for Economic Co-operation and Development (OECD; 2018) reported that in 2017, just over a quarter of employment in Australia was part-time, and just over one in 10 workers was self-employed. Trends that can affect workers and their need to adapt through lifelong learning include:

<sup>1</sup> Lifelong learning is not a recent concept, with an overview of numerous international publications on this topic and interrelated concepts available in the 'Career development and transitions information' pod in NCVER's international bibliographic database – VOCEDplus (see <<https://www.voced.edu.au/pod-career-development-and-transitions>>).

- the disappearance of entire industries and the growth of others
- 'job enlargement' for some workers, with skills obsolescence and redundancy for others
- increasing casualisation in some job roles
- further growth of the 'gig' economy (working independently on a task-by-task basis for various employers).



The 'gig' economy was raised in the 2018 discussion paper as one driver of the skills changes needed by future workers, with gig employment potentially reflecting 12% of Australian workers (Payton & Knight 2018). Added to the mix are people holding more than one job, between 7% and 8% of workers (Wilkins 2017), while the practice of working in 'portfolio' jobs has also increased since 2001, rising from 18% in 2001 to 26% in 2015 (Wilkins 2017).<sup>2</sup> Commenting on the relative scale of this phenomenon, the Productivity Commission (2018) noted that the Australian gig economy 'remains in its infancy' and that Australian job market patterns over the decade show resilience to change, with traditional jobs currently still the majority. Nevertheless, the Productivity Commission conceded that the situation could change, possibly suddenly, and that unexpected rapid change limits adaptability, requiring potential risks to be monitored and assessed. Taken together, these work-format changes reflect more 'transitions' that workers will need to navigate, whether the transitions relate to jobs or tasks within jobs.

Changes in the nature of work, some of which are described above, define the connection between the skills required by the future workforce and the imperative for lifelong learning. The role of vocational education in developing future work capabilities will include imparting the 'soft skills' of continuous learning and 'adapting mindsets across a lifetime career that will involve change' (Payton & Knight 2018).

<sup>2</sup> It appears that portfolio working individuals who want full-time work and combine part-time jobs to achieve full-time employment, or even multiple full-time job holding, doesn't necessarily persist for more than a year, with only 35% of people who start working in more than one job still doing this one year later; however, for 8% it lasts at least four years (Wilkins 2017). Nevertheless, more work or task transitions are implied for these people.



## How does vocational education and training support lifelong learning?

The Australian Productivity Commission's 2017 report, *Shifting the dial*, highlighted the importance of elements of lifelong learning such as upskilling and reskilling in responding to an ageing Australian workforce and increasing technological change (Productivity Commission 2017b). This report largely views lifelong learning from an economic perspective, in that it contributes to economic development and meets workforce needs.

Lifelong learning for the purposes of economic development and competitiveness is just one of its roles. Reasons for lifelong learning are likely to differ according to an individual's needs, interests and motivations. In the broader global context, promoting lifelong learning opportunities for all people represents goal four of the UNESCO Agenda 2030, Sustainable Development (United Nations 2015). In support of this, a policy report from the Institute of Directors in the United Kingdom elaborates on the importance of this particular goal for a globally sustainable future. It highlights that a core function of lifelong learning might be to improve individual social mobility, building on its economic role in supporting and enabling widespread prosperity (Nevin 2016). The focus of the Institute of Directors' report is on describing how this develops through the social and personal effects of lifelong learning. Through lifelong learning, individuals can choose to improve their own lives, as well as contribute more productively to the economy by acquiring new skills that may help them to advance in their career. Findings from Australian research support this, showing that people are re-engaging in formal education at various stages of their life with the aim to improve their career prospects or to change the nature of their work or their career (Chesters et al. 2018).

Vocational education and training is a key component of the lifelong learning journey of many people. The main reasons students gave for enrolling in VET subjects in 2017 were:

- 25.1%** to get a job
- 22.3%** because it was a requirement of their job
- 12.1%** for personal interest or self-development
- 11.9%** to acquire extra skills for their job
- 6.2%** to try a different career
- 4.9%** to access another course of study
- 4.1%** to get a better job or promotion.<sup>3</sup>



Most, but not all, of these reasons are related to current work or potential future employment, although personal interest and possible future study are mentioned by these VET students, illustrating the broader range of motives students have for learning.

<sup>3</sup> Source: VOCSTATS *Total VET students and courses 2017* <<https://www.ncver.edu.au/resources/vocstats.html>>. Proportion is calculated using the reason for study at the subject enrolment level, excluding where the reason is not known.

## Skilling types

Understanding the many types of lifelong learning, the diversity of those undertaking it and how education systems support it, is complicated.

In our exploration of lifelong learning, we use the three general skilling types relevant to VET identified in the Productivity Commission's (2017b) report *Shifting the dial report: initial skilling, upskilling and reskilling*. These categories cover initial post-school education, learning new skills or improving skills to continue along the same career path, and using education to change careers. With the current data it is difficult to make links between the students and the type of skilling being undertaken, and on occasions the students themselves may not know. How to better identify this link is the subject of ongoing NCVET research.<sup>4</sup>

### Initial skilling

For most people, their very first exposure to 'skilling' occurs at school. In 2017 the reported participation rate of students in Years 10, 11 and 12 in VET delivered to secondary school students that contributed to their graduation requirements was 31.1%, noting that this rate is higher in government than non-government schools (Misko et al. 2019). Around 18 000 more young males than young females were in VET programs in 2017, with certificate II being the most common qualification level (Misko et al. 2019).

Some young people intend to take up VET for their post-school learning. In 2016, 16-year-olds interviewed in the Longitudinal Surveys of Australian Youth (LSAY), a survey following young people aged between 15 and 25 years, were asked about their post-school plans.<sup>5</sup> Almost one in 10 young females (9.9%) and slightly more young males (15.4%) intended to undertake some form of VET study post-school (Osborne & Circelli 2018).

Many young people are already undertaking post-school VET study. In 2017 those aged 15–19 years undertaking VET following school were mostly studying at the certificate III level, with engineering and related technologies the most popular field of education (Misko et al. 2019). Of 19-year-old Australians 9.3% were in an apprenticeship or traineeship and 9.3% were enrolled in other VET programs (NCVER 2018c). These two groups represent the thousands of young people using the VET system to begin their post-school skilling.

The VET system can be particularly useful to those young people who have left school early and who are potentially ill-equipped with skills for work, a group identified as 'at-risk workers' by the Productivity Commission in their 2018 parliamentary submission on the future of work and workers. With lower skill and education levels, this group has less capacity to take up jobs. Despite a strong national Year 12 certificate rate (79%), many young people leave school before finishing Year 12 (Australian Curriculum, Assessment and Reporting Authority 2018). In 2018, the apparent retention rate<sup>6</sup> for Years 7 to 12 Australia-wide was 84.5% (Australian Bureau of Statistics 2019).

The most recent estimate available for numbers of early school leavers indicated that in 2014 there were around 37 700 early school leavers, defined as 19-year-olds who left school before completing Year 12 or its equivalent (Lamb & Huo 2017). This is particularly an issue in remote and very remote areas, where the Year 12 finishing rate can be as low as 27% (Australian Curriculum, Assessment and Reporting Authority 2018). For these young people, post-school VET can be an opportunity to gain the initial skills they would have

<sup>4</sup> *School to work pathways*, NCVET, <<https://www.ncver.edu.au/research-and-statistics/infographics/school-to-work-pathways>>

<sup>5</sup> Learn more about LSAY at <<https://www.lsay.edu.au/>>

<sup>6</sup> This measures the proportion of a cohort of full-time students that moves from one grade to the next based on an expected rate of progression of one grade per calendar year.

acquired at school, as well as assist them with career options. Dommers et al. (2017) interviewed young early school leavers about their experience in VET, with the young people explaining how the more adult-focused learning environment helped them to embrace learning in a way they had been unable to at school: with career options. Dommers et al. (2017) interviewed young early school leavers about their experience in VET, with the young people explaining how the more adult-focused learning environment helped them to embrace learning in a way they had been unable to at school:

**They treat you maturely [here], like how you should be treated in the real world ... In high school, people look at you and go 'you're just a student and you should adhere to the rules and you have to stay in between these lines' ... being held down and looked at as a little kid.**

Many of these VET providers had strong connections with local employers and industry, which improved the workplace-based training they were able to offer to students. Hands-on learning was often mentioned by young early school leavers as being important to their experience of the VET system (Dommers et al. 2017) and demonstrates that a 'practical' learning environment can be more effective for some young people than the traditional styles of classroom-based learning.

These young people acquire more than merely the technical skills relevant to specific VET occupations. Staff teaching young early school leavers report that employability skills such as punctuality and communication are integral to a student's learning (Dommers et al. 2017) and these may be just as important for future workplace success as any specific technical skills. White (2018) examined the frequency of the requirement for 'employability skills' in internet job postings for the preceding four years and found that the top 10 employability skills, in order of employer emphasis, were:

- communication skills
- organisational skills
- writing
- planning
- detail orientation
- team work/collaboration
- problem-solving
- time management
- research
- computer/digital skills.



Many young people are also acquiring general life skills from their training, such as how to manage their own finances (Dommers et al. 2017). Misko et al. (2019) show that the VET undertaken by secondary students, and in some cases by post-school students, can equip them with the skills, including the non-technical skills, required to successfully participate in an ever-changing world of work.<sup>7</sup>

VET's role in supporting individuals as they undertake their initial skilling does not end here. VET plays a critical part in the skilling that occurs throughout their adult life.

<sup>7</sup> Many examples were found of competencies and content being taught to secondary students undertaking VET that would enable them to learn the key non-technical skills required to enter modern workplaces.

## Upskilling

When people set out to improve their existing skills or learn new skills to assist in their current careers, such as getting a better job or promotion, they embark upon a path to upskill, often through VET. As the Productivity Commission (2017a) acknowledges, a significant driver of the upskilling in Australian workers is the nature and rate of technological change, with their employability in a changed work environment improved through the addition of more relevant skills. As noted earlier, research (Hajkowicz et al. 2016) indicates that automation is highly likely to replace some specific tasks within jobs or occupations. In a submission to the Senate Select Committee on the Future of Work and Workers, Google Australia (2018) estimated that more than two-thirds of the impact of automation on Australian work will be in the form of changing tasks within job roles. Research completed in 2017 examining automation and employment estimated that, in 60% of jobs, at least a third of the tasks contained within that job could become automated in the future (Manyika et al. 2017). These projections flag a change in the skills needed to do these jobs, with skills that are complementary to automation becoming even more important (AlphaBeta 2019). Even those in one job for their entire career will experience a great deal of change in the tasks comprising that job. As a worker interviewed by Chesters et al. in 2018 commented:

**'To keep up in today's society you have to be upgrading your skill base all the time. Otherwise, you will fall behind the skill base and job potential'.**

With the pressure to continually upskill comes a need to fit training around existing work. Flexibility in both education content and its scheduling was highlighted by the Productivity Commission (2017a) as essential for accommodating workers' schedules. Historically, this kind of flexibility has been built into the VET system, with 89.3% of VET students studying part-time in 2017 (NCVER 2018a). Many of those part-time learners are working while studying, either in jobs related to their study or in totally different fields. VET's ability to provide flexible training that fits in comfortably with work schedules will be key to its future role in upskilling. Flexibility in provision is a central reason why employers currently choose unaccredited training, in preference to accredited training (White et al. 2018). In addition, and for almost half of people who wanted more workplace training, too much work or too little time were the main reasons preventing more training – indicating they hadn't been able to find sufficiently flexible training to fit within their workplace constraints (ABS 2017).

## Reskilling

Along with those who wish to improve their skills for their current career, many people go through a period of reskilling when they intend to change jobs or careers. Current estimates indicate that the average Australian will have changed jobs 2.4 times by 2040, while nine out of 10 workers will have changed jobs at least once (AlphaBeta 2019). Furthermore, the AlphaBeta report estimates that a job change will mean that around 22% of the tasks formerly undertaken by workers will also change. While workplace tasks can be taught through informal on-the-job training, this still leaves a substantial role for the formal reskilling of Australians through the VET system.

Training is necessary to support workers displaced through industry restructure. Callan and Bowman (2015a) note that reskilling, becomes a 'major proactive strategy' in response to industry restructuring



and displaced workers. For displaced workers, Wibrow and Circelli (2016) highlight VET's role in alerting employers to the benefits of nationally recognised training, as opposed to company-specific training, the major benefit being that, with nationally recognised training, workers' skills are transferable.

A change in personal circumstance might also be a catalyst for reskilling, for example, some people undertake training to enable alternative employment to accommodate their situation after having a child. VET reskilling plays a significant role in assisting this kind of life restructure.

Ongoing and sustained steps to boost workforce participation will be critical to driving Australian economic growth and prosperity to 2055 (Australian Government 2015), and this evidence demonstrates that reskilling through VET provides a ready-made and tested solution.





# Lifelong learning in VET – directions for the future

What is the future for lifelong learning?

AlphaBeta's *Future skills* report (2019) predicts that Australians will be required to invest greater time in formal learning in the future, especially those individuals considered to be 'mid-career'.<sup>8</sup> This report also argues that even if a particular job is sustained within an existing occupation, the actual tasks contained within it are anticipated to change on average by 18% every decade, requiring more frequent upskilling. This means that the skills acquired at the beginning of a career will not serve a worker throughout their entire life.

The Australian Government's *Intergenerational report* of 2015 highlights the importance of boosting workforce participation to support the country's future national prosperity. Emphasising the existing link between workforce participation and the VET system is the recent OECD report, *Getting skills right: future-ready adult learning systems* (2019). This report discusses the potential of technological, labour market and social changes to advantage individuals, firms and economies. It argues that any benefits flowing from these changes depend upon the readiness of adult learning systems to help people to develop the skills required for the changing world of work. The report indicates that this involves extending participation by a much broader set of learners in the future, a process that also includes identifying the 'right skills' and then investing in their development. Greater spending on adult learning and better alignment between adult learning provision and policies and labour market needs are two further recommendations from the OECD report (2019).

The recent report from the Senate Select Committee on the Future of Work and Workers also addressed the importance of lifelong learning, recommending that Australian Government policy should ensure support for lifelong learning 'throughout ... formative education and working life'. Along with an assessment of the impact of technology on future work, this report pointed out the view that education should be viewed as a lifelong journey rather than an activity pursued exclusively by young people (Senate Select Committee on the Future of Work and Workers 2018).

## Formal and informal learning

Will future VET for lifelong learning be formal or informal, or a mix?

Some evidence suggests that even greater linkages between the formal and informal education sectors is required to meet the challenges of lifelong learning, and that training content needs to become more responsive to change than it is presently (Seet et al. 2018). Some international bodies call for a 'learning evolution' (World Economic Forum 2018), challenging education policymakers and institutions to adopt updated and flexible curricula, extend training access across wider socioeconomic groupings, provide retraining opportunities for the existing labour force, and 'foster a mindset shift' for students. The World Economic Forum urges the uptake of these measures to establish a 'new mental model', one that embraces lifelong learning.

Nationally accredited qualifications provide strong, formal information to employers on the skills a worker possesses. However, we know from the 2017 Survey of Employer Use and Views of the VET System (SEUV),<sup>9</sup> that around half of employers in Australia are looking outside the nationally accredited VET system to provide their employees with training that meets their needs (White, De Silva & Rittie 2018). The 2017 SEUV found that, of the over 90% of employers who trained their existing staff, 54% engaged with the formal VET system, 51% used unaccredited training and 81% said they provided informal training.<sup>9</sup>

<sup>8</sup> A mid-career worker is someone who has moved past entry level but isn't nearing the end of their career.

<sup>9</sup> Employers could indicate they had used more than one form of training.

This prompts the question of whether unaccredited/informal training becomes transferable for workers in their work transitions. Furthermore, is unaccredited/informal training really what workers are looking for or would they prefer formal certification of their skills? An Australian Bureau of Statistics (ABS 2017) study of workers' views on informal training found that work-related unaccredited training suits some workers: one in 11 Australians aged 15 to 74 years wants more work-related training - that is, structured learning activities that do not result in a formal qualification.

The reasons given for undertaking work-related training not leading to a formal qualification are generally associated with upskilling – to increase their skills for their current job (ABS 2017). That 51% of employers are choosing to use unaccredited training for their existing workforce suggests that it is also meeting employers' purposes for training. In some cases, some form of credential may be given for this training - for example, Microsoft training may result in a 'Microsoft accredited' certificate. Some of these may be widely acceptable in the job market, with employers finding them valuable.

Work-related and informal training can also be transformed into a formal qualification through a recognition of prior learning (RPL) assessment. If the learner subsequently requires formal recognition of their skills, credit for their past training and experience can be certified as part of a formal qualification. RPL is an important mechanism for incorporating currently held skills and competencies into qualifications structures.

Callan and Bowman (2015a) found that some aspects of the RPL process need attention, in that it should be more consistent to support transferable skills. Hargreaves and Blomberg (2015), for example, looked at the uptake of RPL for adult trade apprentices and found that the full implementation of competency-based, as opposed to time-based, progression for adult apprentices was occurring slowly. They noted that inconsistent treatment of RPL was a key barrier.

While formal accredited and informal training are both viable options for employers and workers, each serves a purpose in training a workforce. More robust evidence on the views of employers and workers on the use of informal training would allow for a more complete picture of the total training effort. Additional evidence could assist in informing policy on the benefits and disadvantages of the different types of training available and which would enable the identification of fundamental skills required for learning and adapting across the workforce of the future. As Allen, Teodoro and Manly (2017) show, it is these skills that will assist workers to deal with ongoing, and possibly accelerating, change within jobs.



## Final thoughts

To enable their participation in lifelong learning, workers will need to be supported to acquire the soft skills of adaptability, perseverance, resilience, curiosity, responsiveness, experimentation and initiative. The important remaining question is: how do we enable an aptitude for both learning and repeat learning? To enable the transition to lifelong learning, it is suggested that VET educators and students move beyond thinking about skills training for 'jobs', instead formulating training that develops clusters of skills that are portable across multiple jobs and which open up a range of different potential work prospects (Foundation for Youth Affairs 2017; Yu, Bretherton and Buchanan 2013).<sup>10</sup>

Yet, other barriers may also prevent the widespread uptake of a 'lifelong learning mindset'. For example, for about one in four people who wanted more work-related training, the cost was prohibitive (ABS 2017). Furthermore, for almost half of these people, too much work or too little time were the main reasons preventing more training (ABS 2017). Motivating both workers and workplaces to release time towards the practice of lifelong learning, and achieving the required mindset shift, may require policy action to address the upfront costs of learning.

One suggestion from employers is to provide learners with a pool of funding to use as required on lifelong learning. This addresses one part of the issue. The Business Council of Australia (BCA) has called for a lifelong skills account (LSA), arguing that such an approach would put the 'learner in charge' while developing a culture of lifelong learning. The aim of the LSA is to provide all learners with entitlements to training, and the BCA suggests this might encourage learners to use initial qualifications to build a strong foundation. Thereafter, learners would select shorter accredited modules to effectively create their own 'credentials', encouraging them to upskill and retrain throughout their lives (Business Council of Australia 2017). The Australian Technology Network of Universities (2018) also recommended this kind of funding support for lifelong learning, pointing to Singapore's SkillsFuture Initiative, which provides a one-off, fixed amount of funding for lifelong learning for those aged over 25 years. As part of its 2019 Budget, Canada launched a program of accumulating credit for workers, which can be used on training (Canadian Government 2019). The program has a lifetime limit of CAN\$5000 (approximately AUD \$5300) and there are eligibility constraints on its accumulation.

The specific role of VET in lifelong learning for Australians is likely to be as varied as the learners themselves, and the areas discussed in this paper represent only a small snapshot of how VET is currently supporting lifelong learning in students across Australia. With the inevitable challenges of technology and work changes over the coming years, VET systems and policies will need to evolve to meet the needs of students in their journey of skilling for life.

<sup>10</sup> Yu, Bretherton and Buchanan (2013) identified the concept of a 'vocational stream', which is a set of linked occupations with related skills within a broad field of practice.

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