

# **Pre-apprenticeships in Australia 2006**

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## **Abstract**

Pre-apprenticeships have been used as a quasi-labour market program in Australia for at least 50 years. There is however, no national agreement on what they are, what relationship they should have with Australian Apprenticeships or how they should be counted in the national VET statistical collection. Very little study has been undertaken on the characteristics of students doing pre-apprenticeships and whether pre-apprenticeships facilitate entry into apprenticeships. This paper reports on a national study of pre-apprenticeships conducted over 2005-06. The study encompassed data analysis of pre-apprenticeship courses and students, consultations with a range of key bodies and surveys of employers of apprentices and their apprentices. The study revealed differences in the use of pre-apprenticeships between industry sectors. It also showed a high level of satisfaction with such programs among current and former students, and a greater likelihood of former pre-apprentices intending to do post-apprenticeship studies.

## **Introduction**

Very little has been published in the Australian VET literature on the topic of pre-apprenticeships. Nevertheless, pre-apprenticeships have been in existence for many years. With growing concern over skill shortages in Australia this research study has sought to address the role of pre-apprenticeship courses in addressing skill shortages in the electro-technology, automotive and engineering trades, some of the largest trades in Australia. The principal objective of this study of pre-apprenticeships in Australia is therefore to determine whether the use of pre-apprenticeships increases the size and suitability of the supply of entrants to the traditional apprenticeships, whether retention rates in apprenticeship are influenced by the completion of pre-apprenticeship courses and whether apprenticeship completion rates are enhanced by undertaking a pre-apprenticeship.

This study examines the characteristics of pre-apprenticeships in Australia and whether they contribute to addressing shortages of skills in some of the key trades. Shortages of skilled trade level workers in Australia are currently widespread. Pre-apprenticeships represent one strategy that has been used in Australia and other countries to augment the supply of potential tradespersons. The arguments in favour of this approach have been twofold. One, a supply-side argument, is that pre-apprenticeships better prepare young people for specific industries by exposing them to the expectations of work places employing apprentices and, as well, can often provide additional educational preparation for apprenticeship study. This strategy therefore argues that pre-apprenticeships augment the total supply of applicants suitable for selection as apprentices.

The other is a demand-side argument that pre-apprenticeships can have an effect on the overall demand for apprentices, and thus eventually the number of tradespersons, by increasing employers' confidence in employing apprentices. This argument often assumes, based on studies of employer attitudes that many applicants for apprenticeships are unsuitable for immediate entry to an apprenticeship. Pre-apprenticeships therefore, by better matching the attributes of potential apprentices to the needs of employers, can increase the number of apprenticeship positions employers are willing to offer.

This study aims to determine whether pre-apprenticeships increase the potential supply, and retention and completion rates of apprentices, focusing specifically on electrotechnology, automotive and engineering students. The research cannot at this stage supply a definitive answer to the question of whether pre-apprenticeships enhance retention and completion rates in apprenticeships and subsequent transition into related trades. Nevertheless, the study has achieved a number of goals in attempting to address this and related questions, including a clearer picture of students undertaking pre-apprenticeship courses. Because the study design did not incorporate a lengthy time span, it has not been possible to track individuals from a pre-apprenticeship or other sources, then through an apprenticeship and finally into post-apprenticeship destinations.

## **Literature Review**

Identifying the precise origins of pre-apprenticeships in Australia has proven elusive, but there is evidence that such programs began in the early twentieth century and that they were common, for example, in the 1930s as part of measures to combat unemployment and were widely delivered during the 1950s and 1960s (Ray in Smart, 2001). Their existence is well documented by the 1970s and by the end of that decade measures had been taken to expand the number of pre-apprenticeship courses, (NCVER 2001). The introduction of traineeships following the recommendations of the Kirby Inquiry of 1984/85 (Kirby 1985) may have diverted interest in pre-apprenticeships towards traineeships as a means of initial engagement of young people in apprenticed trades. There were early expectations that traineeships could readily provide a pathway into apprenticeships, but in fact traineeships became popular in other sectors than the apprenticed trades, and did not greatly assist in addressing emerging skill shortages in some skilled trade areas.

Dumbrell (2003) found that, while it was not possible to identify precisely the number of pre-apprenticeships commenced in Australia, the available data seemed to indicate a decline in the usage of this pathway during the 1990s.

Providing a possible alternative to pre-apprenticeship has been the rapid growth in popularity of VET in Schools programs over the past ten years. By 2002, over 185,000 students were studying VET in schools programs, representing 44% of senior secondary students (Smith, 2004). School students may also undertake part-time apprenticeships or traineeships either as part of their school curriculum or independently (Smith & Wilson, 2002). In the December quarter 2005, 5.5% of all new apprenticeship commencements were

school-based, (NCVER 2006).

Many countries share similar concerns to Australia about encouraging young people into traditional trade occupations. Programs called “pre-apprenticeships” exist in a number of other countries; however they generally do not appear to be exactly equivalent to the Australian model. In Canada, ‘pre-apprenticeship courses’ are available in a number of provinces. In England ‘youth apprenticeships’ have been in operation since 2004 but these programs, while sharing similar aims, are more like VET in schools than Australian pre-apprenticeships, although the VET qualification is always undertaken away from school premises, and they are aimed at 14-16 year olds rather than at young people of school-leaving age.

If one major purpose of pre-apprenticeships is to improve the chances of retention in apprenticeship, then it is of importance to examine the literature on attrition and retention. Completion rates in apprenticeships have declined, although they are higher than for traineeships; for apprentices commencing in 1999 completion rates were around 60% (Ball & John, 2005: 5). Ball & John’s study detected some evidence that retention rates may be improving with apprentices commencing more recently.

While there have been many studies of this issue the story has remained quite constant. A 1990 NSW TAFE report (College Curriculum Services Unit, 1990: 6) found the following reasons for leaving their apprenticeships in a survey of separated apprentices:

- ✧ 17% lost their jobs
- ✧ 17% had poor relations with their employer/supervisors
- ✧ 14% were disillusioned with the trade
- ✧ 13% because of low wages
- ✧ 7% personal reasons
- ✧ 7% found the job boring
- ✧ 7% were generally dissatisfied with working conditions

These findings have essentially been replicated in other studies. For example, Cully & Curtain (2001:22) found that apprentices left their contracts of training more often for job-related than training-related reasons, and cited the top five reasons as ‘no longer wanted to work in that job, poor relationship, dismissed, made redundant, and transfer to another apprenticeship’. As Simons, Harris, Symons & Clayton (2001) point out, reasons for completion or non-completion reside not only in the context (the job and training), as is evidenced by studies asking apprentices why they left, but also within the individual (motivation, personal characteristics and so on). Ball & John (2005) found that younger apprentices were less likely to complete. All studies have found a marked difference among trades with the trades in the current study – electrotechnology, engineering and automotive – having higher than average completion rates.

Some of the studies made recommendations for improved retention. Callan (2000) suggested that more attention was needed to match apprentices to employers. Cully & Curtain (2001) supported this and also proposed better

monitoring of apprentices' workplace experiences. Simons et al (2001) suggested the following interventions.

- ◇ Career counselling.
- ◇ Better selection process.
- ◇ Expectations of apprenticeship to be clearly articulated.
- ◇ Need for apprentices to have 'learning to learn' skills and to know how to integrate learning from different environments.
- ◇ Curriculum in apprenticeships should link to previous programs such as pre-apprenticeship.

## **Methodology**

The methodology of this study was broken into a number of stages. Stage 1 involved an analysis of the limited literature available on pre-apprenticeships in Australia, together with a review of similar programs in a range of foreign countries. This stage also included an initial analysis of some statistical data on pre-apprenticeships, which in essence involved updating a data series from an earlier study of pre-apprenticeships undertaken by one of the authors of this present study (Dumbrell 2003). A reference group to provide expert advice on the study was also established in Stage 1.

Stage 2 involved a series of 19 structured face-to-face and telephone interviews with peak bodies, such as state training agencies, representatives of training providers and key industry groups. Interviews were either by telephone or face-to-face, with respective state training agencies in those states.

Stage 3 of the study involved a series of 10 structured interviews with training providers that deliver pre-apprenticeship courses. These interviews were conducted in NSW, Queensland and South Australia with public and private training providers.

Stage 4 of the study involved questionnaire surveys of apprentices and structured interviews with their employers. Enterprises across four states (NSW, Victoria, Queensland and South Australia) were included in the survey. Other states and territories were excluded in order to contain both travel and communication costs. Some of the employer interviews were completed through face-to-face interviews while others were undertaken via post and email. The major objective of this stage was to capture differences between apprentices who had and had not undertaken pre-apprenticeship courses. An initial list of 42 enterprises was compiled using a variety of sources including input from members of the Reference Group, published lists of members of industry bodies and other public sources. Most of these enterprises were contacted initially by telephone and, of the initial 42 enterprises listed, 23 agreed to participate in the study, including distributing the questionnaires to their apprentices and returning the completed questionnaires. These enterprises between them employed approximately 1600 apprentices across Australia. A structured interview was used in interviewing the participating enterprises and several rounds of follow up phone calls or emails occurred to seek the return of apprentice questionnaires.

The final stage of the study, Stage 5, which covers case studies and focus groups conducted with pre-apprenticeship students, will be reported on by my colleague Erica Smith later in this conference.

## **Findings and discussion**

One of the challenges of this study has been the lack of a national identifier of pre-apprenticeship courses in the national database. The researchers have found that pre-apprenticeship-type courses have various titles including pre-apprenticeships, pre-vocational and pre-employment, yet share the characteristic of preparing students for entry to a traditional apprenticeship. As a first stage in this study the national database of courses was scrutinised to identify courses which had labels identifying them as likely to be pre-apprenticeship courses. From this listing a filtered list was derived which included all courses above Certificate I level referred to as pre-apprenticeships, together with all courses that appeared to be related to traditional trade areas and bore names such as pre-vocational and pre-employment. This approach attempted to replicate the methodology used in an earlier paper by one of the authors (Dumbrell 2003).

Subsequent analysis of these data initially revealed a discontinuity between 1998 and 1999 due to changed practices at the state and territory level in course nomenclature. This discontinuity coincides with an apparent reduction in both pre-apprenticeship course numbers and enrolments. Whether there was in fact a 'real' reduction in such courses and enrolments is impossible to discern from the data. There was some evidence from interviews with state training agencies that there had been a real reduction in pre-apprenticeship courses in the mid- to late 90s. There was however also evidence that state training agencies were now increasing funding for such courses both as a response to trades skills shortages and to a lesser extent as an equity measure. The researchers believe that those courses we have identified represent at least a conservative, baseline minimum of pre-apprenticeship courses and as such can provide some insights into the characteristics of the courses and of the students undertaking these courses.

The number of courses in our estimates ranged between 192 in 2000 down to 155 in 2004, with enrolments over the same period falling from just over 10 000 students in 2000 down to about 5 500 in 2004. The most common course duration was between 720-999 hours. There appears to have been an increase in course duration between 2000 and 2004 with courses of between 720-999 hours increasing to just over half of all presumed pre-apprenticeship courses.

The main characteristics of students enrolled in these courses are summarised below.

- ✧ In both 2001 and 2002, over 10% of courses were of less than 149 hours duration, however by 2003 and 2004 pre-apprenticeship courses of less than 250 hours had all but disappeared.
- ✧ Over the 2000-2004 period the gender breakdown was about 88% male, to 12% female. (In 2004, almost 48% of all VET students were female.)

- ✧ 64% of participants were males aged 15-19 and 71% of all participants were in this age group; a further 9% were males aged 20-24. Across all VET students in 2004 only about 42% of all males were under 25.
- ✧ About 81% were non-indigenous, 7% were identified as Indigenous and 12% did not show indigenous status, suggesting a relatively high participation by Indigenous people in pre-apprenticeships, since Indigenous people represent only about 3.6% of all VET students and about 2.2% of the total population.
- ✧ Predictably, most enrolments (51%) occur in capital cities, although this figure is well below the capital cities' share of population, which is 61%. It is however close to the figure of 53.8% for all VET students.
- ✧ Fewer than 5% of students enrolled in pre-apprenticeship courses over 2000-2004 recorded a non-English speaking background, (although 9% did not show language spoken at home).
- ✧ About a third of pre-apprenticeship students have Year 10 level education as their highest level compared with just under 20% for all VET students in 2004, while around 40% have higher school levels, compared with about 45% for all VET students. Interestingly between 2000 and 2004 the proportion enrolled in pre-apprenticeship courses with Year 9 schooling or below has increased from just over 10% to nearly 15%. Over the same period comparable data for all VET students showed a slight increase from 7.2% to 8% for those with Year 9 or lower.

For Stage 2 of the project 19 structured interviews were conducted by the researchers with respondents in NSW, Victoria, Queensland and South Australia, including interviews either by telephone or face-to-face with respective state training agencies in those states. For Stage 3 of the project (the survey of training organisations) 10 structured interviews were conducted in NSW, Queensland and South Australia with public and private training providers. Because some of the same issues were canvassed in these two stages, for purposes of clarity the findings from both those stages have been combined in this section.

Despite inconsistency in the terminology around pre-apprenticeships, it is possible to say that the term pre-apprenticeship is generally understood to refer to courses with the following characteristics.

- ✧ The courses are intended to lead into existing apprenticeship courses (and in fact those pre-vocational programs funded directly by the Commonwealth such as the Australian Apprenticeship Access Programme require that this be the case).
- ✧ There were some instances noted where completion of the pre-apprenticeship course provided credit towards the first year of off-the-job study in a traditional apprenticeship although it did not necessarily reduce the period of the apprenticeship indenture.
- ✧ Pre-apprenticeship courses often incorporate actual rather than simulated work experience for a period of between 2 and 6 weeks although the Commonwealth funding of the New Apprenticeships Access Program does not require work experience. In some areas, especially construction, there are concerns over workplace safety issues that can rule out actual work placement.

Stage 4 involved a series of interviews with employers, together with a questionnaire survey of those employers' apprentices in order to obtain details of any differences

between apprentices who had and had not undertaken pre-apprenticeships. To begin this Stage a list of employers of apprentices likely to employ apprentices in the 3 focus areas of this study was compiled from a variety of sources. Some were employers known to the industry skills council representatives on the Reference Group, some were selected from employers previously known to the researchers, while others were selected from a variety of public sources such as industry association membership listings.

The researchers developed the questionnaire to be distributed to these employers' apprentices in consultation with NCVET and our reference group. Of the initial 42 enterprises listed 23 agreed to participate in the study, including distributing the questionnaires to their apprentices and returning the completed questionnaires. While this was less than the researchers would have liked these enterprises between them employed more than 1600 apprentices across Australia. Almost 500 questionnaires were distributed to these enterprises, located in NSW, Victoria, Queensland, South Australia and the ACT.

Only 14 enterprises returned questionnaires from their apprentices, amounting to 255 questionnaires in all. While apprentices in electrical (155) and automotive trades (83) were well represented in the returned questionnaires, only 17 questionnaires were received from apprentices in engineering trades. To some extent this shortcoming was addressed in Stage 5 of the study, with greater coverage of engineering students in pre-apprenticeship courses. About half of the enterprises provided written responses while the others provided verbal responses via either face-to-face or telephone interviews.

Useable comments were obtained from 12 employers, employing more than 1600 apprentices, spread across NSW, Victoria and South Australia, although the small response rate means these views cannot be regarded as representative of industry generally. Four of the enterprises regarded completion of a pre-apprenticeship as essential for recruitment as an apprentice, two regarded it as important and a further five regarded a pre-apprenticeship as "useful". Only one enterprise regarded a pre-apprenticeship as not useful and none believed they were a disadvantage. Six enterprises saw the value of a pre-apprenticeship as mainly "weeding out" unsuitable applicants, while three believed that pre-apprenticeship completers achieved better retention and completion rates. Three enterprises believed that the main benefit of completion of a pre-apprenticeship was in giving the student a better understanding of the industry they were entering as an apprentice, while one believed pre-apprenticeships conferred no benefits.

There were 255 questionnaires received from apprentices employed in 14 enterprises in NSW, Victoria, South Australia and the ACT. Aggregated responses from these apprentices are provided in Appendix 6. The main findings from those returns are outlined below. Enterprises returning these questionnaires on behalf of their apprentices were requested to add each apprentice's contract number so that the record could be matched with the national apprenticeship database. Of the 255 apprentices responding 40% had undertaken a pre-apprenticeship or similar course.

Of those who did a pre-apprenticeship:

✧ 92% of those starting a pre-apprenticeship course completed it

- ✧ about one-third experienced placement in a real work place as part of their course
- ✧ 57% strongly agreed and a further 41% agreed that they had learnt a lot in their pre-apprenticeship course
- ✧ 40% strongly agreed and 53% agreed that they had enjoyed their pre-apprenticeship course.

Looking at the data for all apprentice respondents revealed the following characteristics.

- ✧ Those apprentices who had done a pre-apprenticeship were more likely than those who had not to be planning further study ( $0.10 > P > 0.05$ ).
- ✧ A surprisingly high 85% said they intended to do further study after their apprenticeship, with 69% nominating VET study related to their trade and 23% nominating university study related to their trade course as their likely option.
- ✧ 81% reported that they were enjoying their apprenticeship, while only 3% said that they should have done something different.

Apprentices who had completed a pre-apprenticeship were more likely to have found their apprenticeship via their training organisation or via a friend or relative, while those who had not done a pre-apprenticeship were more likely to have found their apprenticeship via other means, such as newspaper advertising or the web, ( $P < 0.01$ , however the critical cells have rather low occurrences).

- ✧ Electrical apprentices were more likely than those in automotive trades ( $0.05 > P > 0.02$ ) to have done a pre-apprenticeship course.
- ✧ Whether or not the apprentice had done a pre-apprenticeship did not appear to influence significantly, positively or negatively, their opinion of their apprenticeship course ( $P > 0.8$ ).

The high completion rate and the high level of satisfaction with the pre-apprenticeship courses are strong indicators that students doing pre-apprenticeship courses are likely to be committed to their chosen career. Supporting this is the finding that those who completed a pre-apprenticeship were more likely than those who had not, to be planning to do further study related to their trade course after completing their apprenticeship. Some of the surveyed apprentices included additional comments on their questionnaires. Among the most common comments were:

- ✧ apprentice wages were too low for most apprentices to be self-supporting
- ✧ many who had done a pre-apprenticeship felt there should have been some financial assistance such as transport subsidies while studying
- ✧ for those who had done a pre-apprenticeship, the time spent in a workshop before going out on the job as an apprentice was most helpful
- ✧ as in the later survey of pre-apprenticeship students (stage 5), many of the surveyed apprentices who had done a pre-apprenticeship said they would change nothing about the pre-apprenticeship course they had done; those who advocated any changes generally wanted more on-the-job experience or to be paid.

## Conclusions

The research cannot at this stage supply a *definitive* answer to the question of whether pre-apprenticeships enhance retention and completion rates in apprenticeships and subsequent transition into related trades. Nevertheless, the study has achieved a

number of goals in attempting to address this and related questions including a clearer picture of students undertaking pre-apprenticeship courses. Studies of separation from apprenticeship have shown, *inter alia*, that retention is enhanced through apprentices seeing their trade training as part of a career pathway and actually enjoying their course of study. On these criteria, the findings of this study are equivocal. The survey of apprentices conducted in Stage 4 showed a significantly greater proportion of apprentices who had done a pre-apprenticeship planning to undertake further study related to their trade course compared to apprentices who had not done a pre-apprenticeship, suggesting a greater commitment among former pre-apprentices to their career pathway. On the other hand whether or not the apprentice had undertaken a pre-apprenticeship course did not appear to influence their enjoyment of their apprenticeship.

Studies of retention rates in apprenticeship (Simons et al (2001), Cully & Curtain (2001), Callan (2000)) have suggested that enhanced retention can be addressed through better matching of apprentices to the workplace, better counselling, clearer articulation of the expectations of apprentices and apprentices having 'learning to learn' skills. It was apparent from interviews with employers, peak bodies, government agencies and training organisations that pre-apprenticeship courses were designed to address at least several of these criteria. Common findings in these interviews were that pre-apprenticeships provided students with a better understanding of the destination industry and what an apprenticeship in that industry entailed, provided a filtering mechanism to divert unsuitable candidates and provided learning to learn skills in an environment different from school.

Apprentices in our sample survey who had done a pre-apprenticeship were likely to have higher educational levels (and hence probably better learning to learn skills) than those who had not, although paradoxically they were younger than apprentices who had not done a pre-apprenticeship.

There was substantial evidence from interviews and from students that the low pay of apprentices is one of the key issues in deterring potential apprentices and possibly a cause of attrition. Some contacts observed that this issue has risen in significance as apprentices increasingly have Year 12 levels of school attainment and are thus well into their 20s when they are in their final stages of their apprenticeship.

Despite a general belief among interview subjects that apprentices were entering apprenticeships at older ages the proportion of students in identified pre-apprenticeship courses according to the national database with Year 9 or lower school credentials had increased from about 10% in 2000 to nearly 15% in 2004. This was offset by a drop in Year 11 leavers entering pre-apprenticeships over that period. This might indicate several different trends in pre-apprenticeship. It might show an increasing use of pre-apprenticeship as an equity program for students at risk of dropping out of education and training – a trend supported by some of the interviews with TAFE providers. In turn, this could be seen as extending the supply of students for apprenticeships, since many Year 9 leavers could be regarded by employers as unsuited to entering an apprenticeship without some specific additional preparation.

There was a widespread belief among interview subjects that pre-apprenticeships provided employability skills for young people who were failing to acquire such skills

at school. Our findings cannot fully support this view, and Erica Smith will address this issue in her paper on Friday. The data obtained from NCVET on those enrolled in courses identified as pre-apprenticeships showed about 15% were aged 25 or more and presumably, most in this group would have had prior work experience of some kind. Apprentices surveyed in Stage 4 were not asked about employment before their apprenticeship or pre-apprenticeship, although some respondents in this survey wrote comments indicating that their pre-apprenticeship course had prepared them for their work places. Any employability skills imparted through pre-apprenticeship courses are likely to be specifically related to an industry sector, rather than skills that are more generic. Some contacts and some apprentices surveyed in Stage 4 did in fact make this point, instancing the pre-apprenticeship as providing some students with the first opportunity, for example, to use hand tools.

One barrier to answering the central research questions with some confidence is the current difficulty in identifying from the national data collection precisely which courses are to be regarded as 'pre-apprenticeships'. It was apparent that our analysis of the national records failed to reveal some courses that should have been regarded as pre-apprenticeships. This is a substantial barrier to providing a more definitive answer to the research questions posed.

## References

- Ball, K, & John, D, (2005) Apprentice and Trainee Completion Rates, NCVET.
- Callan, V. (2000). Report on apprenticeship and traineeship non-completions. Brisbane: Queensland Department of Education & Training.
- College Curriculum Services Unit (NSW TAFE) (1990). Apprenticeship separation analysis: Report of an investigation into the reasons for NSW apprentices separating from their trade. Sydney: NSW Department of Further Education, Training & Employment.
- Cully, M, Curtain, R, (2001) Reasons for new apprentices' non-completion, [www.ncvet.edu.au/research/proj/nr0002.pdf](http://www.ncvet.edu.au/research/proj/nr0002.pdf)
- Dumbrell, T., 2003, 'Pathways to Apprenticeship', NCVET, Adelaide
- Harris, R, Simons, M, Symons, H, Clayton, B, (2001) Factors that contribute to retention and completion in apprenticeships and traineeships [www.ncvet.edu.au/research/proj/nr9019.pdf](http://www.ncvet.edu.au/research/proj/nr9019.pdf)
- Kirby, P, (1985), Report of the Committee of Inquiry into Labour Market Programs, Committee of Inquiry into Labour Market Programs, AGPS, Canberra
- NCVET, 2001, Australian Apprenticeships, Facts, Fiction, Future, NCVET
- NCVET, 2006, <http://www.ncvet.edu.au/publications/1743.html> (accessed 16/3/07)
- Smart, N, (ed) 2001, Australian Apprenticeships, Research Readings, NCVET
- Smith, A. (2002). Evidence of skill shortages in the engineering trades. Adelaide: NCVET.
- Smart, N, (ed) 2001, 'Australian Apprenticeships, Research Readings', NCVET
- Smith, E. (2004). Vocational education and training in schools in Australia: What are the consequences of moving from margins to mainstream? *Journal of Vocational Education & Training*, 56:4, 595-582.
- Smith, E. and Wilson, L. (2002) Learning and training in school-based new apprenticeships, NCVET Adelaide