NCVER

Issues in apprenticeships and traineeships – a research synthesis

JOHN STANWICK, MAREE ACKEHURST AND KELLY FRAZER
National Centre for Vocational Education Research

INTRODUCTION

This research summary provides an overview of aspects of apprenticeships and traineeships in Australia. More particularly, it provides an overview of some of the more enduring issues, or what could be considered the 'pain points' associated with apprenticeships and traineeships. These include issues around congestion, harmonisation, apprenticeship and traineeship completions, incentive payments and other supports to employers and apprentices or trainees, the interface between apprentices/trainees and training providers, and the relevance of the current model of apprenticeship training. Also included is an overview of apprenticeship and traineeship activity over the last 20 years.

The discussion in this paper is limited to post-school apprenticeships and traineeships that involve a contract of training. It largely excludes discussion of school-based apprenticeships or traineeships or those falling outside the contract of training model (for example, higher apprenticeships at university).

HIGHLIGHTS

- The large number of stakeholders in the system has led to a congested training landscape and associated employer and apprentice confusion. Similarly, the lack of consistency of approaches across states and territories (lack of harmonisation) has made the apprenticeship system difficult to navigate for national employers.
- Completions and completion rates are still of concern, with data showing that those who complete have, on average, better outcomes than those who don't.
- Incentives play an important role in encouraging and supporting apprenticeships and traineeships but need to be carefully calibrated. Previous experience has shown that poorly targeted incentives can lead to increased uptake but can also have unintended consequences and lead to inferior outcomes for apprentices and trainees.
- The off-the-job training component plays a very important role in the overall apprenticeship or traineeship but there are challenges in coordinating it with the on-the job component, aligning the training and assessment, and ensuring that the off-the-job component accords with what is being learned in the workplace.
- The relevance of the historical apprenticeship model to changing industry, economic and social conditions has been challenged and there is support for alternative models of delivery.

THE APPRENTICESHIP SYSTEM IN AUSTRALIA

What do we mean by apprenticeships/traineeships?

The glossary of VET in Australia (Naidu, Stanwick & Frazer 2020) defines an apprenticeship as:

> *A structured training arrangement which combines on-the-job training and work experience while in paid employment with formal off-the-job training with a registered training organisation (RTO).*

The definition of a traineeship is very similar, except that traineeships are generally of one to two years duration, with apprenticeships generally longer. The Australian Industry Group (Ai Group; 2020) importantly noted that the apprenticeship model involves a legal contract between employer and apprentice or trainee. The contract requires the employer to provide employment and relevant training, as well as release for off-the-job training, with the apprentice or trainee agreeing to work and train to their ability.

For the purposes of this overview, apprentices and trainees will be considered together, and in some places only the term 'apprenticeships' will be used, unless indicated otherwise. The real distinction in this paper will be between trade and non-trade apprentices and trainees.

Their place in the VET system

Apprenticeships play a very important role in Australia's system of skills development, having had a long history of successfully offering employment-based training in tandem with skills and knowledge development. The system was imported from Great Britain, although most of the significant changes to the system have occurred since the mid-1980s, with the introduction of traineeships. Knight (2012) noted that traineeships extended the apprenticeship model to a much wider range of occupations, and often at lower qualification levels. Prior to this change, apprenticeships consisted mainly of young males in the trade occupations.

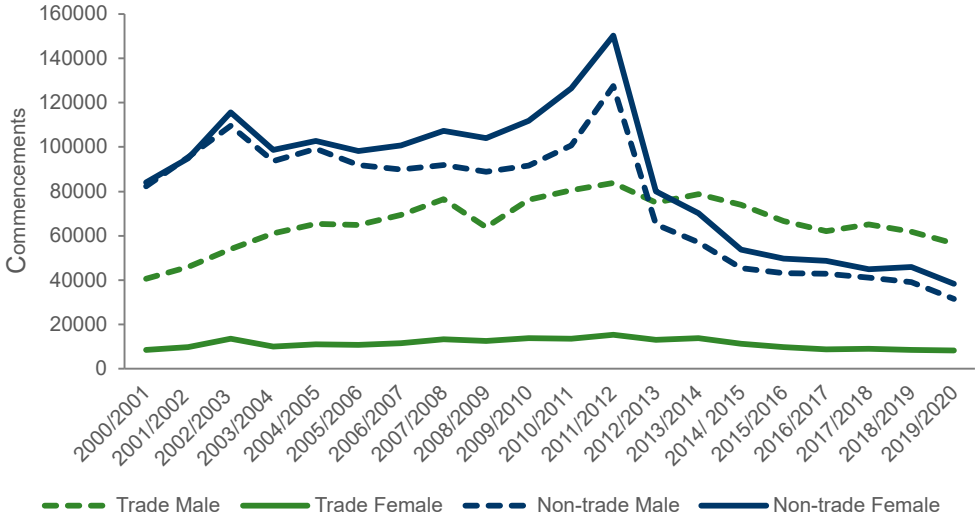
Another significant development was the introduction of large-scale financial incentives to employers. While incentives have been available to employers of trade apprentices since 1973[1] (Burke forthcoming), this approach was expanded in the mid-1990s, in part to offset the cost of apprenticeships, but also to stimulate commencements, which it did to a large extent, mainly in the non-trade areas. In 1998, the system was further expanded to allow school students, existing workers and part-time workers to undertake apprenticeships and traineeships (Knight 2012).

In 2020, apprentices and trainees represented 17% of all students enrolled in a training package qualification, a significant, if not particularly large, proportion (NCVER 2021a).

Apprenticeships and traineeships now cover most occupational groups and are commonly represented as trade and non-trades apprenticeships and traineeships. The trades are covered by ANZSCO Major Group 3 – Trades and Technicians, and the non-trades by the other ANZSCO major groups. Figures 1 and 2 show commencements over the last 20 years, split by trades and non-trades and sex, and also age.

1 Through the Commonwealth Government's National Apprenticeship Assistance Scheme (NAAS).

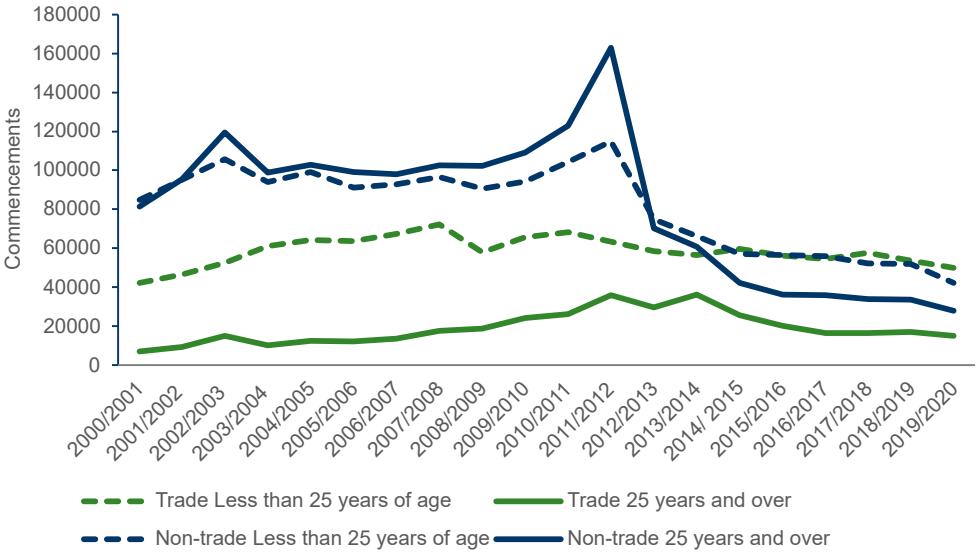
Figure 1 Trade and non-trade apprenticeship and traineeship commencements by sex, 2000–20



Note: Commencements are by financial year, i.e. from July to June.
Source: NCVER Apprentice and trainee collection, September 2020.

Figure 1 shows several peaks and troughs in commencement numbers, particularly in regard to non-trade apprenticeships and traineeships. It also demonstrates quite clearly that over the period many more males commenced trade apprenticeships and traineeships than females, while for the non-trades there were slightly higher levels of female commencements.

Figure 2 Trade and non-trade apprenticeship and traineeship commencements by age, 2000–20



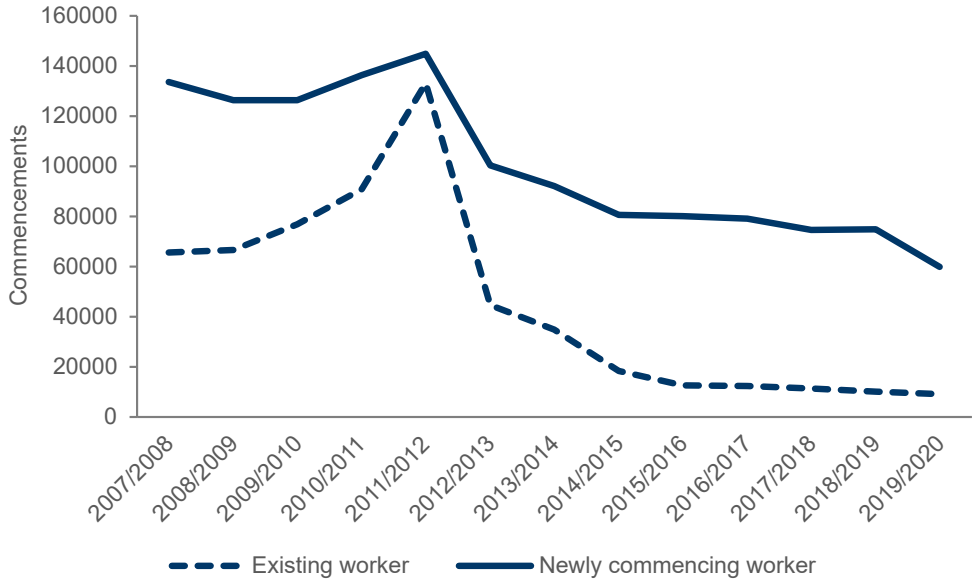
Note: Commencements are by financial year, i.e. from July to June.
Source: NCVER Apprentice and trainee collection, September 2020.

Figure 2 raises a number of interesting features. Some of the trends shown are the result of government policy. If we look at the line that represents trade commencements for the age group 25 years and over, we can see that numbers spiked in 2011—12 and then in 2013—14, before subsiding considerably after that period (from 36 245 commencements in 2013—14 to 14 979 in 2019—20). One reason for this trend includes the accelerated apprenticeship initiative, which occurred between 2011 and 2016, discussed further in the section on completions.

The Productivity Commission (2020) mentioned other reasons for the decline, including the Fair Work Commission's decision to increase apprentice pay rates for adults and existing workers and also the rise and fall in the use of recognition of prior learning (RPL).

Another feature is that non-trades commencements, particularly for the 25 and over age group, had a pronounced increase from 2008—09 through to 2011—12, before falling away considerably (figure 3). The significant rise in non-trade commencements during this period coincided with the introduction of the National Partnership on Productivity Place Program, which had an emphasis on existing worker training and contestable training markets. The sudden decline was due to the withdrawal of government incentives for existing worker traineeships and other incentives in areas not on the national skills needs list, following the McDowell report (McDowell et al. 2011). This is discussed in more detail in the section on incentives and other government supports.

Figure 3 Non-trade apprenticeship and traineeship commencements by existing worker status, 2007–20

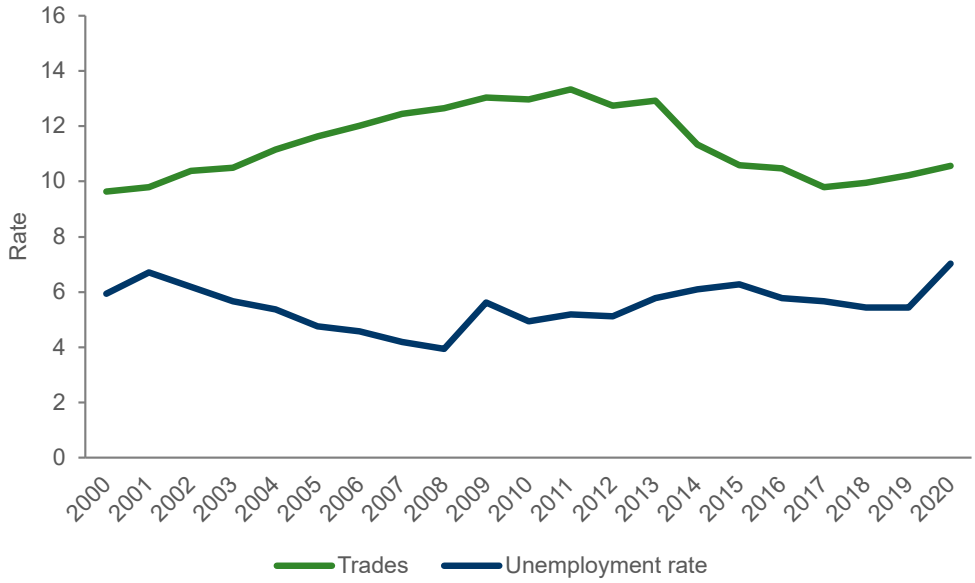


Note: Commencements are by financial year, i.e. from July to June.

Source: NCVER 2020a.

Apprentice and trainee numbers are known to be sensitive to factors such as government policy (for example, incentives, as mentioned above) and also to economic conditions, both of which account for many of the peaks and troughs in the chart. The effect of government incentives, particularly in the non-trades, is discussed in more detail later. In addition, trade apprenticeships are also sensitive to economic conditions (Atkinson & Stanwick 2016). Figure 4 shows trade apprenticeship in-training numbers relative to the unemployment rate over a 20-year period.

Figure 4 **Trade apprentices in-training as a proportion of the trades workforce vs unemployment rate, 2000–20**



Source: ABS Labour force Australia, detailed, February 2021; NCVER Apprentice and trainee collection, September 2020.

Figure 4 indicates that the two rates appear to some extent to mirror each other (that is, are negatively correlated). In other words, lower unemployment rates tend to coincide with higher rates of trade apprentices in-training and vice versa. There are a couple of exceptions to this, one of which is the increase from 2019 to 2020, where both rates increased. The numbers of employed tradespeople dropped considerably between 2019 and 2020 (by about 86 400, August figures), while the number of in-training trade apprentices only dropped by just over 3000), resulting in an increase in the rate of trade apprentices as a proportion of the trades workforce.

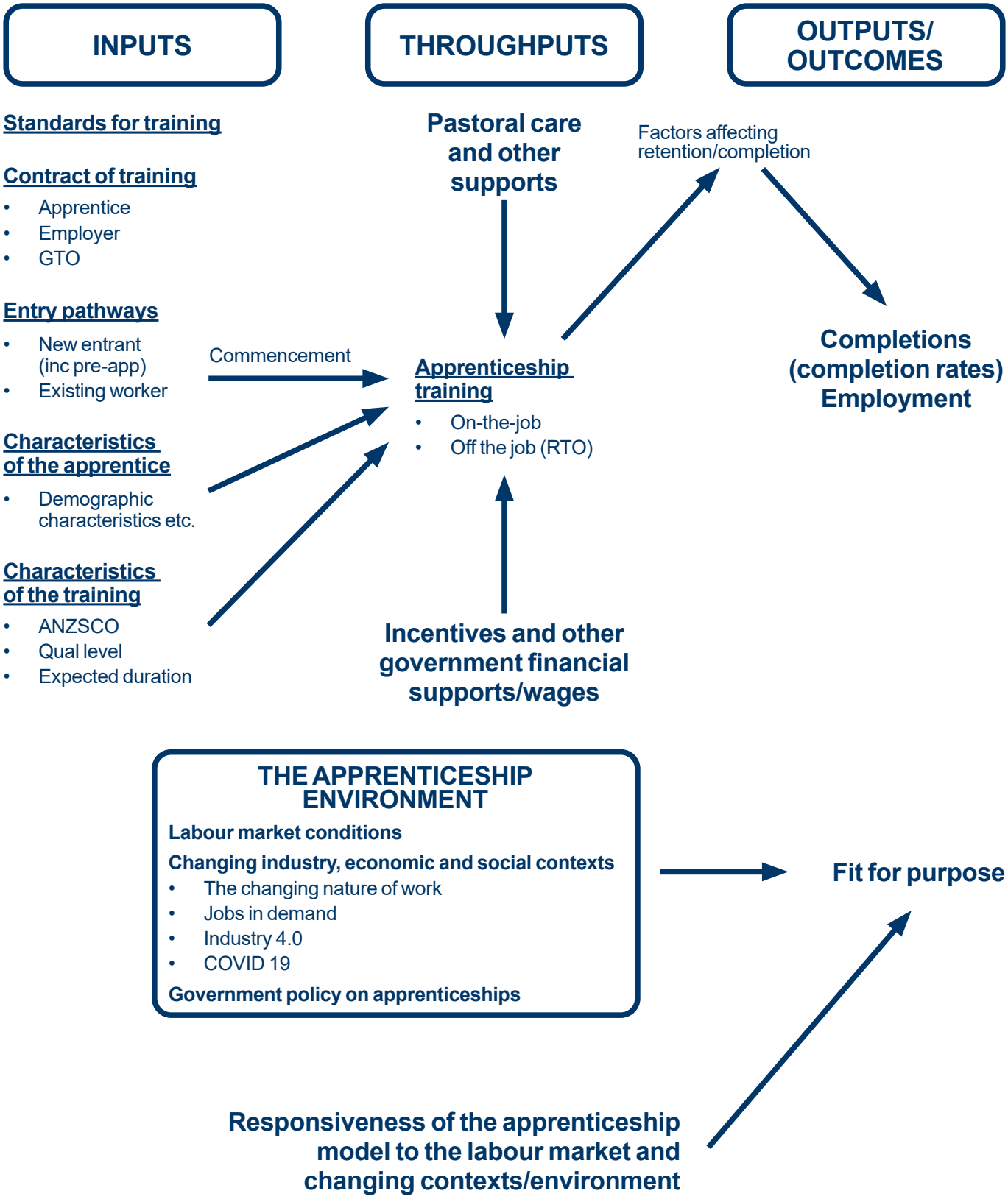
The main elements of the system

Many elements combine to make up the apprenticeship system in Australia. Figure 5 conceptualises the system in terms of inputs, throughputs, and outputs/outcomes, and how the apprenticeship system needs to be fit for purpose in the context of a changing environment, in particular, technology, ways of working, the labour market and system shocks (such as a pandemic).

While many of these elements are shown in the figure, in this report we will focus on the five enduring issues in the apprenticeship system in Australia, those that have been discussed in research and literature over time. These are:

- harmonisation and congestion
- apprenticeship and traineeship completions and the factors leading to completion/non-completion
- incentives to stimulate participation and completions
- the interface between apprenticeships and the training provider
- the relevance of the system to the apprenticeship environment.

Figure 5 A model of the main elements of the apprenticeship system in Australia and the apprenticeship environment



CONGESTION AND HARMONISATION

Two issues that have bedevilled the VET system over a long period of time are those of congestion and harmonisation. These are considered in turn.

Congestion

There are many stakeholders in the apprenticeship system, including two tiers of government (Commonwealth and state/territory), RTOs, industry organisations, unions, group training organisations (GTO), and licensing and regulatory authorities (McDowell et al. 2011). Also important players are the Australian Skills Quality Authority (ASQA), or state regulatory authorities, in the case of Victoria and Western Australia, and Australian apprenticeship support networks (AASN).[2]

The numerous stakeholders have led to issues of congestion, with employers finding it difficult to navigate the system. Couldrey and Loveder (2017), in reporting on a stakeholder forum on the future of apprenticeships, noted a plea made in the forum to declutter the system, but not at the expense of the apprenticeship model (as opposed to the system and architecture), which was seen as standing the test of time.

In addition, the Productivity Commission (2020) found that, while initiatives and support delivered by the Australian apprenticeship support networks assisted employers and apprentices to navigate the system, there were still aspects of the system that remained complex. The Department of Education, Skills and Employment too noted that stakeholders found that the apprenticeship system can be 'complex and difficult to navigate'.[3]

Harmonisation

In terms of government responsibility for apprenticeships and traineeships in Australia's federated system, the states and territories (through their state and territory training authorities) are responsible for the regulation of apprenticeship training contracts, the prescribing of vocations suitable for apprenticeship pathways, and some apprenticeship incentive payments. The Commonwealth is responsible for the AASNs and the Australian Apprenticeships Incentives Program for employers.[4]

The federated system has led to issues associated with what is termed 'harmonisation'; that is, consistency of approaches across all governments. Couldrey and Loveder (2017, p.11), found that:

> *the system and architecture surrounding the model including Commonwealth, state and territory funding and regulatory arrangements were described as complex, inconsistent and often confusing, particularly for national employers, despite long efforts to harmonise and streamline them.*

Couldrey and Loveder (2017) additionally noted that there appeared to be constant changes in policy in apprenticeships, which impacted negatively on employer confidence and engagement in the system.

In 2012, the National Partnership Agreement on Skills Reform (COAG 2012) included principles on harmonisation and cited several areas where there were differences in approaches to apprenticeships and traineeships across state and territory boundaries. The emphasis in the principles was on nationally consistent arrangements.

The Productivity Commission (2020) found from feedback from review participants that state and territory differences in apprenticeships were not ongoing problems. Nevertheless, in May 2021, the Department of Education, Skills and Employment announced that among skills reform priorities were 'harmonising and modernising apprenticeships',[5] with the national, state and territory governments working together to 'create a more modern and consistent approach to the Australian Apprenticeship system'.

---

2 These provide and deliver support for apprentices and employers nationally. Australian Apprenticeships cannot be started without an Australian apprentice network provider (see <https://www.australianapprenticeships.gov.au/about-aasn>), viewed 24 August 2021.

3 See <https://www.dese.gov.au/skills-reform/skills-reform-overview/harmonising-and-modernising-apprenticeships-boost-completion-rates-support-businesses-and-improve>, viewed 24 August 2021.

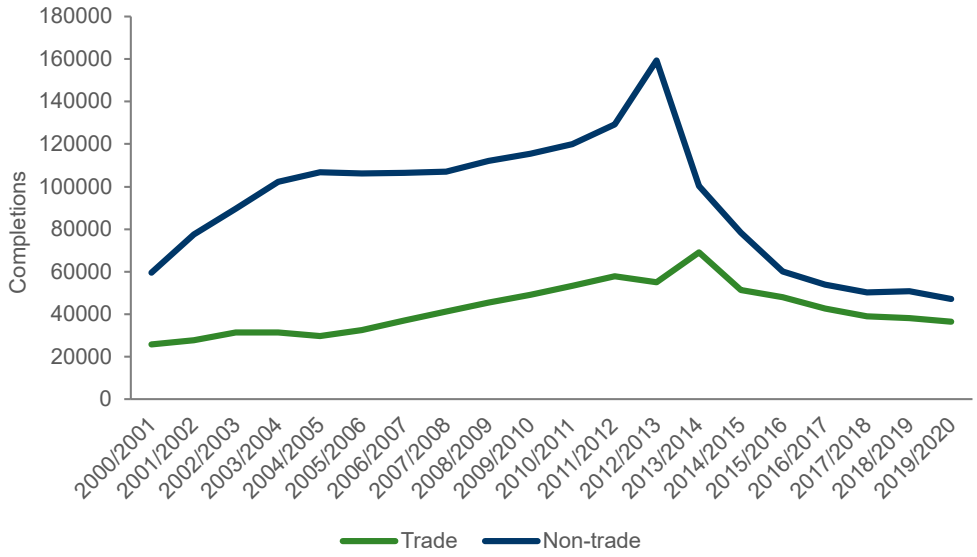
4 See <https://www.australianapprenticeships.gov.au/aus-employer-incentives>, viewed 25 August 2021.

5 See <https://www.dese.gov.au/skills-reform/skills-reform-overview/harmonising-and-modernising-apprenticeships-boost-completion-rates-support-businesses-and-improve>, viewed 24 August 2021.

COMPLETIONS

Apprenticeship completions are a key part of ensuring a productive and skilled workforce, essential for economic growth and productivity (Couldrey & Loveder 2017) and a sign that the system is working effectively. Alternatively, non-completions are a significant concern for governments, given their investment in this form of training, and are a persistent issue for the Australian apprenticeship system. Figure 6 shows apprenticeship and traineeship completions over time, split by trades and non-trades.

Figure 6 Trade and non-trade apprenticeship and traineeship completions, 2000–20



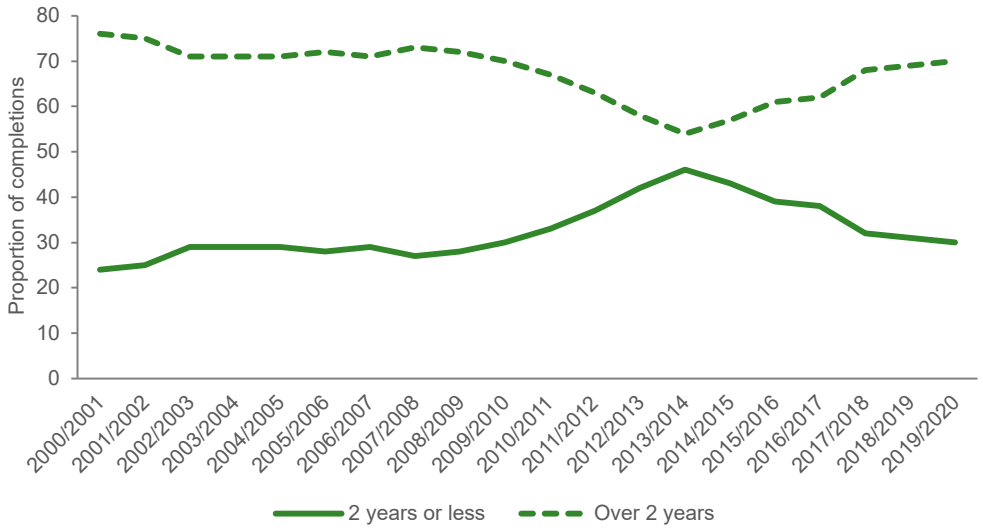
Note: Completions are by financial year, i.e. from July to June.

Source: NCVER Apprentice and trainee collection, September 2020.

Completions steadily increased and peaked in 2012—13 for the non-trades and in 2013—14 for the trades and have declined since then, particularly for the non-trades. The reasons for this were discussed earlier and were largely due to the withdrawal of incentives for existing worker traineeships. The termination of the Australian Accelerated Apprenticeships Initiative Program, which ran from 2011 to 2016 may have also had some impact on numbers of completions in the trades, particularly for those aged over 25, although its remit was limited, so it is difficult to claim this with certainty. This initiative aimed to facilitate competency-based completion (rather than time-serving), resulting in earlier completion for some, such as those who already had some relevant experience (see Atkinson & Stanwick 2016).

Figure 7 indicates the proportion of trade apprenticeship completions by duration over the last 20 years, as well as the proportion of trade apprentices completing in two years or fewer who were 25 years of age and over. It can be readily seen from the figure that the proportion of trade apprenticeships completed within two years or fewer began increasing from 2007—08 and peaked in 2013—14 at 46% of all completions, before declining. In addition, high proportions of those who completed in two years or fewer during this period were aged 25 years or over, with 63% of those aged 25 years or over completing their trade apprenticeship in fewer than two years in 2013—14 (figure 8).

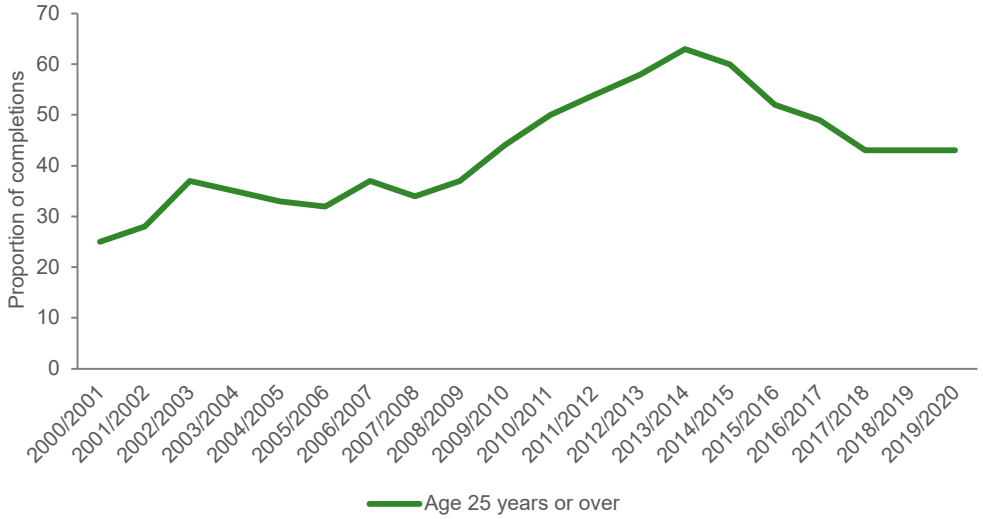
Figure 7 Trade apprenticeship completions by duration of training 2000–20 (%)



Note: Completions are by financial year, i.e. from July to June.

Source: NCVER Apprentice and trainee collection, September 2020.

Figure 8 Trade apprenticeships completed in two years or fewer for those aged 25 years and over 2000–20 (%)



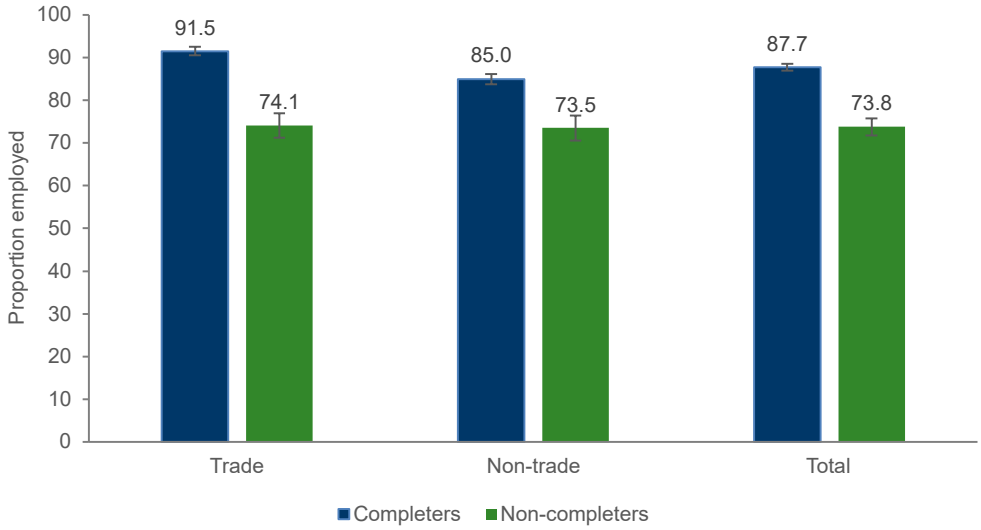
Note: Completions are by financial year, i.e. from July to June.

Source: NCVER Apprentice and trainee collection, September 2020.

While apprenticeships have been seen to provide a smooth school-to-work transition (European Commission Directorate-General for Employment, Social Affairs and Inclusion 2013) and often result in successful employment outcomes (Bednarz 2014), there can be high economic costs for the apprentices, employers and providers involved in the apprenticeship contract, making completion even more important. Nechvoglod et al. (2009) found that the apprenticeship model involves a substantial commitment from both the employer and the apprentice. There is an implicit cost—benefit analysis as to whether the apprenticeship will be an attractive prospect or not, one of the benefits being employment in the occupation intended (for example, a licensed trade).

Figure 9 shows proportions employed after training, for those who complete, compared with those who don't.

Figure 9 Completing and non-completing apprentices and trainees employed after training, 2019 (%)



Note: 95% margin of error bars are shown on chart.

Source: NCVER (2019a).

It is quite clear from figure 9 that completers fare much better than non-completers, particularly in the trades, where there is over a 17-percentage-point difference in employed after training between completers and non-completers. However, when we look at whether there were any benefits of training for part-completers of qualifications, data from the National Student Outcomes Survey show that higher proportions of apprentice and trainee part-completers than other qualification part-completers report at least one job-related benefit of training (NCVER 2020b). For all apprentice and trainee qualification part-completers, 80.9% reported at least one job-related benefit, compared with 66.6% of other part-completers, while 87.0% of trade apprentice part-completers reported at least one job-related benefit from the training (as compared with 74.6% for the rest).

Completion rates

One of the indicators of success of apprenticeships and traineeships is completion rates, [6] which in Australia have remained relatively steady over the past two decades. As Misko (2020, p.15) noted: 'between 2002 and 2013 the completion rates for traditional trade contracts of training remained relatively stable and ranged between 44.2% and 46.4%'. However, research confirms that approximately half of all trade apprenticeships are not completed (McDowall et al. 2011; Smith & Brennan Kemmis 2013; Bednarz 2014), and in 2017 it was noted that completion rates remained 'lower than desirable' (Couldrey & Loveder 2017).

Table 1 shows selected (individual) completion rates for apprentices who commenced in 2015 and 2016. It indicates that 57.6% of individuals who commenced an apprenticeship in 2015 completed their training, declining to 56.1% of individuals who commenced in 2016. Within trades occupations, there is a great deal of variation. For those commencing in 2016, individual completion rates ranged from 28.1% for textile, clothing and footwear trade workers, through to 63.8% for engineering, ICT and science technicians.

6 These refer to the proportion of apprentices and trainees (usually in terms of contracts) who commenced in a given period and who have since completed.

Table 1 Selected individual completion rates as of 2020 for apprentices and trainees who commenced in 2015 and 2016

Occupation (ANZSCO) group	2015	2016
Total non-trade occupations	57.7	56.5
Total trade occupations	57.6	55.1
31 Engineering, ICT and science technicians	57.0	63.8
32 Automotive and engineering trades workers	63.0	62.0
33 Construction trades workers	57.4	54.1
34 Electrotechnology and telecommunications trades workers	65.6	59.7
35 Food trades workers	43.1	42.6
36 Skilled animal and horticultural workers	48.3	47.4
39 Other technicians and trades workers	55.5	51.6
391 Hairdressers	51.9	50.0
392 Printing trades workers	55.8	61.3
393 Textile, clothing and footwear trades workers	45.7	28.1
394 Wood trades workers	57.3	48.4
399 Miscellaneous technicians and trades workers	52.3	52.9
All occupations	**57.6**	**56.1**

Note: Individual completion rates take account of individuals ceasing one contract of training and starting another in the same or superseded qualification with a different employer.

Source: NCVER (2021b, state and territory data tables).

Factors impacting completion

Apprenticeship completions are impacted by several factors, which can vary across industries, but it is clear most non-completers leave in the first year of their contract (Bednarz 2014). Indeed, the most recently published data on attrition show that about a third of apprentices and trainees overall leave in the first year of their contract (NCVER 2021b). Influencing factors include changing demographics, government expenditure and incentives, perceptions of apprenticeships, and engagement by the community (McDowall et al. 2011). Working conditions also have a significant impact; these include low pay, hours of work, being treated as 'cheap labour' (Rexe 2012) and 'dirty work' (Misko, Nguyen & Saunders 2007). Shifts in the economy can impact on identifying employment opportunities for completing on-the-job training or it can increase redundancy rates (Misko, Gu & Circelli 2020). Figure 10 shows the top five reasons for non-completion from the 2019 Apprentice and Trainee Experience and Destinations (ATED) survey.

While not explicit in the chart below, bullying is one of the reasons why apprentices and trainees may not complete their training. Information is contained in the ATED surveys on bullying observed in the workplace, both from the perspective of completers and also non-completers. Overall, about a quarter of apprentices observed bullying; however, a higher proportion of non-completers than completers observed it (35% vs 21%). It was particularly high for female non-completers, at about 45%. It was also very high for non-completers in the food trades, at 55%.

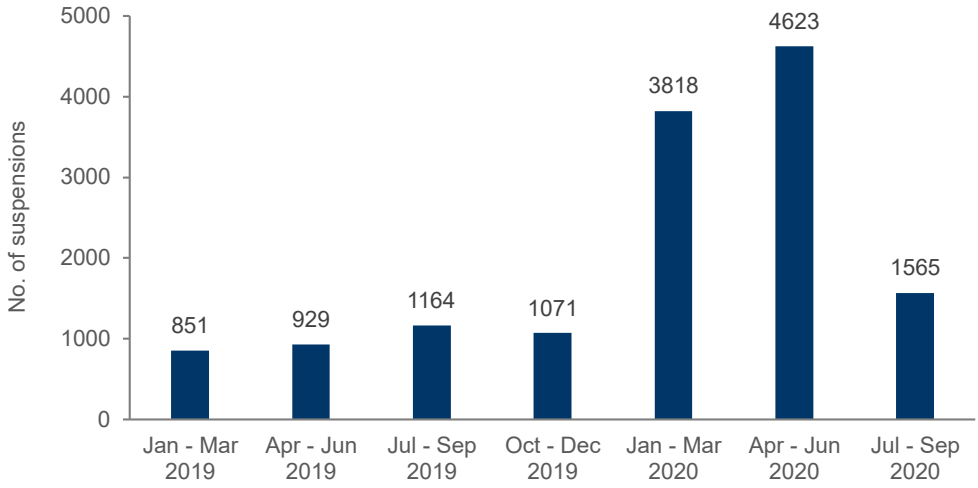
Also not shown in figure 10 is the proportion of non-completers who go on to further study. While not completing for various reasons, 29.0% then went on to further study, with 10.0% going on to another apprenticeship or traineeship (14.5% of trade non-completers and 6.0% of the non-trade non-completers). For the largest category in figure 10 — those who didn't complete because they left job or changed career — 26.4% went on to some form of further study, with 7.2% enrolling in another apprenticeship or traineeship.

Figure 10 Top 5 reasons for not completing an apprenticeship or traineeship, 2019 (%)

Note: 95% margin of error bars are shown on chart.
Source: NCVER (2019a).

In addition to the factors discussed above, system shocks such as a pandemic (resulting in lockdowns and restrictions on movements), affect the ability of apprentices to complete the on-the-job component and therefore complete in a timely manner. Figure 11 shows the likely impact the COVID-19 pandemic had on apprenticeship suspensions, with a marked increase shown in the first two quarters of 2020. What longer-term effects this may have on completion rates is currently not known.

Figure 11 Apprenticeship and traineeship contract suspensions by quarter, 2019–20



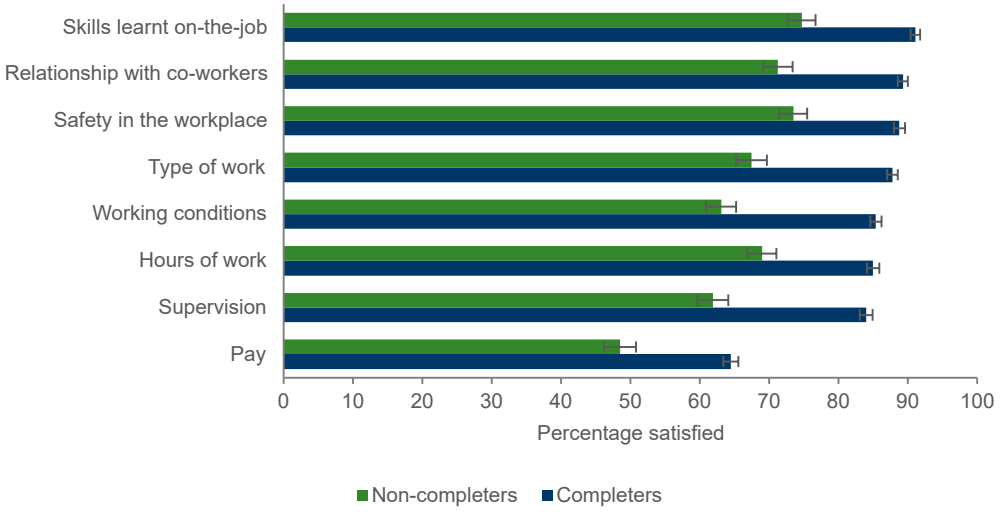
Source: NCVER Apprentice and trainee collection, September 2020.

Demographics also play a role, with evidence showing those aged 20—24 years, apprentices with a disability, those who identify as Indigenous Australians, and those training in metropolitan areas less likely to complete (Ball & John 2005). Age presents an interesting story. The Richard Review in the UK identified that those undertaking apprenticeships were increasingly older, with growth in apprenticeships 'fastest amongst those aged 25 and over' (Richard 2012, p.27). In Australia, Hargreaves, Stanwick and Skujins (2017) noted that, while completion rates for younger apprentices are on the decline, increasing numbers of adult apprentices are entering the system and their completion rates have been steadily increasing. Adult apprentices (aged 25—64 years) are also more likely to be 'undertaking training at a higher level … and more likely to complete in two years or fewer' (Hargreaves, Stanwick & Skujins 2017, p.16). In Australia, reasons cited for adult non-completion relate to family or personal situations, not dissimilar to other countries. In Canada, older apprentices are actually less likely to complete, in part for family and financial responsibilities, but, because they already have significant work experience, this cohort can find work even when they don't complete an apprenticeship (Smith & Brennan Kemmis, 2013).

Supports to aid completion

There are several key elements directly linked to successful completions. These include having access to an on-the-job training experience, enjoying the job, experiencing a range of work tasks, feeling happy with the quality of training, having time to practise new skills, and experiencing a positive work environment. Social inclusion and integration into the workplace are also vital, particularly getting along with colleagues, and even more importantly, getting along with the 'boss' in an effective and positive relationship (Western Australian State Training Board 2017; Jobs Queensland 2016; Bednarz 2014). Figure 12 highlights satisfaction with selected aspects of the on-the-job component of the apprenticeship or traineeship. It indicates that completers were more satisfied than non-completers for all of these aspects.

Figure 12 Satisfaction with on-the-job aspects of apprenticeships and traineeships, 2019



Note: 95% margin of error bars are shown on chart.
Source: NCVER (2019a).

For apprentices and trainees with disabilities 'social exclusion, particularly harassment and bullying, were significant barriers' (Cocks & Thoresen 2013, p.26). This highlights further the critical role these social aspects play. Successful apprenticeship outcomes also rely on support structures, with the supervising tradesperson needing to develop a strong relationship with the apprentice, and evidence shows that guidance and mentoring, especially in the early stages of the apprenticeship, can reduce attrition (Loveder 2017; European Commission Directorate-General for Employment, Social Affairs and Inclusion 2013; Cocks & Thoresen 2013). However, this can be challenging for supervisors, who, despite being knowledgeable in their trade, often don't have teaching or training experience and may not have the communication skills necessary to effectively give instructions (Bednarz 2014).

Group training organisations can help by filling the mentoring gap that employers cannot provide (Ai Group 2016; Fattore, Raffaele & Moensted 2012), enabling apprentices to speak openly, be listened to, and receive independent advice (Fattore, Raffaele & Moensted 2012). They provide the additional support (including, for example, pastoral care) necessary for apprentices and trainees to complete (O'Dwyer & Korbel 2019). Indeed, supervisor support is a high priority, as noted by attendees at 'The future of Australian apprenticeships' stakeholder forum, hosted by the National Centre for Vocational Education Research (NCVER) in 2016, at which the value of a program mentoring and training workplace supervisors to develop skills in working with apprentices and training providers was identified (Couldrey & Loveder 2017).

Where formal support networks are inadequate, informal networks and social relationships are pivotal (Cocks & Thoresen 2013). Other apprentices and co-workers can assist the apprentice to self-manage employment challenges and work tasks, while family can provide financial support to augment the low wages some apprentices receive. The latter is very important, as expenses related to undertaking an apprenticeship can be prohibitive, such as the costs of tools and equipment, and travel to both on- and off-the-job training. Travel can be particularly unaffordable for apprentices living in rural locations. For all apprentices, however, having reliable transport makes completion

easier. Collectively, these expenses can make accessing training opportunities difficult. Nevertheless, some supports are available for apprentices, for example, trade support loans (for income support) and a living away from home allowance (LAFHA). Interestingly, some research (Deloitte Access Economics 2012) showed that LAFHA did have an effect on completion rates, while the employer incentives did not.

Research suggests that support mechanisms, whether for mentoring, ensuring quality training, or providing financial incentives, should be built into the apprenticeship system, becoming a shared investment between industry and government (McDowall et al. 2011; SA Training and Skills Commission 2019).

Matching student to apprenticeship

The type of work an apprentice does throughout their training, or the suitability or 'fit' of the apprentice, can impact on outcomes significantly. Suitability includes learning motivation, level of interest in the type of work, attitude, commitment to and passion for the work, existing skills and knowledge, previous work experience, prior level of education, work style, family background, having realistic expectations, and appreciation of the pay-off at the end of the apprenticeship (Dickie, McDonald & Pedic 2011; Jobs Queensland 2016; Nelms et al. 2017; Rexe, 2012). Matching student interest and disposition to careers is crucial (Couldrey & Loveder 2017), yet in the past very little information about apprenticeships has been provided to school students and students were often discouraged from pursuing this pathway (McDowell et al. 2011).

Matching the 'right' person to the 'right' employer is also crucial, highlighting the importance of career counselling and pre-employment training, such as pre-apprenticeships, which give students a taste before committing to the apprenticeship. This exposure provides students with a clear understanding of the trade (Misko & Wibrow 2020; Laundy et al. 2016), helping to reduce mismatches between expectations and reality (Jobs Queensland 2016).

Pre-apprenticeships can also play a role in screening and recruitment processes, assisting employers to find willing and capable candidates. Even though they have had varied success and varied completions, which are often dependent on the type of industry (Karmel & Oliver 2011), a recommendations paper by the South Australian Training and Skills Commission (2019) noted that industry is interested in working with government to develop effective pre-apprenticeship programs.

Factors related to organisational size

Aspects of the employing organisations, such as size, structure, budget and training culture, can have some impact on apprenticeship outcomes. Smaller organisations are more susceptible to work fluctuations, and the resource impacts of supervising and training apprentices while keeping the business running can have a significant cost. They face several challenges participating in the apprenticeship system and require more support to ensure that their apprentices complete. Research shows that the financial impact on small businesses is often a deterrent (Bednarz 2014). Larger organisations, especially those that can take on multiple apprentices simultaneously, often view apprentices as future employees, worth investing in, and are more capable of bearing up-front costs. They have well-organised administration and the capacity to provide apprentices with a variety of work, in-company mentoring and support, and, importantly, have formal strategies to address workplace issues or conflicts potentially leading to non-completion (Jobs Queensland 2016).

Flexibility of the system

Research indicates that employers believe completions could be increased if the rigidity of the apprenticeship system was also addressed. More flexibility, especially in terms of program duration, and alternative pathways could fast-track apprentices into the labour market. Having options to complete the qualification in less time would motivate students to undertake an apprenticeship (Dickie, McDonald & Pedic 2011; Owen 2016). This may involve: extending the off-the-job training year; taking advantage of recognition of prior learning, which is underutilised by trade apprentices (Hargreaves, Stanwick & Skujins 2017); and establishing systems that allow apprentices to progress based on competency achieved rather than time served (Ai Group 2016; Couldrey & Loveder 2017).[7]

7 See, for example, the Australian Accelerated Apprenticeships Initiative Program, mentioned earlier.

INCENTIVES AND OTHER GOVERNMENT SUPPORT

A broad range of incentives and other supports have been introduced to help increase participation and completion of apprenticeships. These include financial incentives, professional development programs for supervisors, trial mentorships, and advisory programs for apprentices (Owen 2016). Incentives have always aimed to boost commencement, retention and completions in areas of skills shortage across Australia.

Various incentives and supports are available through the Australian Government and also state and territory governments. At the Australian Government level, these include the Australian Apprenticeships Incentives Program; trade support loans for trade apprentices; living away from home allowance; commencement and completion grants for apprentices and employers in certain occupations experiencing skills shortages; and support through the Australian apprenticeship support networks. States and territories also provide some employer incentives (including state tax rebates and exemptions) as well as higher rates of subsidy for some courses undertaken as an apprenticeship, and travel and accommodation related-supports (Burke forthcoming).

The Australian Apprenticeships Incentives Program has been vital for encouraging apprenticeship opportunities and participation (Laundy et al. 2016). However, Bednarz (2014) noted that the attraction to incentives is nuanced, with some employers finding them more valuable than do others. Interestingly, incentives were seen to be more important to employers with low retention rates of apprentices and trainees than those with high retention rates. Furthermore, the econometric review on apprenticeship incentives by Deloitte Access Economics (2012) indicated that, while incentives have been effective in terms of increasing commencements, they were also associated, with some exceptions, with an increased likelihood of cancellation and a decreased likelihood of completion. A reform to the incentives program was subsequently undertaken to simplify and better target the payments. As was seen earlier, this had a large effect on non-trade apprenticeships and traineeships.

It is important to provide some context to these changes to incentives. Existing worker apprenticeships and traineeships were introduced in 1998 when the Commonwealth Government abolished the requirement for trainees to have been with the same employer for no more than three months to qualify for employer incentives (Noonan & Pilcher, 2017). This resulted in an explosion in number of these existing worker traineeships (Burke, forthcoming). As Noonan and Pilcher (2017) pointed out, these people were already employed when they were 'signed up'. It was clear that there were issues from early on.

Firstly, reviews by Kaye Schofield found quality issues with existing worker traineeships in reports done around the turn of the century. For example, Schofield (1999), in a review of the quality of traineeships in Queensland, found inadequacies in quality assurance and abuse of the training system that did not result in any benefits to many trainees. An example of this was that it appears that the incentives were being used by some employers to fund in-house training programs.

Secondly, NCVER (2010) and Knight (2012) point out that incentives offset only a very small proportion of the costs for trade apprenticeships (which are largely not existing workers), but that for some traineeships, for example in retail and hospitality, they contribute an implicit wage subsidy of up to 20%. This tends to indicate that this type of incentive support functions as a labour market program. Indeed, Schofield(1999, p. 50) noted that the traineeships were 'in many cases a de facto source of wage subsidies to firms'.

As mentioned, there was significant reform to the incentives program following recommendations by McDowell et al (2011) with figures 1 and 2 clearly indicating that non-trades apprenticeship commencements declined considerably after the withdrawal of incentives in July 2012. Just before the decline, though, there was a significant increase in commencements upon the announcement of the intention to withdraw government incentives for existing worker traineeships (with employers taking advantage of the incentives while they could). Pfeifer (2016) noted in a study on firms' motivations for training apprentices that, in Australia, particularly in the non-trades, a production model of training (substitution of regular workers) is used, as opposed to an investment model, such as is the case in Germany. This means that employers, particularly in non-trade areas, are less likely to take on apprentices and trainees if the financial incentives are not there.

Apprenticeships are the main part of VET in Australia where the number of people in training are determined by employers. Incentives are only part of the reason why employers take on apprentices, particularly in the trades, since incentive payments rarely offset the cost of supervision. The main reasons employers hire apprentices include: requiring skilled staff, upskilling existing staff, filling specific roles, and training new staff to their own specific requirements. Support from employers for apprentices and trainees is vital (Productivity Commission 2020; Bednarz 2014).

From the perspective of the apprentice, broad-based employer incentives do not guarantee quality on-the-job training or extra services by employers, and for governments there is no guarantee that provision of incentives will result in consistent employer investment in training (McDowell et al. 2011). The effectiveness of incentives has been found to relate to: the specific occupations, skills levels or demographics of the incentive (the target group); the structure of the incentive, conditions and qualifications; the economic space in which the incentive exists; and the dollar value (Jobs Queensland 2016).

There is no 'one size fits all' approach to apprenticeship support, particularly in regard to areas of skills shortages. Government policy changes and settings across all jurisdictions that prioritise and apply incentives and subsidies consistently are credited with contributing only partially to relative stability in the demand for trade apprenticeships over the past 15 years. Changes observed in this demand can be linked to the prevailing economic conditions, the challenge of providing opportunities when work is less available, and where economic growth occurs in areas not traditionally linked to apprenticeships. This includes adult apprentices, whose numbers have been declining after steady growth over a decade ago, likely in response to changes in incentive arrangements for this cohort (Ai Group 2016; Misko 2020; Misko & Wibrow 2020; Hargreaves, Stanwick & Skujins 2017).

It has been suggested that targeting employers with strong histories of accepting apprentices, as well as expanding eligibility for Commonwealth incentives under the Additional Incentive Skills Shortage (AISS) payment, would improve the usefulness of these incentives (Misko 2020; Misko & Wibrow 2020). In addition, a better understanding of which funding vehicles support specific skill development and better integration of existing programs across government would increase access to government incentives and support (Laundy et al. 2016).

INTERFACE BETWEEN APPRENTICES AND TRAINING PROVIDERS

Central to the apprenticeship model is an integration of on- and off-the-job training, and an established contract between employers, apprentices, and training providers (Hargreaves, Stanwick & Skujins 2017). As mentioned earlier, numerous other stakeholders are also involved in the apprenticeship system. A combination of on- and off-the-job training, with strong collaboration between all involved in this complex system, has been proved to be essential for the development of the skills, attributes, behaviours, and foundational knowledge in apprentices. Research shows this combination of on- and off-the-job training is working well (Misko & Wibrow 2020). This, of course, also relies on apprentices who can undertake training effectively, with literacy and numeracy difficulties having been identified as significant challenges for trainers (Bednarz 2014).

Where on-the-job training provides real-world experience, the off-the-job training provided by RTOs plays an important role in imparting the underpinning theory, broad skills and knowledge in trades. Benefits are seen in reinforcing and further learning of technical skills; understanding the reasoning and purpose of process and tasks; grasping workplace legislation and regulations; having the time to complete practical and written tasks outside the workplace; and connecting to peers. A high level of satisfaction with off-the-job training has been noted throughout the research, and many apprentices also go on to undertake more study; in both cases this is irrespective of whether they complete their qualification or not (Misko, Gu & Circelli 2020; Misko & Wibrow 2020). The 2019 ATED showed that 88% of apprenticeship completers were satisfied with the off-the-job training (by comparison with 63% of non-completers).

There have also been calls for alternative models, such as providers taking on apprentices for an extended period of training off the job prior to the apprentices undertaking a period on the job, resulting in less supervision being required and increased productivity in the workplace (Bednarz 2014).

Employers, although generally happy with the off-the-job training, report challenges associated with releasing apprentices to attend training outside the workplace, and some improvements could be made. Scheduling training around work demands can be difficult, particularly given that block training models appear to have superior learning in the practical components of training (Misko & Wibrow 2020; Owen 2016). Quality and alignment of training and assessment can also be problematic, and off-the-job training needs to be closely matched with what is being learned in the workplace, particularly in the case of the increasing specialisations in some industries (Misko & Wibrow 2020). Studies show that greater collaboration between industry and training providers in designing courses would ensure that training content is relevant and of a high standard, incorporates technological advances, and is better linked to current labour market needs (Jobs Queensland 2016; Loveder 2017; West Australian State Training Board 2018), while RTOs say they want industry to tell them what they need (NCVER 2019b).

RELEVANCE AND FUNCTION

Throughout the literature, any form of apprenticeship that assists school leavers to transition from school to a skilled occupation and provides existing workers, including those with no prior qualifications, with a path to improved work prospects is generally met with approval; this approach remains pre-eminent as a major training pathway and fulfils a critical role in meeting skills demands in Australia (Ai Group 2016; Fattore, Raffaele & Moensted 2012; Misko, Gu & Circelli 2020; Misko & Wibrow 2020).

Traditional trade apprenticeships, with their industry-recognised and endorsed training, are seen as maintaining quality outcomes. The results are clear, in the direct employment benefits to those who complete and gain a qualification, particularly those entering the workforce for the first time. Ongoing employment and, ultimately, a trade occupation are cited amongst the main reasons for starting this type of apprenticeship. Trade apprenticeships are also the only path to targeted skills development into the trades for some occupations (Productivity Commission 2020; Laundy et al. 2016; Misko, Gu & Circelli 2020).

As the skills needs of the economy change, effective and relevant skill formation is vital. Sectors such as engineering and the traditional trades are significantly and increasingly affected by skills shortages, particularly given the length of time required to complete apprenticeships, which can result in skills shortages becoming entrenched (Productivity Commission 2020; McDowell et al. 2011). This may require some rethinking of the traditional model.

Suitability for the twenty-first century

Despite the positives linked to traditional trade apprenticeships, questions are being raised about whether the current model should be revisited, with a view to reforming and better aligning it with twenty-first-century contexts. Figure 5 demonstrates that apprenticeships and traineeships need to be fit for purpose in a range of (changing) contexts.

Apprentices expect recognition of skills demonstrated on the job, rewards for individual ability, a shortened journey through the apprenticeship, and flexibility through e-learning. Traditional models using a 'time served' construct are seen as irrelevant and unattractive (Owen 2016). Indeed, many apprentices have demonstrated a clear understanding of the skills required in the workplace, bringing their skills and work experience to the apprenticeship; they know assessment is competency-based and want recognition and progression to reflect their prior skills and experience (Dickie, MacDonald & Pedic 2011).

A call for alternative models permeates the research, reflecting a system that displays weaknesses, particularly for small employers with a limited capacity for formalised apprenticeship training (Bednarz 2014; Productivity Commission 2020). For adult apprentices, there is a need for more training options. Adult apprentices are also attracted to alternative training models, such as those that use recognition of prior learning and flexible pathways, which enables the completion of programs in shorter timeframes (Hargreaves, Stanwick & Skujins 2017).

The main question for VET is how to train for now — and for the future. Broader initiatives are underway and improvements in the system have already been made to meet fluctuating labour market demands and provide training to address current and potential skills needs (Hargreaves, Stanwick & Skujins, 2017). Access to technology training is a particularly important aspect of this and requires collaboration between employers and training providers, particularly if this training is to be relevant to and mirror actual workplace situations. Technological developments

such as Industry 4.0 highlight an increasing demand for better and more up-to-date alignment of skills to industry needs, requiring many current workers to also upskill into new jobs and roles. Industry 4.0 has also seen the rise in demand for higher apprenticeships, which are underpinned by a higher skills base. In equal need of attention is the significant rise in demand for increased non-technical skills, including employability skills, socio-emotional and transferable skills (Loveder 2017). Ai Group (2021) has called for more higher-level skills apprenticeships in light of the digital economy, noting also that a range of new priority occupations should be recognised (presumably by government) to increase participation in these apprenticeships with higher skills levels.

In other countries, higher apprenticeships, particularly those containing advanced-level training, show indications of responding to the changing skills needs of expanding high-skills industries. With higher completion rates, more employable graduates, better long-term staff retention and strong return on investment for governments, these apprenticeships are an attractive alternative. However, significant challenges are involved in changing perceptions about university and VET pathways, with sectoral boundaries also needing to be reconsidered and RTOs facing changing policy and funding models (Loveder 2017). Flexibility to fully support employers, individuals and training organisations to facilitate the delivery of alternative apprenticeship models involves more than structural change within VET and requires broad systemic flexibility at a national level. This includes reforms in workplace relations, defining the responsibilities of different governments and ensuring industry acceptance in relation to these models (Laundy et al. 2016).

In summary, adaptations and alternatives to the historical apprenticeship model to accommodate the modern environment include:

- shortening the length of apprenticeships and traineeships by various means, including facilitating competency-based progression, greater use of RPL and greater use of e-learning
- front-loading so that the off-the-job training component is completed by the apprentice before the employment contract begins
- establishing higher-level apprenticeships to meet the needs of high-skills industries.

It is to be noted that these types of adaptations and approaches are already occurring, although perhaps not to the extent they might. They may also well have implications for industrial relations and award conditions.

GAPS AND FURTHER RESEARCH

Gaps in knowledge about apprenticeships and traineeships in Australia remain, meaning there are areas ripe for further research. Below are some issues where more work could be conducted:

- an examination of international and Australian work on the training and certification of workplace supervisors. Are there any 'good practice' examples? The examination would also look for evidence on whether the training/certification reduces attrition and thereby increases completions in apprenticeships and traineeships
- further research on how to move apprenticeships from a 'production' to 'investment' model. This would include an investigation of research around incentives and the extent to which they encourage a 'production' or 'investment' model of apprenticeships
- related to the above, research relating to shorter-duration apprenticeships and the effect on employers' return on investment (ROI) from the training; that is, how short should short be? Previous work from the International Labour Organization indicated that, on average, employers only began to see ROI after 18 months into an apprenticeship
- a synthesis of international 'best practice' case studies on how countries are modernising apprenticeships in line with the context of the twenty-first century, for example, the rise of industry 4.0
- the impact of firm size on the uptake of apprenticeships and traineeships, attrition and completion rates
- the differences in outcomes of apprenticeships and traineeships between new and existing workers. The analysis could also be extended further, to completing and non-completing new and existing workers.

REFERENCES

Ai Group (Australian Industry Group) 2016, *Making apprenticeships work*, Sydney, viewed 4 May 2021, <http://cdn.aigroup.com.au/Reports/2016/15160_apprenticeships_policy_full.pdf>.

——2020, *An apprenticeship model for the modern economy*, Sydney, viewed 16 July 2021, <https://www.aigroup.com.au/policy-and-research/mediacentre/releases/backgrounder-apprenticeship-model-25Nov/>.

——2021 *Skills urgency — transforming Australia's workplaces*, Sydney, viewed 21 July 2021, <https://www.aigroup.com.au/policy-and-research/mediacentre/releases/CET-action-on-skills-28Apr/>.

Atkinson, G & Stanwick, J 2016 *Trends in VET: policy and participation*, NCVER, Adelaide.

Ball, K & John, D 2005 *Apprentice and trainee completion rates*, NCVER, Adelaide.

Bednarz, A 2014, *Understanding the non-completion of apprentices*, NCVER, Adelaide, viewed 4 May 2021, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/understanding-the-non-completion-of-apprentices>.

Burke, G (forthcoming) *Funding vocational education in Australia: 1970 to 2020*, Landmark documents, historical overviews, NCVER, Adelaide.

COAG (Council of Australian Governments) 2012, *'National Partnership Agreement on Skills Reform'*, COAG, Canberra.

Cocks, E & Thoresen, S 2013, *Barriers and facilitators affecting course completions by apprentices and trainees with disabilities*, NCVER, Adelaide.

Couldrey, M & Loveder, P 2017, *'The future of Australian apprenticeships: report of the stakeholder forum'*, paper presented at the Future of Australian Apprenticeships Stakeholder Forum, viewed 4 May 2021, <https://www.ncver.edu.au/publications/publications/all-publications/the-future-of-australian-apprenticeships-report-of-the-stakeholder-forum>.

Deloitte Access Economics 2012, *Econometric analysis of the Australian Apprenticeships Incentives Program*, DAE, Canberra.

Dickie, M, McDonald, R & Pedic, F 2011, *A fair deal: apprentices and their employers in NSW: integrated research report*, BVET, Sydney.

European Commission Directorate-General for Employment, Social Affairs and Inclusion 2013, *Apprenticeship and traineeship schemes in EU27: key success factors: a guidebook for policy planners and practitioners*, European Commission, Brussels, viewed 4 May 2021, <https://ec.europa.eu/social/BlobServlet?docId=11348¤Id=en>.

Fattore, T, Raffaele, C & Moensted, M 2012, *Effective mentoring, pastoral care and support for apprentices and trainees in group training*, Group Training Australia, Sydney.

Hargreaves, J, Stanwick, J & Skujins, P 2017, *The changing nature of apprenticeships: 1996—2016*, NCVER, Adelaide, viewed 4 May 2021, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/the-changing-nature-of-apprenticeships-1996-2016>.

Jobs Queensland 2016, *Positive futures: apprenticeships and traineeships in Queensland: discussion paper*, Jobs Queensland, Ipswich, viewed 30 April 2021, <http://jobsqueensland.qld.gov.au/wp-content/uploads/2017/01/jobs-qld-positive-futures-discussion-paper1.pdf>.

Karmel, T & Oliver, D 2011, *Pre-apprenticeships and their impact on apprenticeship completion and satisfaction*, NCVER, Adelaide.

Knight, B 2012 *Evolution of apprenticeships and traineeships in Australia: an unfinished history*, NCVER, Adelaide.

Laundy, C, Lindgren, J, McDougall, I, Diamond, T, Lambert, J, Luciani, D & De Souza, M 2016, *Apprenticeships Reform Advisory Group: recommendation report*, Department of Education and Training, Canberra.

Loveder, P 2017, *'Australian apprenticeships: trends, challenges and future opportunities for dealing with Industry 4.0'*, paper presented at the 4th KRIVET International Apprenticeships Conference, viewed 4 May 2021, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/australian-apprenticeships-trends-challenges-and-future-opportunities-for-dealing-with-industry-4-0>.

McDowell, J, Oliver, D, Persson, M, Fairbrother, R, Wetzlar, S, Buchanan, J & Shipstone, T 2011, *A shared responsibility: apprenticeships for the 21st century*, DEEWR, Canberra.

Misko, J 2020, *Traditional trade apprenticeships: training activity, employer incentives and international practice*, Traditional trade apprenticeships, no. 1, NCVER, Adelaide, viewed 22 April 2021, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/traditional-trade-apprenticeships-training-activity,-employer-incentives-and-international-practice>.

Misko, J & Wibrow, B 2020, *Traditional trade apprenticeships: learnings from the field*, Traditional trade apprenticeships, no. 2, NCVER, Adelaide, viewed 22 April 2021, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/traditional-trade-apprenticeships-learnings-from-the-field>.

Misko, J, Gu, Z & Circelli, M 2020, *Traditional trade apprenticeships: experiences and outcomes*, Traditional trade apprenticeships, no. 3, NCVER, Adelaide, viewed 22 April 2021, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/traditional-trade-apprenticeships-experiences-and-outcomes>.

Misko, J, Nguyen, N & Saunders, J 2007, *Doing an apprenticeship: what young people think*, NCVER, Adelaide.

Naidu, R, Stanwick, J & Frazer, K (eds) 2020, *Glossary of VET,* NCVER, Adelaide, viewed 5 July 2021, <https://www.voced.edu.au/vet-knowledge-bank-glossary-vet>.

Nechvoglod, L, Karmel, T & Saunders, J 2009, *The cost of training apprentices*, NCVER, Adelaide.

Noonan, P & Pilcher, S 2017, *Finding the truth in the apprenticeships debate*, Mitchell Institute report, no.03/2017, Mitchell Institute, Victoria University, Melbourne.

NCVER (National Centre for Vocational Education Research) 2010 *Report 1: overview of the Australian apprenticeship and traineeship system*, Expert Panel, Australian Government, Canberra.

——2019a, *Apprentice and trainee experience and destinations 2019*, Australian vocational education and training statistics, NCVER, Adelaide.

——2019b, *Higher apprenticeships in Australia: what are we talking about?*, NCVER, Adelaide, viewed 4 May 2021, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/higher-apprenticeships-what-are-we-talking-about>.

——2020a, *Historical time series of apprenticeships and traineeships in Australia, from 1963:* Australian vocational education and training statistics, NCVER, Adelaide.

——2020b, *National Student Outcomes Survey*, unpublished data, NCVER, Adelaide.

——2021a, *Students and courses*, Databuilder product, NCVER, Adelaide.

——2021b, *Completion and attrition rates for apprentices and trainees 2020*, Australian vocational education and training statistics, NCVER, Adelaide.

Nelms, L, Yuen, K, Pung, A, Farooqui, S, Walsh, J & Karmel, T 2017, *Factors affecting apprenticeships and traineeships*, Research report (Fair Work Commission), no. 3/2017, Fair Work Commission, Melbourne, viewed 14 May 2021, <https://www.fwc.gov.au/documents/sites/wagereview2017/research/apprenticetrainee.pdf>.

O'Dwyer, L & Korbel, P 2019 *Completion rates for group training organisations and direct employers: how do they compare?*, NCVER, Adelaide.

Owen, M 2016, *Giving apprentices a say in their future*, NCVER, Adelaide.

Pfeifer, H 2016, *Firms' motivation for training apprentices: an Australian-German comparison*, NCVER, Adelaide.

Productivity Commission 2020, *National Agreement for Skills and Workforce Development Review*: study report, Productivity Commission, Canberra, viewed 4 May 2021, <https://www.pc.gov.au/inquiries/completed/skills-workforce-agreement/report>.

Rexe, D 2012, *The trades education pipeline in Canada: a critical review of the retention and completion literature on apprenticeship*, Simon Fraser University, Burnaby, viewed 4 May 2021, <https://sites.educ.ualberta.ca/staff/ldelia/Rexe2012.pdf>.

Richard, D 2012, *The Richard review of apprenticeships*, School for Startups, London, viewed 22 April 2021, <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/34708/richard-review-full.pdf>

Schofield, K 1999, *Independent investigation into the quality of training in Queensland's traineeship system: final report*, Department of Employment, Training and Industrial Relations, Brisbane.

Smith, E & Brennan Kemmis, R 2013, T*owards a model apprenticeship framework: a comparative analysis of national apprenticeship systems*, International Labour Organisation and World Bank IBRD, New Delhi, viewed 4 May 2021, <http://www.ilo.org/public/libdoc/ilo/2013/483198.pdf>.

South Australia Training and Skills Commission 2019, *Future-proofing the South Australian apprenticeship and traineeship system:* recommendations paper 2019, TASC, Adelaide, viewed 23 April 2021, <http://www.tasc.sa.gov.au/DesktopModules/Bring2mind/DMX/Download.aspx?Command=Core_Download&EntryId=866&PortalId=5&TabId=1047>.

Western Australian State Training Board 2017, *Growing apprenticeships and traineeships: consultation paper*, State Training Board, Osborne Park, viewed 30 April 2021, <http://www.stb.wa.gov.au/sites/default/files/stb-growing-apps-consultation-paper-aug2017.pdf>.

——2018, *Strategies to grow apprenticeships and traineeships in Western Australia: findings from the State Training Board's state-wide industry consultations*, State Training Board, Osborne Park, viewed 30 April 2021, <https://www.stb.wa.gov.au/sites/default/files/Strategies-to-grow.pdf>.

This document should be attributed as Stanwick J, Ackehurst M and Frazer K 2021, *Issues in apprenticeships & traineeships – a research synthesis*, NCVER, Adelaide.

This work has been produced by NCVER on behalf of the Australian Government and state and territory governments, with funding provided through the Australian Government Department of Education, Skills and Employment.

The views and opinions expressed in this document are those of the author/project team and do not necessarily reflect the views of the Australian Government, or state and territory governments.

IMAGES: GETTY IMAGES

ISBN 978-1-925717-82-2

TD/TNC 144.24

Published by NCVER ABN 87 007 967 311

Level 5, 60 Light Sqaure, Adelaide SA 5000

PO Box 8288, Station Arcade, Adelaide SA 5000, Australia

P +61 8 8230 8400 E ncver@ncver.edu.au

W www.ncver.edu.au

twitter.com/ncver

www.linkedin.com/company/ncver