



The efficacy of pre-apprenticeships

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Executive summary

Pre-apprenticeships or pre-vocational training has been a feature of the Australian Vocational and Education Sector for at least the last 40 years. Pre-vocational training is seen as being meritorious in the same way that the apprenticeship model, with its combination of employment and training, is seen as an ideal model for vocational training. After all, if an apprenticeship or traineeship is something to be prized then it makes sense to prepare individuals so that they have a better chance of getting one.

The motivation behind this paper is to test whether pre-apprenticeships (and their cousins pre-traineeships and pre-vocational training more generally) are a model worth pursuing or whether they are just another element of lower level Vocational Education and Training.

An issue with discussion of pre-apprenticeships in particular or pre-vocational training in general is that it is not possible to identify them in the official statistics. This means that it is difficult to identify them and judge their merits.

There is no doubting their logic; individuals undertaking a pre-apprenticeship would be able to get a taster of what they can expect in a trade, and a pre-apprenticeship should provide apprentices who are well matched. The difficulty, though, is that pre-apprenticeships are mixed up in a very large pool of low-level VET qualifications (Certificates I and II). The only firm data we could get our hands on comes from the Apprentice and Trainee Experience and Destination Survey conducted by NCVET in 2019. This survey used a broad, self-identified question on undertaking pre-vocational training, qualified by a question of its relevance to the apprenticeship or traineeship in question. Its drawback is that it is backward looking and does not uncover the outcomes of those who have undertaken pre-vocational training but did not end up undertaking an apprenticeship or traineeship.

Analysis of these data shows that only in the trades does there appear to be reasonable alignment between the number of lower level certificates and the number of apprentices who report that they had undertaken highly relevant pre-vocational training. In other occupation groups, the number of graduates of lower level certificates swamps the number of trainees (noting that apprentices are restricted to the trades) reporting highly relevant pre-vocational training. Thus sensible discussion of pre-vocational training as a prelude to an apprenticeship or traineeship should probably be restricted to the trades.

Evidence on whether, even in the trades, a pre-apprenticeship assists substantially in obtaining an apprenticeship is very thin. Stromback (2012) finds a positive improvement in the probability of getting an apprenticeship from undertaking a pre-apprenticeship but still around three quarters of those undertaking a pre-apprenticeship did not go on to an apprenticeship.

The poor connection between lower level certificates and apprenticeships or traineeships is further underlined by one of the findings from our analysis of the Apprentice and Trainee Experience and Destination Survey - those undertaking pre-vocational training which is assessed as not being highly relevant report lower levels of satisfaction and lower completion rates than their peers who undertook no pre-vocational training. On the other hand, those who had undertaken highly relevant pre-vocational training reported higher levels of satisfaction and higher completion rates than those who had not undertaken any pre-vocational training. This provides firm evidence that pre-vocational training can be of benefit.

In our analysis, we also looked at the differential effect by occupation. This suggests that pre-vocational training is more effective in some occupations than in others. In particular, three occupations stand out where pre-vocational training appears to have a negative effect. Apprentices in Engineering, ICT and Science Technicians (which as it happens contains the most satisfied apprentices or trainees), Skilled Animal and Horticultural workers and Hairdressers (who are the least satisfied of any occupation) who have undertaken highly relevant pre-vocational training report lower levels of satisfaction with their apprenticeship than their peers in the control group (those who did not undertake highly relevant prevocational training). It is clear that the programs need to be well designed to have a positive effect, and that not all pre-vocational training, even if highly relevant, is of equal merit.

The other lens used to judge the efficacy of pre-vocational training is that of equity. Does pre-vocational training have a particular role for those from a disadvantaged background? In this context, we found that the percentage of apprentices and trainees who had undertaken pre-vocational training was:

- lower for those who had completed 10 years of school or less;
- lower for those with a disability;
- lower for Indigenous persons in the trades but higher in the non-trades;
- higher for those whose main language spoken at home is not English.

Thus pre-vocational training is not particularly focused on those from a disadvantaged background. It does not act as an alternative to year 12. In terms of the benefits of pre-vocational training one characteristic stands out. Persons who have a disability report that their satisfaction levels and completion rates are lower for those who have undertaken highly relevant pre-vocational training. It seems that prevocational training is not working well for this group. Few of the other results are statistically significant. The exceptions are those who left school at year 11 and those who live in regional areas who show higher than average levels of satisfaction if they had undertaken highly relevant pre-vocational training.

What then are the policy implications of our findings? The statistical analysis has uncovered some positive findings about the potential benefits of pre-vocational training, but also has concluded that not all the evidence is positive (for example, those apprentices and trainees undertaking pre-vocational training which is not relevant report lower satisfaction than their peers). Thus, we conclude that potentially pre-vocational training can be of value, but not as a matter of course. However, if we wish to consider pre-vocational training as a genuine aspect of the VET system, we need to collect data about it in a comprehensive and coherent manner. In particular, we need to (1) append a flag to the relevant courses and (2) identify an apprenticeship or traineeship as a possible outcome in the annual student destination survey. In the absence of the data it is not possible to evaluate its effectiveness and there is every chance that governments are not getting value for money from these programs. Just because the idea of a pre-apprenticeship or pre-traineeship sounds good does not mean that it is good.

If we were serious about pre-vocational training we would need to clearly define its attributes. Are they primarily intended to facilitate entry into an apprenticeship or traineeship? Or should they have a broader purpose? Should they be more than a lower level qualification in an occupational area?

Should they have increased educational content (perhaps to year 12 standard?) so that they provide a pathway beyond an apprenticeship or traineeship? Should they contain a significant element of on-the-job experience? Otherwise, pre-vocational training will be indistinguishable from the other programs at the Certificate I and II level, which we know already have poor outcomes.

Second, the data shows that pre-vocational training is much more important in the trades than elsewhere, both in terms of numbers of apprentices reporting that they had undertaken a pre-apprenticeship and a reasonable balance between the numbers of awards at the Certificate I and II level relative to the number of apprenticeships available. If we are to continue with pre-vocational training perhaps it would make sense to restrict it to a small number of occupations in the trades (noting that our analysis found that pre-apprenticeships have negative outcomes in Hairdressing). In other areas, any pre-vocational training is swamped by the large numbers of lower level awards and it would be more profitable to worry about the role of lower level awards rather than the efficacy of pre-vocational training.

Our analysis also brought home that we should not rely on equity arguments to justify pre-vocational training. From our analysis, it cannot be concluded that pre-vocational training has a particular benefit for people from disadvantaged backgrounds, although in the non-trades Indigenous persons had a higher probability of having undertaken pre-vocational training (but not in the trades), and people who spoke a language other than English had a relatively high rate of having undertaken pre-vocational training. In the latter group, though, we found that highly relevant pre-vocational training was associated with lower levels of satisfaction with the apprenticeship or traineeship.

In conclusion, I argue that we have a choice. On one hand we could get serious about training designed to get people apprenticeships or traineeship, put a proper effort into designing its structure and content, and ensure that it is properly included in the national VET statistical systems. On the other hand, we could forget about pre-apprenticeships and pre-traineeships, despite their political attraction, and worry about the role and design of lower level vocational training as a whole.

1 Introduction

Pre-apprenticeships or pre-vocational training has been a feature of the Australian Vocational and Education Sector for at least the last 40 years (see Dumbrell 2007). It features in the latest round of Commonwealth funding for the sector. For example, the National Partnerships Fund designed to increase skills explicitly refers to support of pre-apprenticeships and pre-traineeships.¹ At a policy level, pre-vocational training is seen as being meritorious in the same way that the apprenticeship model, with its combination of employment and training, is seen as an ideal model for vocational training. After all, if an apprenticeship or traineeship is something to be prized then it makes sense to prepare individuals so that they have a better chance of getting one and know what they are getting into. We know that completion rates are not always high in apprenticeships and traineeships and, surely, giving individuals a taster and some relevant experience must be a help to individuals who have ambitions to obtain an apprenticeship or traineeship. Certainly, pre-apprenticeships have avid supporters (for example, Group Training Association of NSW and ACT 2014, Toner and Lloyd 2012, Dumbrell and Smith 2007, 2013).

What is a little peculiar though is that pre-apprenticeship or pre-vocational training does not exist in the official Vocational Education and Training (VET) world. When I asked the NCVER for data on the extent of pre-vocational training or pre-apprenticeship training, I was informed that the data was not available because the concept does not exist in AVETMISS, the VET statistical standard.

For information, I was directed to the Australian Apprenticeship Pathways website aapathways.com.au. A search produced:

What are Pre-apprenticeships? Find information and listings of pre-apprenticeships and pre-traineeships that may provide a pathway to the occupation or industry of choice.

Click on this and you find:

A pre-apprenticeship is entry level training which can provide a pathway into the industry of your choice. Generally, they are offered in the traditional trades industries, such as Carpentry, Electrical, Plumbing and Automotive.

The term pre-vocational or pre-traineeship may also be used when talking about entry level training in non-traditional trade industries, such as Hospitality, and Animal Care and Management. Pre-apprenticeships can assist in improving literacy and numeracy skills as well as focusing on developing some essential work related skills. These skills can help you be better prepared for work and be a stand-out job candidate.

These programs can vary between states and territories, and industries. Some may involve a work experience component and some may attract a credit transfer to an apprenticeship level qualification.

¹ 'The objective of this Agreement is to improve employment outcomes by supporting Australians to obtain the skills and training they need for jobs in demand through increasing the uptake of apprenticeships and traineeships, pre-apprenticeships, pre-traineeships, higher apprenticeships, and other relevant employment related training' (Department of Education, Skills and Employment 2021).

The site offers further assistance with another button *How do I find a pre-apprenticeship?* which returns

Pre-apprenticeships are offered by Registered Training Organisations such as TAFE and private providers, and Group Training Organisations. Often it can be challenging to find the pre-apprenticeship information you are interested in by searching through multiple websites. Our [Pre-apprenticeship Finder](#) has a list of pre-apprenticeships being offered by providers, which can be searched by industry and location.

Well, at least the website says it can be challenging to find the pre-apprenticeship information that you are interested in. I clicked on the *Pre-apprenticeship-Finder*, indicated that I was a job hunter in South Australia. The site returned no potential pre-apprenticeships. Similarly for NSW.² For Victoria, by contrast, the site returns a number of pre-apprenticeship programs conducted by three TAFEs (Swinburne, Gordon and Box Hill) in building and construction, plumbing and electrotechnology. Each course is at the Certificate II level and typically involves 20- 30 hours per week for 10 to 14 weeks. None have any employer involvement and some, but not all, provide credit toward a certificate III.

The motivation behind this paper is to test whether pre-apprenticeships (and their cousins pre-traineeships and pre-vocational training more generally) are a model worth pursuing or whether they are just another element of lower level Vocational Education and Training. There are two obvious dimensions to the efficacy of the pre-apprenticeship model. The first is whether it helps individuals get apprenticeships (or traineeships). The second is whether undertaking the pre-apprenticeship leads to more satisfactory apprenticeships. In this regard, we make use of the NCVET Survey of Apprentice and Trainee Experience and Destination Survey conducted in 2019.³ If the model does not satisfy these two elements then one would be sceptical about the model's value.

The structure of the paper is as follows. We first provide some data on the potential size of pre-vocational training (Section 2). We then look at the evidence concerning the extent to which pre-vocational training leads to apprenticeships or traineeships (Section 3). In Section 4 we get to the main question which is the extent to which pre-vocational training assists those undertaking an apprenticeship or traineeship. We finish with a discussion.

One of things that is intriguing about pre-vocational training is that, despite the lack of pertinent data, people have strong views about its efficacy and place as a pillar of vocational education and training policy. Pre-apprenticeships have become a shibboleth alongside apprenticeships, an unassailable part of the VET firmament. However, they deserve critical scrutiny, and I thought it would be useful to complement the statistical analysis of the paper with some commentary on the paper by a number of people with a very long period of experience in the vocational education and training sector. I would like to thank Bruce Mackenzie, Robin Shreeve and Pam Jonas, all members of the Mackenzie Research Institute Advisory Board, for their contributions.

² At least the site had the decency to have a caveat: **PLEASE NOTE:** *Not all pre-apprenticeships are listed on our website. If you do not find any search results that fit your criteria we suggest you contact your local TAFE directly.*

³ See Karmel and Oliver 2011 for analysis of an earlier round of this survey.

2. Potential extent of pre-vocational training

It is difficult to find information on the extent of pre-vocational training for the simple reason that the concept of pre-apprenticeship or traineeship does not exist in the VET statistical standard AVETMISS.⁴ There has been one attempt to do so - Foley and Blomberg (2011) from NCVET. Their approach was to compile a list of possible pre-apprenticeship courses and to examine the associated activity from the National VET Provider Collection. The pre-apprenticeship courses were identified through a keyword search of course names and requests to state and territory contacts to provide lists of pre-apprenticeship courses. A Western Australian dataset with a pre-apprenticeship identifier was also available. Their key findings were that pre-apprenticeship training in Australia is an important component of the Australian VET sector, with an estimated 64,800 course enrolments in 2009. Enrolments in pre-apprenticeship courses were within two main fields of education—engineering and related technologies, and architecture and building. They also observed that pre-apprenticeship courses provided an important pathway for disadvantaged students, such as Indigenous students, early school leavers and those without non-school qualifications, and that the proportion of graduates going on to further study was high at 43.5%.

While we cannot identify pre-apprenticeships (or pre-traineeships) as such, we can get some idea of the potential size of pre-vocational training by looking at the number of enrolments in lower level qualifications (Certificates I and II) on the basis that virtually all apprenticeships, and the great majority of traineeships are at a Certificate III or higher level, and the lower level certificates provide a pathway to a Certificate III or higher. We can also look at the extent of school-based awards, which potentially could be seen by employers as a prelude to a traineeship or apprenticeship.

In Table 1 we present data on awards in years leading up to the 2019 NCVET Survey of Apprentice and Trainee Experience and Destinations. We choose awards because an award is a flow concept and represents a cohort which well could move into an apprenticeship or traineeship (although there is nothing stopping those who failed to complete an award obtaining an apprenticeship or traineeship). In the adult world of VET we consider Certificates I and II as being potential entries into an apprenticeship or traineeship. In the school world we also include those awarded a Certificate III since employers often are a little suspicious of school based VET qualifications.

⁴ All we know is the qualification level, and the occupation which the qualification is allied to.

Table 1: VET awards that could potentially be preparation for an apprenticeship or traineeship

	VET in school awards, 2015-2019 annual average		TVA program completions 2015-2019 annual average
	Cert I and II	Cert I, II and III	Cert I and II
1 Managers	180	336	893
2 Professionals	2091	4085	5828
3 Technicians and Trades Workers	5443	9517	13385
4 Community and Personal Service Workers	19888	31805	49025
5 Clerical and Administrative Workers	27959	32182	43179
6 Sales Workers	3344	4535	9331
7 Machinery Operators and Drivers	595	653	6807
8 Labourers	25564	25730	64316
General education codes	8847	8893	
Total	93910	117735	192770

Source: VOCSTATS, NCVET 2021

In the next table we contrast the number of Certificate I and II awards with the number of apprentice and trainee commencements. While we are not pretending that the cohorts line up in a statistically neat sense, the orders of magnitude should be pretty typical.

Table 2: Certificate I and II awards compared to apprentice and trainee commencements

	Apprentice and trainee commencements (2017 calendar year)	TVA Cert I and II completions (2015-2019 annual average)	Ratio of Cert I and II awards to A&T commencements (%)
1 Managers	2119	893	42.1
2 Professionals	418	5828	1394.3
3 Technicians and Trades Workers	72843	13385	18.4
4 Community and Personal Service Workers	27484	49025	178.4
5 Clerical and Administrative Workers	17559	43179	245.9
6 Sales Workers	14864	9331	62.8
7 Machinery Operators and Drivers	15866	6807	42.9
8 Labourers	11871	64316	541.8
Total	163024	192770	118.2

Source: VOCSTATS, NCVET 2021

We see that there is no real alignment between the lower level Certificate I and II awards and the apprentice and trainee commencements (which are typically at Certificate III or higher levels). This lack of alignment suggests that on the whole Certificate I and II awards do not lead to an apprenticeship or traineeship, with the possible exception of the trade occupations where the number of Certificates I and II awards is much lower than apprenticeship commencements. In this context, we note that Foley and Blomberg found that pre-apprenticeships were concentrated in two fields of education (engineering and related technologies, and architecture and building).

If we add in the school based awards we see that the number of apprenticeships and traineeships are even more dwarfed. Overall, it is clear that the vast majority of lower level VET does not lead to an apprenticeship or traineeship.

3. The extent of pre-vocational training among apprentices and trainees

Research on the extent to which pre-vocational training leads to an apprenticeship or traineeship is pretty thin. Group Training Australia (Toner and Lloyd 2012) undertook a qualitative study of 15 providers and concluded that the average articulation rate from a pre-apprenticeship into an apprenticeship was 70-80%. They also found that 11 out of 15 providers believed that their students would not have been able to gain an apprenticeship without having done the pre-apprenticeship.

Stromback (2012) looked at the relative impact of pre-apprenticeship programs on the probability of undertaking an apprenticeship in Western Australia (where the official statistics include a pre-apprenticeship identifier). Any comparison of the effectiveness of pre-apprenticeships in leading to an apprenticeship must be relative to a counterfactual. In this case the counterfactual is students who are undertaking the same courses in Western Australia but not as part of a formal pre-apprenticeship program. Stromback employs propensity score matching, which matches an individual in the comparison group with an individual in the pre-apprenticeship program. The match was based on factors that explain statistically whether a student is part of the pre-apprenticeship program or not. The most important characteristics turn out to be sex, age and Indigenous status. Stromback found that for the not-at-school group, the increase in the probability of going on to an apprenticeship the following year is around 11 percentage points if the student is in a pre-apprenticeship program (23% compared with 12% for the comparison group). The one caveat to these results is that it is likely that those undertaking the pre-apprenticeship program are inherently more interested in the possibility of an apprenticeship than those in the comparison group. While Stromback concluded that the pre-apprenticeship program assisted in getting an apprenticeship we observe that a transition rate of 23% indicates that the vast majority of those undertaking a pre-apprenticeship program do not get an apprenticeship.

In 2019 NCVER conducted another round of the survey of Apprentice and Trainee Experience and Destinations (ATED). The survey provides a wealth of information about apprentices and trainees including whether the apprentice or trainee had undertaken a pre-apprenticeship or pre-vocational training. This enables us to ascertain the reach of pre-vocational training, although it does not provide direct evidence on its effect on the probability of obtaining an apprenticeship or traineeship.

As noted earlier, the whole concept of pre-apprenticeship or pre-vocational training is not properly defined. In the survey, those who have undertaken a pre-apprenticeship or pre-vocational training are identified through the question:

Did you complete a pre-vocational or pre-apprenticeship course before you started your apprenticeship or traineeship in [insert program name]?

The questionnaire provides the following note for interviewers to clarify what is meant:

Pre-vocational (which means before work) and pre-apprenticeship courses help you develop skills to get a job, or prepare you to become an apprentice or trainee. This includes a VET in schools course. This training does not need to be relevant or related to your apprenticeship or traineeship.

In addition, there is a follow up question concerning the relevance of the course.

*How relevant was this course to your apprenticeship or traineeship?*⁵

We make use of these two questions to identify those individuals who undertook a pre-apprenticeship or pre-vocational course, and if so its relevance to the apprenticeship or traineeship.

We now present descriptive data to illustrate the concentration of pre-vocational training across occupations and demographic characteristics.⁶ We use an occupational classification which combines three levels of ANZSCO.

Prevalence by occupation

Table 3 shows the distribution by occupation.

⁵ The questionnaire has four categories: Highly relevant; Some relevance; Very little relevance; Not at all relevant 4

⁶ The percentages in the following tables are based on weighted data. The survey design is stratified by completion/non-completion and state.

Table 3: Percentage of apprentices and trainees undertaking pre-vocational training and its relevance, by occupation, 2019

	Percentage with pre-vocational training	Percentage undertaking highly relevant pre-vocational training
MANAGERS	22.7	9.8
2 PROFESSIONALS	13.0	5.8
31 Engineering, ICT and Science Technicians	24.2	13.8
32 Automotive and Engineering Trades Workers	34.3	21.0
33 Construction Trades Workers	31.7	16.4
34 Electrotechnology and Telecommunications Trades Workers	37.1	21.6
35 Food Trades Workers	24.1	10.0
36 Skilled Animal and Horticultural Workers	20.1	8.2
391 Hairdressers	26.8	15.4
39-391 Other Technicians and Trades Workers excluding hairdressers	20.1	10.1
41 Health and Welfare Support Workers	23.0	11.7
42 Carers and Aides	20.0	12.5
43 Hospitality Workers	12.9	5.3
44 Protective Service Workers	27.5	17.9
45 Sports and Personal Service Workers	17.9	9.4
5 CLERICAL AND ADMINISTRATIVE WORKERS	17.9	7.7
6 SALES WORKERS	16.1	8.1
71 Machine and Stationary Plant Operators	14.5	6.3
72 Mobile Plant Operators	20.9	10.1
73 Road and Rail Drivers	22.2	13.8
74 Storepersons	19.5	9.8
8 LABOURERS	25.0	11.2
Overall	24.2	12.8

Source: Survey of Apprentice and Trainee Experience and Destinations, 2019

We see that overall almost a quarter of apprentices and trainees have undertaken some sort of pre-vocational training. The number who assessed their pre-vocational training as *highly relevant* is much smaller – about half the number overall. Occupations with the highest proportion of highly relevant pre-vocational training the Electrotechnology and Telecommunications Trades (21.6%), Automotive and Engineering Trades (21.0%), Protective Services (17.9%) and Hairdressers (15.4%). Occupations with particularly low proportions of apprentices or trainees who had undertaken highly relevant pre-vocational training include: Hospitality (5.3%), Professionals (5.8%), Machine and Stationary Plant Operators (6.3%) and Clerical and Administrative workers (7.7%).

As well as looking at the proportions of apprentices or trainees who have undertaken pre-vocational training, we reprise the earlier data to contrast the supply of lower level certificates with the numbers of apprentices or trainees reporting that they had undertaken pre-vocational training.

Table 4: TVA Certificate I and II completions compared to number of apprentices and trainees reporting highly relevant pre-vocational training

	TVA certificate I and II completions 2015-2019 annual average	Number of A&T Destination Survey cohort reporting highly relevant pre-voc	Ratio of highly relevant pre-voc to Cert I & II completions (%)
1 Managers	893	179	20.1
2 Professionals	5828	37	0.6
3 Technicians and Trades Workers	13385	9005	67.3
4 Community and Personal Service Workers	49025	2110	4.3
5 Clerical and Administrative Workers	43179	1091	2.5
6 Sales Workers	9331	759	8.1
7 Machinery Operators and Drivers	6807	1166	17.1
8 Labourers	64316	979	1.5
Total	192770	15326	8.0

Source: TVA figures from VOCSTATS (NCVER), pre-vocational figures from Survey of Apprentice and Trainee Experience and Destinations, 2019.

Even taking into account that the cohort sizes do not line up exactly⁷, the pattern is very clear. In non-trade occupations the supply of those with Certificates I and II swamp the numbers of apprentices and trainees reporting highly relevant pre-vocational training. In the trades, by contrast, the figures suggest that pre-vocational training is providing an entry path into trade apprenticeships for a substantial number of persons.

Prevalence by demographic characteristics

We present a series of tables showing how the percentage undertaking pre-vocational training (and its relevance) varies across state and region, age and sex, level of schooling, disability status, indigeneity and language spoken at home. In each table, we cross classify by whether the apprentice or trainee is in the trades or in non-trade occupations.

⁷ The estimates of the size of the cohort from the ATED are substantially lower than apprenticeship commencements, with the former totalling 126,600 compared to 163,000 commencements in 2017. The discrepancy may be due to substantial numbers of respondents in the survey reporting that they had not completed or exited from their contract of training.

Table 5: Percentage of apprentices and trainees undertaking pre-vocational training and its relevance, by State, region and trade/non-trade, 2019

	Trade		Non-trade	
	Percentage with pre-vocational training	Percentage with highly relevant pre-vocational training	Percentage with pre-vocational training	Percentage with highly relevant pre-vocational training
NSW	25.7	13.2	20.6	11.0
Victoria	36.1	20.6	19.8	9.3
Queensland	29.3	15.4	18.6	8.4
South Australia	43.7	26.0	17.7	6.2
Western Australia	33.4	19.7	14.9	8.9
Tasmania	40.2	24.6	19.8	8.0
NT	19.3	10.2	25.2	13.7
ACT	21.7	12.9	17.0	7.4
All persons	31.1	17.2	18.9	9.4
Metropolitan	31.4	17.2	18.9	9.4
Not stated	26.0	18.9	18.5	10.7
Rural	22.9	15.6	19.4	8.5
All persons	31.1	17.2	18.9	9.4

Source: Survey of Apprentice and Trainee Experience and Destinations, 2019

The variation across states suggests that state VET policy places varying degrees of importance on pre-vocational training. South Australia and Tasmania have relatively high percentages, at least in the trades.

Table 6: Percentage of apprentices and trainees undertaking pre-vocational training and its relevance, by gender and age and trade/non-trade, 2019

	Trade		Non-trade	
	Percentage with pre-vocational training	Percentage with highly relevant pre-vocational training	Percentage with pre-vocational training	Percentage with highly relevant pre-vocational training
Females				
19 years or less	15.0	6.6	19.1	8.9
20-24 years	30.7	19.4	17.0	7.4
24-44 years	23.8	13.0	17.1	8.9
45 years plus	15.1	12.1	16.5	9.3
All females	25.3	15.1	17.5	8.5
Males				
19 years or less	27.9	15.4	23.0	11.5
20-24 years	37.6	20.4	18.4	7.6
24-44 years	25.3	14.0	21.7	12.3
45 years plus	23.9	12.9	17.6	8.9
All males	31.9	17.5	20.5	10.4
All persons	31.1	17.2	18.9	9.4

Source: Survey of Apprentice and Trainee Experience and Destinations, 2019

We have already seen that highly relevant pre-vocational training is more widespread in the trades compared to non-trade occupations. The age group with the highest proportion is the 20-24 year group, for both males and females. This is not surprising – it is this group which is trying to become established in the workforce. However, significant numbers of older persons – over 45 years - have undertaken pre-vocational training. Of course, we do not know when they had undertaken the training.

In the next table we classify by the level of schooling. As well as showing the distribution for all ages we show the data for 20-24 year olds.

Table 7: Percentage of apprentices and trainees undertaking pre-vocational training and its relevance, by level of schooling and age and trade/non-trade, 2019

	Trade		Non-trade	
	Percentage with pre-vocational training	Percentage with highly relevant pre-vocational training	Percentage with pre-vocational training	Percentage with highly relevant pre-vocational training
All ages				
Year 10 or less	23.3	11.6	19.4	9.2
11 - Completed year 11	32.4	17.9	18.2	9.0
12 - Completed year 12	34.2	19.4	18.8	9.5
24 years or less				
Year 10 or less	25.9	13.6	19.3	9.0
11 - Completed year 11	36.3	20.4	21.2	9.9
12 - Completed year 12	38.5	21.4	18.1	8.0

Source: Survey of Apprentice and Trainee Experience and Destinations, 2019

It is interesting to note that in the trades the group with the lowest proportion of persons who had undertaken highly relevant pre-vocational training is those who left school at year 10 or less, that is the most educationally disadvantaged group. In fact, the group with the highest proportion in the trades is those with year 12. Highly relevant pre-vocational training is not acting as an alternative to year 12.

Table 8: Percentage of apprentices and trainees undertaking pre-vocational training and its relevance, by disability status and trade/non-trade, 2019

	Trade		Non-trade	
	Percentage with pre-vocational training	Percentage with highly relevant pre-vocational training	Percentage with pre-vocational training	Percentage with highly relevant pre-vocational training
Disability status missing	28.2	18.1	17.8	12.0
Without a disability	31.1	17.1	18.9	9.2
With a disability	36.2	20.5	19.3	12.1
All persons	31.1	17.2	18.9	9.4

Source: Apprentice and Trainee Destination Survey, 2019

We see that those with a disability are a little more likely to have undertaken pre-vocational training than those without a disability. But the differences are not that high.

Table 9: Percentage of apprentices and trainees undertaking pre-vocational training and its relevance, by Indigeneity and trade/non-trade, 2019

	Trade		Non-trade	
	Percentage with pre-vocational training	Percentage with highly relevant pre-vocational training	Percentage with pre-vocational training	Percentage with highly relevant pre-vocational training
Indigenous	23.9	13.5	23.3	11.8
Not-Indigenous	31.5	17.3	18.4	9.1
Missing	30.4	19.4	21.8	10.9
All persons	31.1	17.2	18.9	9.4

Source: Survey of Apprentice and Trainee Experience and Destinations, 2019

We see that Indigenous persons are less likely to have undertaken highly relevant pre-vocational training than non-Indigenous persons in the trades, but more likely in the other occupations.

Table 10: Percentage of apprentices and trainees undertaking pre-vocational training and its relevance, by main language spoken at home and trade/non-trade, 2019

	Trade		Non-trade	
	Percentage with pre-vocational training	Percentage with highly relevant pre-vocational training	Percentage with pre-vocational training	Percentage with highly relevant pre-vocational training
Not English	35.7	20.0	26.1	14.7
English	30.4	16.6	17.6	8.4
Missing	34.6	21.5	17.6	8.1
All persons	31.1	17.2	18.9	9.4

Source: Survey of Apprentice and Trainee Experience and Destinations, 2019

The table indicates that those whose main language spoken at home is other than English are more likely to undertake pre-vocational training than those whose language spoken at home is English.

To sum up, we find considerable variation in the distribution of pre-vocational training:

- It is higher in the trades than non-trades;
- Higher in South Australia and Tasmania in the trades;
- Higher in metropolitan areas in the trades;
- Higher in 20-24 year olds in the trades, but higher in the 15-19 year group in non-trades;
- Lower for those who had completed 10 years of school or less;
- Lower for those with a disability;
- Lower for Indigenous persons in the trades but higher in the non-trades;
- Higher for those whose main language spoken at home is not-English.

Right across the board the proportion of pre-vocational training which is reported as being highly relevant is considerably less than 100%. Overall, in the trades 31.1% had undertaken some pre-vocational training while 17.2 % reported it as being highly relevant. In the non-trades 18.9% had undertaken some pre-vocational training but only 9.4% reported is as being highly relevant.

The variation by equity characteristics suggests that pre-vocational training does not have a clear equity focus. There is certainly no evidence that pre-vocational training is more concentrated among those from possibly disadvantaged backgrounds.

4. Does pre-vocational training improve outcomes

We now move to the heart of the analysis which is to assess whether pre-vocational training improves outcomes for those undertaking an apprenticeship or traineeship.

Our approach is to see if there is an association between having undertaken a pre-apprenticeship or pre-vocational course, and its relevance, and a number of outcome measures. We construct seven measures (the precise definitions are in [Appendix 1](#)):

- Overall satisfaction with the apprenticeship or traineeship;
- Overall satisfaction with the employment aspects of the apprenticeship or traineeship;
- Overall satisfaction with the off the job components of the apprenticeship or traineeship;
- Average satisfaction with various aspects of employment as an apprentice or traineeship;
- Average satisfaction with various aspects of the training as an apprentice or traineeship⁸;
- The number of job related benefits;
- The probability of completion.

Our approach is to run regressions to measure the extent to which the experience or attitudes of those with pre-apprenticeship/prevocational training differ from those without such training, controlling for occupation and a range of socio-economic characteristics (gender, age, previous schooling, Indigeneity, whether had a disability or not, whether English is spoken at home, regionality). As well as looking at the effect of having undertaken pre-vocational training we also look at the relevance of the pre-vocational training. We label this the base model. The results from the base model are presented in Table 11 (refer to link below).

⁸ The satisfaction scales in the survey comprise 1 Very satisfied, 2 Satisfied, 3 Neither satisfied nor dissatisfied, 4 Dissatisfied and 5 Very dissatisfied. So a higher score indicates less satisfaction.

Table 11: Coefficients of regression models using various outcome measures: impact of pre-vocational training and its relevance

The bolded coefficients are those that are significant statistically at the 5% level⁹. Our immediate interest is in the last four variables. They indicate the extent to which undertaking pre-vocational training affects the outcomes. So, for example, those whose pre-vocational training had been assessed as being *highly relevant* on average had a satisfaction score of 0.226 less than those who had undertaken no pre-vocational training. Recall (see footnote 5) that the measure can range between 1 (highly satisfied) to 5 (highly dissatisfied). A score of -0.226 indicates that 22.6% of the group shifted categories (toward being highly satisfied) relative to the control group. This is a very sizable proportion of the group. By contrast, the coefficient for the *some relevance* group was 0.082 (and statistically significant at the 5% level) indicating pre-vocational training which is relevant but not highly relevant have worse outcomes than the no pre-vocational group. Similarly, the group who had undertaken pre-vocational training which they had assessed as having no relevance had a statistically significant coefficient of 0.187 indicating that 18.7% of them had satisfaction scores a category lower than the no pre-vocational group.

What is striking about these results is the consistency across the various outcome measures. For example, the group who had undertaken highly relevant pre-vocational training had coefficients of -0.226, -0.138, -0.205, -0.17 and -0.257 for the satisfaction questions. In addition, the group had an additional 0.544 benefit from the apprenticeship or traineeship compared to the no pre-vocational group and a completion rate of 5.3 percentage points higher than the no-prevocational training group. These results are all statistically significant at the 5% level.

By contrast, the evidence suggests that pre-vocational training which is not highly relevant is associated with lower satisfaction with the apprenticeship or traineeship. For the group whose pre-vocational training is assessed as *very little relevance* has coefficients which are no different from those of the control group in a statistical sense. For the group whose pre-vocational training is assessed as having no relevance, the coefficients are such that they group has lower satisfaction than the no -pre-vocational group. This is also true for those who had assessed their pre-vocational training as having some relevance, but the coefficients are smaller suggesting that their level of dissatisfaction is not as pronounced. So it appears that undertaking pre-vocational training which is not highly relevant is associated with lower levels of satisfaction than undertaking no-pre-vocational training at all.

The only result that runs counter to this trend is the completion rate, where we see that those undertaking pre-vocational training which is assessed as being of high relevance or some relevance both have completion rates which are higher than the no-pre-vocational training group (5.3 and 5.8 percentage points respectively). Thus it appears that those whose pre-vocational training was assessed as being of *some relevance* have lower satisfaction than those who undertook pre-vocational training but have higher completion rates.

The results also indicate that in most cases our control variables do make a difference, that is the level of satisfaction and probability of completion do vary systematically according to various characteristics. Groups with relatively high rates of satisfaction include:

- Those age 20-24 years;

⁹ Standard errors are available from the author on request.

- Indigenous persons;
- A language other than English spoken at home;
- Left school with year 10 (interestingly, not those who left school with year 9 or lower);
- Those living in a remote area.

Those with a disability had a low rate of satisfaction compared to those with no disability (a coefficient of 0.220).

The satisfaction rates in the occupations also are far from uniform. The best way of seeing this is to list the occupations from those with the highest levels of satisfaction to those with the lowest. We do this in Table 10 by comparing the various occupations to the most satisfied occupation, which turns out to be Engineering, ICT and Science Technicians. We see that Hairdressers have the lowest level of satisfaction with a score of 0.6 relative to the Engineering, ICT and Science Technicians. Thus 60% of hairdressers answered in a less satisfied category compared to the Engineering, ICT and Science Technicians.

Table 12: Overall satisfaction levels relative to the most satisfied occupation

	Satisfaction relative to the most satisfied occupation
Engineering, ICT and Science Technicians	0.00
Carers and Aides	0.01
Health and Welfare Support Workers	0.01
CLERICAL AND ADMINISTRATIVE WORKERS	0.07
Storepersons	0.10
Electrotechnology and Telecommunications Trades Workers	0.11
Construction Trades Workers	0.12
LABOURERS	0.12
SALES WORKERS	0.12
Protective Service Workers	0.13
Sports and Personal Service Workers	0.15
Skilled Animal and Horticultural Workers	0.17
Other Technicians and Trades Workers	0.18
Road and Rail Drivers	0.19
Mobile Plant Operators	0.19
MANAGERS and PROFESSIONALS	0.21
Automotive and Engineering Trades Workers	0.21
Machine and Stationary Plant Operators	0.28
Food Trades Workers	0.31
Hospitality Workers	0.38
Hairdresser	0.60

Source: Survey of Apprentice and Trainee Experience and Destinations, 2019. Note that the satisfaction scales in the survey comprise 1 Very satisfied, 2 Satisfied, 3 Neither satisfied nor dissatisfied, 4 Dissatisfied and 5 Very dissatisfied. So a higher score indicates less satisfaction.

We concluded earlier that undertaking pre-vocational training which was highly relevant led to an increase in satisfaction, increased job benefits and increased satisfaction. We now investigate the extent to which this occurs within particular occupations (that is, particular apprenticeships or

traineeships). We do this by controlling, as before, for demographic characteristics but allowing the effect of pre-vocational training to vary across occupations.

It would be very time consuming to undertake this for all seven outcome measures. We choose overall satisfaction and the completion rate for our further analysis.¹⁰ The results are presented in table 13. (Refer to the link below.)

Table 13: Impact of highly relevant pre-vocational training on overall satisfaction with the apprenticeship or traineeship (highly satisfied = 1, highly dissatisfied = 5) and completion rates

We first explain the table. In the first column of numbers we show our estimate of the impact of (highly relevant) pre-vocational training on overall satisfaction. So those individuals who undertook a traineeship in managerial or professional occupations and had undertaken (highly relevant) pre-vocational course had a satisfaction score of -0.15 relative to those not undertaking such training. In the second column, this is expressed relative to the overall impact of pre-vocational training of -0.226 (see earlier results in Table 11). Thus pre-vocational training has a lower benefit to those trainees in managers and professional than is the case for the average. The third column provides the t statistic which is used to establish statistical significance. A t value greater than 1.96 signifies that the difference is significant at the 5% significance level (that is, there is a less than 5% chance that a significant difference is observed when there is actually no difference). We have bolded entries where the t statistic is greater than 1, adopting a less conservative approach than is usual. We interpret t statistics between 1 and 2 as providing at least some evidence that there is a difference in fact.

We see that there is considerable variation in the impact of (highly relevant) prevocational training across occupations. However, we need to be circumspect about our conclusions because the standard errors are high – remember that we are interested in the differential impact of pre-vocational training which is akin to taking differences of differences. Nevertheless, three occupations stand out where pre-vocational training appears to have a negative effect: Engineering, ICT and Science Technicians, Skilled Animal and Horticultural Workers and Hairdressers who have undertaken highly relevant pre-vocational training report lower levels of satisfaction with their apprenticeship than their peers in the control group (those who did not undertake highly relevant prevocational training). At the other end of the scale, those who have undertaken traineeships among Sports and Personal Service Workers, Sales Workers, Machine and Stationary Plant Operators, Mobile Plant Operators; Road and Rail Drivers and Labourers have higher levels of satisfaction if they had undertaken highly relevant prevocational training. In terms of completion rates there are three occupations where undertaking (highly relevant) pre-vocational training is associated with poorer completion rates than the control group, notably Engineering, ICT and Science Technicians; Automotive and Engineering Trades Workers; and Other Technicians and Trades Workers; Road and Rail Drivers; and Storepersons. By contrast, those who undertook an apprenticeship or traineeship in the Food Trades; Hospitality; Sports and Personal Service and Labourers all had considerably higher completion rates if they had undertaken (highly relevant) pre-vocational training.

Thus our broad conclusion is that overall highly relevant pre-vocational training is beneficial but this does not translate to being beneficial in every occupation. There are clear examples where highly

¹⁰ The correlation of overall satisfaction with the other satisfaction measures are 0.63, 0.68, 0.73, and 0.65 respectively. The correlations are lower for the completion rate (0.42) and the number of job related benefits (0.32).

relevant pre-vocational training leads to lower satisfaction or poorer completion rates. The stand out occupation is hairdressing where we see low levels of satisfaction and poor completion rates in any case, and participation in pre-vocational training seems to make things worse. A tentative conclusion is pre-vocational training is not necessarily helpful for those undertaking an apprenticeship or traineeship but can be so if designed appropriately. Irrelevant pre-vocational training typically is deleterious, and even relevant pre-vocational training is not helping in some occupations such as hairdressing.

We undertake similar analysis in respect of demographic characteristics by allowing for an interaction term for each demographic characteristic (Table 14).

Table 14: Differential impact of highly relevant pre-vocational training on overall satisfaction and completion by selected characteristics

One characteristic stands out. Persons who have a disability report that their satisfaction levels and completion rates are lower for those who have undertaken highly relevant pre-vocational training. It seems that prevocational training is not working well for this group. Few of the other results are statistically significant. The exceptions are those who left school at year 11 and those who live in regional areas who show higher than average levels of satisfaction if they had undertaken highly relevant pre-vocational training. In terms of completion, those aged 15-19 years and those in remote areas both have lower completion rates if they had undertaken a highly relevant pre-vocational training.¹¹ Thus our broad conclusion is that pre-vocational training does not have any particular merit in assisting those from equity groups.

Discussion

An issue with pre-apprenticeships in particular or pre-vocational training in general is that it is not possible to identify them in the official statistics. This means that it is difficult to identify them and judge their merits.

There is no doubt that pre-apprenticeships have their ardent supporters – see for example Group Training Association of NSW and ACT 2014. There is no doubting their logic; individuals undertaking a pre-apprenticeship would be able to get a taster of what they can expect in a trade, and a pre-apprenticeship should provide apprentices who are well matched. The difficulty, though, is that pre-apprenticeships are mixed up in a very large pool of low-level VET qualifications (Certificates I and II). The only firm data we could get our hands on comes from the Apprentice and Trainee Experience and Destination Survey conducted by NCVET in 2019. This survey used a broad, self-identified question on undertaking pre-vocational training, qualified by a question of its relevance to the apprenticeship or traineeship in question. Its drawback is that it is backward looking and does not uncover the outcomes of those who have undertaken pre-vocational training but did not end up undertaking an apprenticeship or traineeship.

Analysis of this data shows that only in the trades does there appear to be reasonable alignment between the number of lower level certificates and the number of apprentices who report that they had undertaken highly relevant pre-vocational training. In other occupation groups, the number of graduates of lower level certificates swamps the number of trainees (noting that apprentices are restricted to the trades) reporting highly relevant pre-vocational training. Thus sensible discussion of

¹¹ As noted earlier, completion rates for 15-19 year olds are problematic because an individual may start an apprenticeship or traineeship in this age group but enter the next age group before completion.

pre-vocational training as a prelude to an apprenticeship or traineeship should probably be restricted to the trades.

Evidence on whether, even in the trades, a pre-apprenticeship assists substantially in obtaining an apprenticeship is very thin. Stromback (2012) finds a positive improvement in the probability of getting an apprenticeship from undertaking a pre-apprenticeship but still around three quarters of those undertaking a pre-apprenticeship did not go on to an apprenticeship. Mackenzie (2020) argues that 'pre-apprenticeships are a very narrow pathway to undertake. They may be attractive to schools because they do not require work based experience but there is no evidence that they produce optimum outcomes for students.' It is interesting to note in this context that the few courses which do emerge from a search of the Australian Apprenticeship Pathways website do not contain work experience with employers as part of the course.

The poor connection between lower level certificates and apprenticeships or traineeships is further underlined by one of the findings from our analysis of the Apprentice and Trainee Experience and Destination Survey- those undertaking pre-vocational training which is assessed as not being highly relevant report lower levels of satisfaction and lower completion rates than their peers who undertook no pre-vocational training. On the other hand, those who had undertaken highly relevant pre-vocational training reported higher levels of satisfaction and higher completion rates than those who had not undertaken any pre-vocational training. This provides firm evidence that pre-vocational training can be of benefit.

In our analysis, we also looked at the differential effect by occupation. This suggests that pre-vocational training is more effective in some occupations than in others. In particular, three occupations stand out where pre-vocational training appears to have a negative effect. Apprentices in Engineering, ICT and Science Technicians (which as it happens contains the most satisfied apprentices or trainees), Skilled Animal and Horticultural workers and Hairdressers (who are the least satisfied of any occupation) who have undertaken highly relevant pre-vocational training report lower levels of satisfaction with their apprenticeship than their peers in the control group (those who did not undertake highly relevant prevocational training). It is clear that the programs need to be well designed to have a positive effect, and that not all pre-vocational training, even if highly relevant, is of equal merit.

The other lens used to judge the efficacy of pre-vocational training is that of equity. Does pre-vocational training have a particular role for those from a disadvantaged background? In this context, we found that the percentage of apprentices and trainees who had undertaken pre-vocational training was

- Lower for those who had completed 10 years of school or less;
- Lower for those with a disability;
- Lower for Indigenous persons in the trades but higher in the non-trades,
- Higher for those whose main language spoken at home is not English.

Thus pre-vocational training is not particularly focused on those from a disadvantaged background. In terms of the benefits of pre-vocational training one characteristic stands out. Persons who have a disability report that their satisfaction levels and completion rates are lower for those who have undertaken highly relevant pre-vocational training. It seems that prevocational training is not

working well for this group. Few of the other results are statistically significant. The exceptions are those who left school at year 11 and those who live in regional areas who show higher than average levels of satisfaction if they had undertaken highly relevant pre-vocational training.

What then are the policy implications of our findings? The statistical analysis has uncovered some positive findings about the potential benefits of pre-vocational training, but also has concluded that not all the evidence is positive (for example, those apprentices and trainees undertaking pre-vocational training which is not relevant report lower satisfaction than their peers). Thus, we conclude that potentially pre-vocational training can be of value, but not as a matter of course. However, if we wish to consider pre-vocational training as a genuine aspect of the VET system, we need to collect data about it in a comprehensive and coherent manner. In particular, we need to (1) append a flag to the relevant courses and (2) identify an apprenticeship or traineeship as a possible outcome in the annual student destination survey. In the absence of the data it is not possible to evaluate its effectiveness and there is every chance that governments are not getting value for money from these programs. Just because the idea of a pre-apprenticeship or pre-traineeship sounds good does not mean that it is good.

If we were serious about pre-vocational training we would need to clearly define its attributes. Are they primarily intended to facilitate entry into an apprenticeship or traineeship? Or should they have a broader purpose? Should they be more than a lower level qualification in an occupational area? Should they have increased educational content (perhaps to year 12 standard?) so that they provide a pathway beyond an apprenticeship or traineeship? Should they contain a significant element of on-the-job experience? Otherwise, pre-vocational training will be indistinguishable from the other programs at the certificate I and II level, which we know already have poor outcomes.

Second, the data shows that pre-vocational training is much more important in the trades than elsewhere, both in terms of numbers of apprentices reporting that they had undertaken a pre-apprenticeship and a reasonable balance between the numbers of awards at the Certificate I and II level relative to the number of apprenticeships available. If we are to continue with pre-vocational training perhaps it would make sense to restrict it to a small number of occupations in the trades (noting that our analysis found that pre-apprenticeships have negative outcomes in Hairdressing). In other areas, any pre-vocational training is swamped by the large numbers of lower level awards and it would be more profitable to worry about the role of lower level awards rather than the efficacy of pre-vocational training.

Our analysis also brought home that we should not rely on equity arguments to justify pre-vocational training. From our analysis, it cannot be concluded that pre-vocational training has a particular benefit for people from disadvantaged backgrounds, although in the non-trades Indigenous persons had a higher probability of having undertaken pre-vocational training (but not in the trades), and people who spoke a language other than English had a relatively high rate of having undertaken pre-vocational training. In the latter group, though, we found that highly relevant pre-vocational training was associated with lower levels of satisfaction with the apprenticeship or traineeship.

In conclusion, I argue that we have a choice. On one hand we could get serious about training designed to get people apprenticeships or traineeship, put a proper effort into designing its structure and content, and ensure that it is properly included in the national VET statistical systems. On the other hand, we could forget about pre-apprenticeships and pre-traineeships, despite their

political attraction, and worry about the role and design of lower level vocational training as a whole.

Tom Karmel
September 2021

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Appendix 1: Construction of outcome measure

Overall satisfaction with the apprenticeship or traineeship.

Note that the scale used for satisfaction questions comprises 1 *Very satisfied* 2 *Satisfied* 3 *Neither satisfied nor dissatisfied* 4 *Dissatisfied* 5 *Very dissatisfied*.

Based on the question *Taking all things into consideration, overall how satisfied were you with your apprentice or traineeship?*

Satisfaction with employment aspects of apprenticeship or traineeship

Based on the question *How satisfied were you with your employment overall?*

Satisfaction with off the job components of the apprenticeship or traineeship.

Based on the question *Overall, how satisfied are you with your training?*

Number of job related benefits¹². The sum of answers to the following:

- *Got a job* 1
- *Got a new job/changed my job* 2
- *Qualification / trade* 3
- *Gained extra skills for my job* 4
- *Experience* 5
- *Good job prospects* 6
- *A promotion (or increased status at work)*
- *An increase in earnings* 8
- *Was able to set up or expand my own business* 9
- *Get into further study* 10
- *Self-satisfaction* 11
- *Knowledge* 12
- *Enabled me to stay in the local area* 13
- *Enabled me to travel and meet new people* 14
- *Advanced my skills generally* 15
- *Gained confidence* 16
- *Improved communication skills* 17
- *Made new friends* 18
- *Seen as a role model for others in the community* 19
- *Other (please specify)* 20
- *Job security / satisfaction / like the work – boss*
- *Teamwork / networking - working with other*

Average satisfaction with employment aspects of the apprenticeship or traineeship, based on:

- *How satisfied were you with the skills you learnt on the job?*
- *How satisfied were you with your employment overall?*
- *How satisfied were you with your relationships with co-workers?*
- *How satisfied were you that you received adequate supervision?*

¹² *What benefits did you get out of your apprenticeship/traineeship?; No benefits* 21 *Don't know/refused* 999

- *How satisfied were you with the hours of work?*
- *How satisfied were you with your safety in the workplace?*
- *How satisfied were you with the pay?*
- *How satisfied were you with the type of work you were doing?*
- *How satisfied were you with your working conditions?*

Average satisfaction with training aspects of the apprenticeship or traineeship, based on:

- *How satisfied are you with the quality of your trainers/trainers/instructors?*
- *How satisfied are you with the quality of the training facilities and equipment?*
- *How satisfied are you with the relevance of the skills you learnt for your job?*
- *How satisfied are you with how up to date the skills you learnt were for your job?*
- *To what extent do you agree or disagree that your training developed your problem solving skills?*
- *To what extent do you agree or disagree that your training improved your numerical skills?*
- *How satisfied are you with the quality of your trainers/trainers/instructors?*
- *How satisfied are you with the quality of the training facilities and equipment?*
- *How satisfied are you with the relevance of the skills you learnt for your job?*
- *How satisfied are you with how up to date the skills you learnt were for your job?*

Table 11: Coefficients of regression models using various outcome measures: impact of pre-vocational training and its relevance

	Overall satisfaction with apprenticeship	Satisfaction with employment-overall	Satisfaction with off the job component	Av_satisfaction emp.	Av_satisfaction training	Number of job related benefits	Prob of completion
Constant	2.064	2.124	2.099	2.088	2.392	3.589	0.814
Female							
Male	-0.014	-0.095	-0.001	-0.060	0.008	-0.317	-0.013
15-19 years	-0.013	-0.045	-0.066	-0.067	-0.069	0.099	-0.173
20-24 years	-0.074	-0.082	-0.091	-0.058	-0.087	0.281	-0.025
25-44 years							
45+ years	-0.043	-0.026	-0.105	-0.016	-0.022	-0.434	0.018
Not Indigenous							
Indigenous	-0.172	-0.195	-0.264	-0.146	-0.209	0.541	-0.033
Metro							
Regional	-0.040	-0.092	-0.061	-0.058	-0.062	0.131	0.019
Remote	-0.180	-0.219	-0.117	-0.175	-0.172	0.318	0.053
Missing regionality	-0.085	0.074	-0.099	-0.021	-0.045	-0.559	0.003
English spoken at home							
Not-English spoken at home	-0.225	-0.117	-0.247	-0.104	-0.316	0.036	0.014
No disability							
Disability	0.220	0.072	0.132	0.029	0.107	-0.361	-0.044
Year 9	0.049	0.071	0.016	0.031	-0.016	-0.458	0.019
Year 10	-0.110	-0.067	-0.075	-0.058	-0.110	-0.102	0.038
Year 11	-0.033	-0.007	-0.060	-0.008	-0.046	-0.159	-0.001
Year 12							
ANZSCO 1&2	0.139	0.034	0.139	0.001	0.122	0.137	-0.065
31	-0.069	-0.035	-0.027	-0.011	-0.024	0.670	0.040
32	0.141	0.198	0.046	0.111	0.009	0.151	-0.107
33	0.047	0.121	-0.047	0.063	-0.067	0.129	-0.079

	Overall satisfaction with apprenticeship	Satisfaction with employment-overall	Satisfaction with off the job component	Av_satisfaction emp.	Av_satisfaction training	Number of job related benefits	Prob of completion
34	0.042	0.032	0.076	0.047	0.027	0.642	-0.011
35	0.245	0.261	0.081	0.187	0.105	0.005	-0.182
36	0.099	0.198	0.015	0.085	0.048	0.388	-0.171
39 (excluding hairdressers)	0.110	0.162	0.088	0.119	0.102	-0.663	-0.092
391	0.536	0.542	0.329	0.313	0.295	-0.545	-0.245
41	-0.056	-0.009	-0.036	0.016	0.090	0.189	-0.012
42	-0.058	-0.059	-0.054	-0.063	-0.057	0.359	-0.029
43	0.316	0.259	0.217	0.170	0.306	-0.779	-0.151
44	0.065	0.220	0.010	0.050	0.101	-0.458	0.044
45	0.085	0.175	0.002	0.055	0.077	-0.350	0.075
5							
6	0.053	0.097	-0.009	0.035	0.026	-0.504	0.008
71	0.211	0.023	0.143	0.011	0.288	-0.708	-0.066
72	0.124	0.019	0.054	-0.029	0.066	-0.678	-0.032
73	0.120	0.093	0.055	-0.005	0.045	-0.219	-0.054
74	0.035	0.006	0.033	0.066	0.094	-0.634	-0.041
8	0.051	0.133	-0.018	0.035	0.004	-0.813	-0.050
Highly relevant pre-voc	-0.226	-0.138	-0.205	-0.171	-0.257	0.544	0.053
Some relevance	0.082	0.086	0.098	0.084	0.045	0.111	0.058
Very little relevance	0.041	-0.016	-0.031	0.046	-0.036	0.251	-0.019
No relevance	0.187	0.130	0.188	0.167	0.151	-0.200	-3.665E-05
No pre-vocational training	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Survey of Apprentice and Trainee Experience and Destinations, 2019. Note that the satisfaction scales in the survey comprise 1 Very satisfied, 2 Satisfied, 3 Neither satisfied nor dissatisfied, 4 Dissatisfied and 5 Very dissatisfied. So a higher score indicates less satisfaction.

Table 13: Differential impact of highly relevant pre-vocational training on overall satisfaction and completion by occupation

	Overall satisfaction			Completion		T relative to overall impact
	Impact	Relative to overall impact	T relative to overall impact	Impact	Relative to overall impact	
MANAGERS and PROFESSIONALS	-0.15	0.08	0.28	-0.03	-0.08	-0.80
Engineering, ICT and Science Technicians	0.08	0.31	1.19	-0.11	-0.17	-1.75
Automotive and Engineering Trades Workers	-0.24	-0.01	-0.09	-0.01	-0.06	-2.01
Construction Trades Workers	-0.11	0.12	0.83	0.06	0.01	0.29
Electrotechnology and Telecommunications Trades Workers	-0.10	0.13	0.91	0.01	-0.05	-1.30
Food Trades Workers	-0.26	-0.04	-0.18	0.13	0.08	1.17
Skilled Animal and Horticultural Workers	0.29	0.52	1.65	0.07	0.02	0.18
Other Technicians and Trades Workers	-0.23	0.00	-0.01	-0.24	-0.30	-3.23
Hairdressers	0.29	0.51	2.34	0.07	0.02	0.24
Health and Welfare Support Workers	-0.39	-0.16	-0.42	0.01	-0.05	-0.31
Carers and Aides	-0.18	0.05	0.29	0.08	0.02	0.53
Hospitality Workers	-0.44	-0.21	-0.86	0.17	0.12	1.32
Protective Service Workers	-0.49	-0.27	-0.75	-0.02	-0.08	-0.55
Sports and Personal Service Workers	-0.51	-0.28	-1.23	0.16	0.10	1.25
CLERICAL AND ADMINISTRATIVE WORKERS	-0.19	0.04	0.32	0.03	-0.03	-0.60
SALES WORKERS	-0.60	-0.38	-2.15	0.08	0.03	0.47
Machine and Stationary Plant Operators	-0.65	-0.42	-1.60	0.01	-0.05	-0.46
Mobile Plant Operators	-0.64	-0.41	-1.65	0.06	0.01	0.11
Road and Rail Drivers	0.26	0.48	2.16	-0.24	-0.30	-3.72
Storepersons	-0.14	0.08	0.32	-0.09	-0.14	-1.49
LABOURERS	-0.46	-0.24	-1.43	0.16	0.10	2.07
Overall	-0.226	0		0.053	0	

Source: Survey of Apprentice and Trainee Experience and Destinations, 2019 Note that the satisfaction scales in the survey comprise 1 Very satisfied, 2 Satisfied, 3 Neither satisfied nor dissatisfied, 4 Dissatisfied and 5 Very dissatisfied. So a higher score indicates less satisfaction.

Table 14: Differential impact of highly relevant pre-vocational training on overall satisfaction and completion by selected characteristics

	Impact	Overall satisfaction Impact relative to overall	T compared to -.22 6	Impact	Completion Impact relative to overall	T compared to 0.053
Female	-0.18	0.05	0.63	0.05	0.00	-0.16
Male (benchmark)	-0.22	0.00	0.06	0.03	-0.02	-0.87
15-19 years	-0.18	0.05	0.53	-0.03	-0.09	-2.21
20-24 years (benchmark)	-0.22	0.00	0.06	0.03	-0.02	-0.87
24-44 years	-0.15	0.07	1.00	0.04	-0.02	-0.51
45 plus years	-0.34	-0.12	-0.93	-0.01	-0.07	-1.29
Year 9	-0.29	-0.06	-0.37	0.03	-0.02	-0.28
Year 10	-0.18	0.05	0.57	0.03	-0.02	-0.55
Year 11	-0.35	-0.12	-1.35	0.09	0.03	0.91
Year 12 (benchmark)	-0.22	0.00	0.06	0.03	-0.02	-0.87
Not Indigenous (benchmark)	-0.22	0.00	0.06	0.03	-0.02	-0.87
Indigenous	-0.21	0.01	0.09	0.07	0.02	0.33
No disability (benchmark)	-0.22	0.00	0.06	0.03	-0.02	-0.87
Disability	0.33	0.55	2.83	-0.05	-0.10	-1.24
English (benchmark)	-0.22	0.00	0.06	0.03	-0.02	-0.87
Not English	-0.30	-0.08	-0.87	0.05	0.00	-0.11
Metro (benchmark)	-0.22	0.00	0.06	0.03	-0.02	-0.87
Regional	-0.33	-0.11	-1.55	0.07	0.02	0.74
Remote	-0.32	-0.09	-0.48	-0.05	-0.10	-1.32
Region missing	-0.18	0.05	0.13	0.04	-0.01	-0.07

Source: Survey of Apprentice and Trainee Experience and Destinations, 2019. Note that the satisfaction scales in the survey comprise 1 Very satisfied, 2 Satisfied, 3 Neither satisfied nor dissatisfied, 4 Dissatisfied and 5 Very dissatisfied. So a higher score indicates less satisfaction.

Commentary

Bruce Mackenzie

Formerly Chief Executive of Holmesglen, Bruce was the Chair of the Victorian Government Funding Review 2015 to 2016. He is one of four members of the management unit that in 1981 created the Victorian TAFE Board and the Victorian TAFE college system. Throughout his 30 plus years in the sector, Bruce established a reputation as an innovator and leader, not only in the TAFE sector, but in formally and informally developing networks to build capacity, mentoring others and providing strong advocacy on behalf of the VET sector. He also made a significant contribution through the development of innovative products and practices in technical and vocational education. In 2017, the Australian Government formally recognised Bruce's unique contribution to the sector in awarding him the Australian Training Awards - Lifetime Achievement Award. Bruce is a member of the Advisory Board of the Mackenzie Research Institute.

My take on pre-apprenticeships is that they are regarded as being 'a good thing' and governments are happy to support them, and TAFEs and schools are happy to deliver them. But they have never been conceptualised properly. In particular, we need to define what we mean by a pre-apprenticeship and be clear about the outcomes that should be expected. We need also to spell out the key elements that are needed to produce positive outcomes for the students.

A central question is whether pre-apprenticeship programs are intended to contribute to a student's capacity to continue with more education or whether they are intended to funnel students into employment as an apprentice in a particular industry area. Pre-apprenticeships in their current form, as poorly defined as they are, tend to narrow rather than broaden student options.

Pre-apprenticeships at schools have particular issues because they are delivered in the school environment and do not include the work experience demanded by industry. This raises a number of issues. For example, if a student completes the first two years of the off-the-job training component of an apprenticeship it is unlikely that an employer would be prepared to take the individual as a third year apprentice, given that the employer would have to pay year three wages to a person with no work experience. If this is so then the completion of the third year training would have to be delayed until the student's work experience can catch up. But this would entail the student obtaining an apprenticeship and could potentially extend the time of the apprenticeship.

Similarly, a pre-apprenticeship student from the school environment cannot normally complete the third year of the training anywhere else than at a TAFE institution. My own experience at Holmesglen was that the trade departments did not give full credit for their school training. Also Group Training companies which often employed the students didn't tend to give full credit for the school experience.

I am concerned that pre-apprenticeships conducted at schools in an academic environment can potentially damage VET's reputation for quality, especially if the student has nowhere to go educationally and if they do not obtain an apprenticeship. Equally, an unsuccessful experience will tarnish parent and student attitudes to the industry associated with the courses.

A fundamental issue is that we have never adequately defined what pre-apprenticeships are. Surely, we need to conceptualise them properly, and include them as a formal part of the VET sector, so that we can ensure that students get good outcomes and the community value for money. Pre-

apprenticeships should be a conduit to skilled employment or to higher level training, not just another program that gets lost in the morass of lower level training.

Pam Jonas

Pam has 30+ years of experience in education, vocational education and training, employment, and industry across leadership, advisory, advocacy, and research positions. She has a comprehensive understanding of the state and national education and training systems; and a deep knowledge of the skill needs and development challenges that they are designed to meet. Her perspectives are shaped by working within the vocational education and training sector as a senior policy advisor, researcher and advocate; and by working in similar roles in industry/employer associations giving her a strong depth of knowledge and experience from the employer perspective of the education and training sectors. Pam is a member of the Advisory Board of the Mackenzie Research Institute.

One of the challenges of understanding the efficacy of pre-apprenticeships is that they are often used for purposes other than that of obtaining an apprenticeship. However, taken at face value, it would seem that pre-apprenticeships that do not lead to an apprenticeship have not served their purpose. For those students who have undertaken a (relevant) pre-apprenticeship the analysis by Tom Karmel has shown that it improves completion rates. My supposition is that in some cases it can (and possibly should) reduce completion times.

My experience is that pre-apprenticeships are used for a raft of other purposes, such as second chance learning for school leavers, as a taster for students who have no intention of pursuing an apprenticeship, delivering employability skills or building foundation skills. However, from a policy point of view the fact that we do not define or label pre-apprenticeship courses makes it almost impossible to evaluate what outcomes are achieved through these courses. There is indeed an argument to more narrowly define and name pre-apprenticeship courses for what they are (that is, as a pathway into an apprenticeship) and to separate them from other interpretations or uses.

One thing that Karmel's paper does is to look at the distribution of pre-apprenticeships and outcomes across various characteristics. The comment 'highly relevant pre-vocational training is not acting as an alternative to year 12' is pertinent to the development of the new VCE with a vocational specialisation in Victoria. Karmel found that there was little difference in the proportion of those with year 11 who had undertaken highly relevant pre-vocational training compared to those with year 12, and a significantly lower proportion of those who left school before year 11. Thus any notion that the current pre-apprenticeship training is providing a clear pathway to those not completing school has to be dismissed. If such a pathway is to be created it must be radically different from current offerings of pre-vocational training.

A final point I found of real interest relates to the paper's comments on the value of pre-vocational training for students with a disability and other equity groups. Specifically, persons who have a disability report that their satisfaction levels and completion rates are lower for those who have undertaken highly relevant pre-vocational training. The broad conclusion is that pre-vocational training does not have any particular merit in assisting those from equity groups. This is concerning given that, at least anecdotally, assisting equity groups is seen as one of the aims of pre-vocational programs. The obvious conclusion is that if we are to redesign pre-vocational programs we need to be very clear about their aims, and to design programs specifically for various target groups. We need to be more thoughtful rather than just assume that any VET is 'a good thing'.

Robin Shreeve

Robin has more than thirty years' experience in vocational education and training in Australia and England, with roles in management, policy development, teaching and resource centres and in government policy think tanks. From 2005 to 2009 Robin was the Chief Executive of City of Westminster College in London and Director of the TAFE NSW Western Sydney Institute which includes the large online provider, Open Training and Education Network (OTEN) from October 2014 to March 2017. Previously he was Chief Executive of the Australian Workforce and Productivity Agency (AWPA also known for a time as Skills Australia) which was an independent body advising the Australian Government on workforce development and workforce skill needs. Robin is a member of the Advisory Board of the Mackenzie Research Institute.

My experience in NSW suggests that there was a view amongst some but not all trades teachers that their only “real” students were actual apprentices who were employed on apprentice contracts, and that other students impacted on the quality of the student body. I had a trade section head who far preferred apprentice students who had completed their HSC rather than a Certificate I or II on the basis that the non-HSC students would almost certainly be weaker at mathematics than those who came via a HSC pathway. He assumed Certificate I or II students would not have completed their Year 12 leaving certificate. His view was not uncommon amongst trades teachers in areas which required more mathematical ability such as electrical and plumbing. As a result they were less enthusiastic about running pre-apprenticeship courses and often put novice casuals on to teach them when in fact these students probably required more experienced teachers.

Local labour market conditions can also have an impact. When I was an Institute Director in the North Coast unemployment was very high and it was very difficult to get an apprenticeship. Much to the surprise of many of her colleagues in other locations, the Head Teacher of Hairdressing ran the first year of the Hairdressing Apprenticeship Certificate III as a full time course over 6 months. The course included considerable simulated work experience. The pitch to employers was if you take on one of these students as an apprentice they need not come to TAFE in their first year as they have already done that off-the-job training. The pitch to students was this will help get an apprenticeship. It worked well for 2 or 3 years but was dropped when employment prospects improved and the number of apprenticeships increased.

A broader question is how valuable are any Certificates I and II? Do they help employers select apprentices? What do students achieve in terms of the acquisition of vocational or generic skills? We know that they are below the Year 12 Certificate educationally. If these ‘pre-vocational lower level certificates’ are targeting school dropouts and ‘second chance’ older students, would a better option be a more generic course at a higher level designed to be taught in a way that worked for students who struggled previously in the formal learning environment at school? Should we be talking about a generic vocational qualification at the Certificate III level that provides a real alternative to the Year 12 Certificate and provides a realistic pathway to employment or further education?