Outcomes and completions of New Apprenticeships

At a glance

The series ‘research at a glance’ is produced by the National Centre for Vocational Education Research (NCVER) to disseminate, in an easily accessible format, the findings and outcomes of research in vocational education and training (VET).

This publication provides a synopsis of the issues, as identified in recent research reports, relating to non-completion of apprenticeships and traineeships. An analysis of recent NCVER data concerning non-completions has also been incorporated.

Key issues

- During the mid-1990s, non-completion rates were approximately 45% for trainees and between 23–30% for apprentices.
- Non-completion of apprenticeships and traineeships is at a level similar to workplace mobility in general.
- Completions among traditional trade occupations are high by comparison to other education sectors, and rates of labour turnover.
- Over half of all non-completers in 2000 were engaged in Clerical, sales and service occupations.
- Employment outcomes for New Apprentices are generally good, irrespective of whether they complete or not.
- Reasons for non-completion tend to be mostly employment-related, although training issues can also influence the likelihood of completion.
- Non-completions, poorer outcomes and unsatisfactory employment and training experiences appear to be concentrated within particular groups and occupational areas.
Introduction

Apprenticeships and traineeships have long been a major source of skilled labour for Australian business, particularly within the trades areas. With the reform and expansion of the apprenticeship and traineeship systems over the 1990s, and especially the introduction of New Apprenticeships in 1998, apprenticeships and traineeships have taken on an even more prominent role within the Australian vocational education and training (VET) arena. Against this background of rapid change and growth, concern has been raised about apparent levels of non-completion of apprenticeships and traineeships, and a wide range of research has been conducted into this issue in recent years.

What is ‘completion’?

Before examining levels of ‘completion’ (or non-completion), it is important to understand what a ‘completion’ entails. Completing an apprenticeship, traineeship or New Apprenticeship has a number of dimensions which complicates both the measurement issue and, more importantly, the awarding of qualifications and testaments to apprentices, trainees or New Apprentices.

A successful completion requires three different steps to be taken. These steps are:

- completion of the formal off-the-job requirements of the New Apprenticeship (that is, obtaining the qualification of the New Apprenticeship)
- completion of the indenture period of the New Apprenticeship (that is, remaining in the New Apprenticeship for the full indenture period of the contract of training and meeting the on-the-job requirements as endorsed by the employer)
- once both of these requirements have been met, notification to the State/Territory training authority of the successful completion of the contract of training by the New Apprentice, together with provision of required evidence of the successful completion of the New Apprenticeship

The administrative requirements can be substantial, and there is a number of issues which can ultimately hinder the reliable calculation of non-completion rates (see ‘Data and technical issues’ on p.4).

Non-completions in context

The issue of New Apprenticeship non-completion can be a complex one, and needs to be considered against the changing nature of the apprentice and trainee system over the latter part of the 1990s. Since the growth which occurred over this time was distributed disproportionately between occupation categories and types of training contracts (that is, of varying duration), any analysis of non-completion numbers or rates needs to consider a wide range of variables.

Analysing completions out of context can give misleading results, an example of which can be illustrated by considering the large increase in
the number of apprenticeship and traineeship completions between 1995 and 2000. The number of completions actually increased at a rate in excess of the overall in-training numbers. However, the major proportion of the New Apprenticeship growth between 1995 and 2000 was in non-trades apprenticeships and traineeships, which typically have shorter contracts of training than do traditional trades occupations. The increase in the number of completions was therefore not related to any improvement in completion performance, but to the greater number of shorter duration contracts of training over this time.

The issue is also complicated somewhat by considering that an individual may ultimately 'complete' through a number of different pathways. For example, they may start and finish with the same employer; they may terminate their training with one employer and then finish their New Apprenticeship with a different employer, or they may withdraw from a contract and then recommence in a different contract in a new occupation. This may result in a number of different analytical perspectives, where it may be possible to derive rates according to either completion of contracts, or the completion of individuals.

Generally, however, it is the rate of non-completion of individuals, and the areas where non-completion is most problematic, which are of most interest to stakeholders. It is these considerations which are likely to have the greatest relevance to outcomes for New Apprentices, and the future supply of skills to industry.

Calculating non-completion rates

The calculation of apprentice and trainee non-completion rates has historically proved to be an inexact science, and has been the subject of ongoing development and investigation.

A number of recent reports has used various methods of calculating and describing apprentice and trainee completion rates at the State level (for example, Callan 2000; Schofield 1999a, 1999b, 2000a, 2000b; Smith 1998). However, analysis of the methods used in these reports reveals that attrition was most likely being overestimated, mainly because of the way data relating to ‘recommencements’ and ‘expired contracts’ were accounted for.

The most ideal methods of estimating completion or non-completion rates and which capture the true outcomes of individual apprentices or trainees1 are those using longitudinal studies. As shown in Table 1, research of this kind has found that the rate of non-completion for trainees averaged around 40% from the mid-1980s to the early 1990s, then rose to nearly 45% in the mid-1990s. The rate of non-completion was reported as lower for apprenticeships, suggesting that apprenticeship non-completions were within the 23–30% range.2

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Year of commencement</th>
<th>Completions (%)</th>
<th>Non-completions (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Traineeships Scheme(1)</td>
<td>1985–93</td>
<td>61</td>
<td>39</td>
</tr>
<tr>
<td>Traineeships(1)</td>
<td>1995</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Traineeships(1)</td>
<td>1996</td>
<td>57</td>
<td>44</td>
</tr>
<tr>
<td>Traineeships(1)</td>
<td>1997</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>Apprenticeships(1)</td>
<td>various</td>
<td>76</td>
<td>24</td>
</tr>
<tr>
<td>Apprenticeships(1)</td>
<td>1994–95</td>
<td>73–77</td>
<td>23–27</td>
</tr>
<tr>
<td>Apprenticeships(1)</td>
<td>1995–96</td>
<td>70–74</td>
<td>26–30</td>
</tr>
</tbody>
</table>

(a) See Grey, Beswick and O’Brien (1999) for a detailed explanation of the methodology used to derive these estimations. 
(b) See Lamb, Long and Malley (1998) for a detailed explanation of the methodology used to derive this estimate. 
(c) See Ray et al. (2000) for a detailed explanation about the methodology used to derive these estimates. 
Source: NCVER, Australian apprenticeships Facts, fiction and future, 2000

1 To date, the best in-depth analyses of attrition and completion rates available which use these methods were undertaken, for apprentices, by the Australian Council for Educational Research (Lamb, Long & Malley 1998) and the Department for Education, Training and Youth Affairs (Ray et al. 2000), and, for trainees, by the Department of Education, Training and Youth Affairs (Grey, Beswick & O’Brien 1999).
2 Ray et al. (2000) only had two- and a-half years of apprenticeship data for analysis. They assumed all contracts which had not been reported as cancelled or withdrawn at this time would be reported as a completion. It is now known that a significant number of contracts will have no final status reported and be classified as expired. Failure to account for these expired contracts results in overstated rates of completion. NCVER is currently undertaking further research on this issue.
While it has been possible to calculate indicative apprenticeship and traineeship completion and non-completion rates, there have been technical issues associated with the recording of non-completion data that have effectively prevented any research on this issue from being truly definitive.

Some previous attempts at non-completion rate calculation only considered data which reported commencements and completions, neglecting to take account of the impact of ‘recommencements’ (where an apprentice or trainee withdraws from a contract of training then recommences with another employer). This had the effect of exaggerating non-completions, and producing misleading overall findings.

There have also been problems since the late 1990s in distinguishing between what have traditionally been known as ‘apprentices’ and ‘trainees’. Changes relating to the identification of apprenticeships and traineeships within the Australian Standard Classification of Occupations (ASCO), and to the duration of apprenticeships and traineeships, have meant that time-series analyses of the separate groups have become problematic, and it has also become difficult to compare non-completion characteristics between the two groups.

One of the biggest problems facing the reporting and analysis of non-completions is the issue of expired contracts; that is, contracts that reach their expected completion date without any information regarding their outcome (for example, withdrawal, cancellation, suspension or successful completion) being reported. In 2000, NCVER conducted an investigation into the effect of ‘expired’ contracts on data reporting which revealed that as many as 20% of New Apprentice commencements ‘expire’, resulting in completions being understated by as much as 15–20% nationally. This means that cancellations and withdrawals may also have been understated by as much as 15–20% nationally (varying across jurisdictions).

NCVER is seeking to address the problems caused by expired contracts, and will undertake another survey in June 2002 using improved methodology. This will involve surveying a sample of apprentices and trainees who were expected to complete in the 18 months to December 2001. It is anticipated that the resulting information will be used mainly to gauge the amount of under-reporting of completions and non-completions resulting from expired contracts, and to determine whether much has changed since the 2000 study.

Non-completion by occupation and type of employer

Analysis of NCVER data has shown that the majority of non-completions occur within non-trades occupations. Although nearly half of all New Apprentices in training at 30 June 2000 were in trades occupations, they accounted for less than one-quarter of the non-completers in the sample data.

The majority (65%) of non-trades non-completers were in the Clerical, sales and service workers (incorporating both ‘elementary’ and ‘intermediate’) occupation group, and the Labourers and related workers occupation groups (51% and 14% respectively). Over three-quarters of the non-completers aged over 25 years were in these occupation groups.
Within these major occupation groups, sales workers (elementary and intermediate) accounted for over one-quarter of all non-completions in the sample group, yet made up only 12% of all New Apprentices. Service and clerical workers were also over represented, as were cleaners and labourers (table 3).

Non-completion among ‘trades’ occupations

The trades occupations where non-completion was more prevalent differed according to the sex of the New Apprentice. For males, the occupations where the discrepancy was greatest between the proportion of non-completers in that occupation compared with the proportion of New Apprentices in that occupation, were (in order): cooks; meat tradespersons; plumbers; and bakers and pastry cooks. For females the occupations where the discrepancy was highest were: cooks; clothing tradespersons; vehicle body makers; and meat tradespersons.

While this analysis does not take into account the occupations where most non-completions occurred, it does show the occupations where a disproportionate amount of non-completions occurred.
Non-completions according to employer type

Although some previous research has found that apprentices and trainees employed by group training companies were less likely to complete their contract of training (see ‘Characteristics of non-completers’ on p.8), this has not been supported by analysis of recent data for this sample group. Private sector employers experienced a proportion of non-completers slightly higher than their overall apprentice and trainee population share, but all other employers fared pretty much as would be expected, given their respective share of the New Apprentice population.

<table>
<thead>
<tr>
<th>Employer Type</th>
<th>Percentage of Total (Non-completions)</th>
<th>Apprentices and trainees in training as at 30 June 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private sector</td>
<td>82.5%</td>
<td>80.5%</td>
</tr>
<tr>
<td>Group training</td>
<td>14.0%</td>
<td>13.8%</td>
</tr>
<tr>
<td>Government</td>
<td>3.4%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Not elsewhere classified</td>
<td>0.2%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Total %</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total ('000)</td>
<td>52.0</td>
<td>277.3</td>
</tr>
</tbody>
</table>

Source: NCVER Contracts of training data, September 2001

Reasons given for non-completion

The reasons for non-completion can be both complex and unique, and are likely to be the result of a combination of factors, many of which may be personal or influenced by a matrix of extenuating circumstances. Harris et al. (2001) recognised that factors which influence the process of retention are both interrelated and cumulative; that is, it was often the weight of multiple negative factors which ultimately led to an apprentice or trainee failing to complete their contract of training. The primary factors, as identified by recent research, are detailed below.

The employment relationship

The findings of the work by Cully and Curtain (2001a) appear to concur with the findings of the DETYA reports (Grey 1999, Ray 2000) in that it is aspects of the employment relationship, rather than the training relationship, which have the greatest impact on non-completion. Over half of the non-completers surveyed in the work by Cully and Curtain gave job- or employer-related reasons for the cessation of training. One in five were made redundant or dismissed, one in six gave reasons related to training, and one in ten left for personal reasons.

Cully and Curtain also found that the decision to separate was made, in more than half of cases, by the apprentice or trainee. However, one in four New Apprentices said the decision was forced on them (although only one in ten employers said that this was the case).

Reasons given as contributory factors in the decision to go included:

- being treated as cheap labour (almost half of all New Apprentices had this view)
- did not think their workplace was a good place to work (40%)
- not happy with their boss (40%)
- a perception that they weren’t learning anything (29%)
- being bullied at work (23%)

Research has indicated that the breakdown of the employee–employer relationship may trace its roots to the New Apprenticeship recruitment process. The motivation of New Apprentices for entering into a contract of training, as well as the motivation of employers in offering a contract of training, often determined the likelihood of success for apprentices and trainees. Cully and Curtain
Research at a glance

Traineeship attrition occurred within the first three months of a 12-month traineeship, and almost 70% of total attrition occurred within the first six months (Grey, Beswick & O’Brien 1999).

Training issues

The provision and the quality of training also appeared to be a significant factor behind the reasons non-completers gave for breaking their contract of training. Callan (2000, 2001), in his studies of Queensland apprenticeship and traineeship completions and apprenticeship and traineeship non-completions, found that non-completing apprentices and trainees were especially critical of the quality of training provided on the job, and of the performance of their employer or supervisor as a training provider. Likewise, Queensland VET providers and departmental staff in regional offices were also critical of the quality of training experiences, in particular, on-the-job training and the workplace training environment.

Cully and Curtain also noted the influence of training issues, and reported that 19% of apprentice and trainee non-completers said they did not receive any training at all (although the majority of employers contradicted these claims). It is possible that these trainees or apprentices were involved in fully on-the-job training which they may have found indistinguishable from normal everyday work. Also, for those who left early in their contract, it may have been possible that formal off-the-job training had not yet begun. Notwithstanding this, it appears that poor quality training was a factor in the employee’s decision to break the contract of training in many cases.

Vocational readiness

Research and data analysis have shown that those New Apprentices who do not complete their contract of training are more likely to have a low level of educational attainment than other New Apprentices. While education level can be a useful indicator of the likelihood of non-completion, it should also be considered that often it is the latent characteristics related to education level, such as aptitude and motivation, which have the greatest influence upon the likelihood of successful completion (Ray et al. 2000). The same qualities or problems which resulted in a low level of achievement at school, may have a similar effect upon the ability to complete a contract of training.

Grey, Beswick and O’Brien (1999) found that the rate of non-completion of traineeships was of the same order as the rate of separation from permanent jobs (for jobs of a similar type to traineeship positions) within a year of commencement. That is, just under half of all people in a new job leave that job within the first year, irrespective of whether or not they are in a traineeship. In analysing the attrition patterns for apprentices, Ray et al. (2000) found that most attrition occurred in the first three months of training, and that after six months of training, the rate at which apprentices leave slowed considerably. Likewise, approximately 40% of traineeship attrition occurred within the first three months of a 12-month traineeship, and almost 70% of total attrition occurred within the first six months (Grey, Beswick & O’Brien 1999).
Personal reasons

As with any form of employment, an apprentice or trainee may decide to withdraw from their contract of training because of personal factors. Harris et al. (2001) found that these factors may include such issues as: the status of their personal relationships; level of support from family; ability to meet financial obligations, and even such issues as access to a car or other suitable transport. While not directly connected to any specific aspect of the New Apprenticeship system, such reasons should still be considered as likely to have an effect on non-completion rates.

Characteristics of non-completers

While non-completers may come from a wide variety of backgrounds, recent research has shown that there are certain characteristics more prevalent among non-completers. Being able to identify these characteristics may assist in developing future assistance strategies, or in refining better recruitment processes. Many of the findings from this research are supported by analysis of recent NCVER data.

Two companion reports (one on apprenticeships and one on traineeships) produced by DETYA provide much of the current evidence about the characteristics of non-completers (Ray et al. 2000). These reports looked at apprentices and trainees commencing between 1 July 1994 and 30 June 1996, and all of the subsequent history (including recommencements) to these contracts up to 30 September 1997. The reports found some differences between apprentices and trainees in relation to the characteristics of non-completers, although the majority of characteristics applied to either group.

The main factors influencing non-completion of apprenticeships were found to be related to: gender, age, level of education, training with a group training company, and time of commencement of training.

In summary:

- Males were more likely to complete an apprenticeship than females, although some studies found that the reverse was true for traineeships (Grey, Beswick & O’Brien 1999; Callan 2000). Analysis of NCVER 2000 data also suggested that females were over-represented among non-completers (comprising 42% of the non-completer sample group, but only 31% of total in-training numbers in 2000).

- It appears that younger apprentices are more likely to complete their contract of training than older apprentices. The DETYA reports found that the likelihood of non-completion rose markedly for those aged 19 years and above. However, analysis of 2000 NCVER data found that only those aged 23 years and above were over-represented among non-completers.

- According to the DETYA reports, New Apprentices working in a metropolitan area had a much higher likelihood of completing their apprenticeship than apprentices working in non-metropolitan areas. However, analysis of NCVER data (2000) showed that those in rural areas were more likely to complete. The difference in findings may indicate that region may have only a marginal effect upon the likelihood of non-completion.

- The DETYA reports found that New Apprentices who commenced their contract of training during the March quarter were more likely to complete their apprenticeship when compared with other apprentices.

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3 Apprenticeships, for the purpose of this study, were defined by the States and Territories based on the declared vocation as given in the first edition of the Australian Standard Classification of Occupations (ASCO).
All studies and analyses agreed that apprentices and trainees who had completed Year 12 were more likely to complete their contract of training than those who had only completed Year 10.

The DETYA reports found that apprentices who recommenced (one or more times) had a higher likelihood of completion than apprentices who did not recommence.

Analysis of 2000 NCVER data also indicated that Indigenous people, those who spoke a language other than English at home, and those who were engaged part-time, tended to be over-represented among non-completers.

According to the DETYA reports, apprentices who were training with a group training company were less likely to complete compared with other apprentices, a finding that was later found to be misleading. The group training apprentices in the DETYA analysis were compared only with non-group training apprentices, which led to a slightly distorted and negative view of the success of group training organisations. Later research and analysis, as published in *Group training apprenticeships and traineeships in Australia* (NCVER 2001), indicated that the completion rates for group training apprentices were actually similar to the completion rates for apprentices with private employers. The greater completion rate for apprentices employed by government employers, boosted by large numbers of government apprentices at that time, served to present group training employers in a negative light when viewed at the basic ‘group training/non-group training’ level. More recent data analysis (NCVER) does not indicate that completion rates are markedly lower for group training companies.

Outcomes for non-completers

Non-completion of a New Apprenticeship cannot automatically be interpreted as a negative outcome. The major proportion of recent research relating to non-completion of apprenticeships and traineeships has found that engaging in a contract of training delivers reasonable dividends to the individual, irrespective of whether the contract is completed or not. Research has also shown that the employment outcomes for apprentices and trainees who do not complete their contract of training (after three months: 81% employed, compared to 90% for those who complete) are still better than for graduates through other institutional pathways (after six months: TAFE, 73%; universities, 67%).

Some apprentices and trainees may only need to complete part of their course in order to acquire the skills and experience to move into a position they have been seeking. In fact, many non-completers leave their contract position for what they perceive as a better job. Cully and Curtain (2001a, b) found that 73% of non-completers left their apprenticeships and traineeships for other employment, and that approximately two-thirds of these non-completers moved to a position with better pay and conditions. However, it should be noted that, as most New Apprentices were on a training wage, moving to a job with better pay may simply reflect their changed status as an employee. The research found that the remaining complement of non-completers were either unemployed (14%), continuing with their current employer (9%), or had left the labour force altogether (5%).

There is also evidence to suggest that many people commence an apprenticeship or traineeship to ‘try it out’, only to find that their true calling lies elsewhere. These people have been officially recorded as ‘non-completers’ even though they frequently took up other education and training options, or they recommenced at a later date in another apprenticeship or traineeship (often in a different occupation). Ray et al. (2000, p.9) found that, between July 1994 and June 1996, almost half of those apprentices who withdrew from, or cancelled, their contract of training subsequently recommenced. Recording and accounting for those apprentices and trainees who recommence has historically been problematic. Although the system can record recommencements, there has been a lack of consistency in the way this has been done in recent years, raising concerns over data quality and reliability. Recommenement statistics have therefore not been included in official commencement statistics since 1994.

Cully and Curtain (2001a) found that 44% of apprentices and 11% of trainees who leave their contract of training go on to recommence their contract of training with another employer. However, if the recommencement is within two years of the original withdrawal from their contract, they are not, as defined by the majority of recent research included in the non-completions data.
Which factors facilitate successful completion?

In a study which focussed on retention, Harris et al. (2001) conducted 437 interviews with apprentices and trainees, teachers/trainers and supervisors/managers in order to identify factors which contribute to retention and increase the likelihood of successful completion. This study found that (as with the factors responsible for non-completion) the factors that influence successful completion are dynamic, interrelated and cumulative, and can only be understood within the context of a particular occupational situation. Notwithstanding that, the study identified that apprentices and trainees were more likely to complete their contract of training if the following conditions were present.

**Personal**
- They have developed an interest in the occupation.
- They have medium and long-term goals for themselves in the occupation.
- They have a high level of personal maturity.
- They have the support of family/friends/partner.
- They have taken into consideration other demands on their time and energy.

**Industry/labour market**
- The qualification they are undertaking is perceived to be valuable in the public domain.
- There are few alternatives in the occupational area offering better rewards to those without qualifications.

**‘Accidental’**
- The trainee/apprentice is able to access resources to cope with changes in personal circumstances (relationships, pregnancy, injury, moving house, etc.).
- The trainee/apprentice is able to access resources to cope with changes in workplace circumstances (retrenchment, closure, takeover, etc.).

**Workplace**
- The trainee/apprentice is able to develop and use a wide range of skills and knowledge.
- Hours and demands of work are realistic and reasonable.
- Physical conditions of work are not too onerous.
- Interpersonal relationships are satisfying.
- Management and supervision are supportive.

**Training**
- The length of the contract of training is commensurate with its future rewards.
- There is a high level of integration within the training programs, both in terms of on- and off-job environments and linkages between different levels of qualifications providing a career/learning pathway.
- The trainers/teachers are seen to be experienced in the industry and efficient and supportive.
- There is some flexibility in the contract of training (for example, so that the apprentice/trainee can be relocated to another workplace if necessary).

**Outcomes**
- All parties recognise and value the skills and knowledge developed over the contract of training.
- Apprentices/trainees are supported to develop persistence over the time they are in training.
In addition to identifying these factors and conditions, Harris et al. (2001) stressed that retention is the collective responsibility of all parties involved in vocational education and training. It should be supported by institutional processes which are responsive, learner-centred, and acknowledge the unique needs and circumstances of apprentices and trainees and the contexts in which they live and work.

In view of this, the study concluded that any intervention designed to enhance retention needs to take into account:
- the occupational context in which it might be implemented
- the degree to which it addresses those factors affecting the process of retention that are most amenable to change within that context.

**Strategies for intervention**

One area commonly identified in research as needing reform and innovation was the recruitment and selection of New Apprentices. Cully and Curtain (2001) suggested the need to improve the 'fit' between New Apprentices and employers by:
- pre-engagement, personal capability assessments for New Apprentices
- clearer specification of requirements by employers
- better linkages/incentives for intermediaries and employment brokers
- more effective matching arrangements

Many of these suggestions have been addressed in recent State-level recruitment initiatives and in the development of the DETYA New Apprenticeship kit.

Other suggestions for intervention include:
- improving the in-work experience by offering post-take-up support, requiring employers to observe a fair employment standard and making the services of an ombudsman available to resolve disputes
- better assistance for older New Apprentices
- more thorough screening of potential recruits, and early intervention to facilitate recommencement with another employer when changed business conditions result in non-completion of traineeship

The incidence of non-completion, as well as its impact on future outcomes, varies across occupations and between different groups of apprentices and trainees. Government intervention to assist those more vulnerable to separation and non-completion, and at particular points in the apprentice and trainee cycle, would seem to merit greatest consideration.
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