



# National Agreement for Skills and Workforce Development Review, Productivity Commission -

## A reflection

Tom Karmel

Mackenzie Research Institute  
E: [tom.karmel@hotmail.com](mailto:tom.karmel@hotmail.com)  
[info@mri.edu.au](mailto:info@mri.edu.au)

## National Agreement for Skills and Workforce Development Review, Productivity Commission – a reflection\*

Tom Karmel, May 2021

The Productivity Commission review is a very substantial piece of work. The overview document is 59 pages while the full report weighs in at 532 pages. Its list of abbreviations takes up three pages (although it fails to list TLA<sup>1</sup> that we managed to smuggle into a government report while I was in the Commonwealth bureaucracy). Consultations were widespread with government officials, regulatory bodies, service providers, unions, industry groups and academics. There were 158 public submissions (including one from me and one from the Mackenzie Research Institute). The list of meetings covers five pages. As I said, it is indeed a very substantial piece of work.

In this reflection, I propose to comment on the key points, which are admirably summarised in a single page of the review (see Box 1). I finish with some final reflections.

### ***This review has not found evidence of a vocational education and training (VET) system in crisis.***

This is not a surprising finding given that the sector has many millions of students, including (latest data) 1.2 million Government funded students, 3.1 million domestic fee-for-service students and 267,000 apprentices and trainees (NCVER 2020a, 2020b).<sup>2</sup> It is the sector that trains the trades, and people to work in all industries, including those that are expected to grow strongly such as aged care and health. Nevertheless, educationally speaking it is the Cinderella sector, squeezed between the school sector, which is where the political power is, and the university sector which educates professionals and is colonising more and more of the skilled lower level or para-professional occupations. More and more occupations are requiring degrees as an entry qualification, and the VET system is not occupying this space. Educational values seemed to have virtually disappeared from the VET sector and teachers/trainers do not require a degree, unlike schooling (including early schooling) or university teaching. The emphasis of the sector is driven by prescriptive training packages that have minimal general education content, and are delivered by a multiplicity of providers. Unlike universities, VET providers have little institutional autonomy and ability to construct educational offerings to fill a market gap. And yet VET is meant to remedy the failings of the secondary school sector.

So maybe the sector is not in crisis, but is it heading towards marginalisation where it is a less and less important sector of education? More importantly, can we envision a VET sector that is blossoming and expanding? A number of eminent universities such as University of New South Wales began as working men's colleges with a specific vocational orientation. Why aren't we seeing some of the larger providers, including the TAFEs, going up-market and offering programs from Certificate I through to vocational based degrees, and tailoring their offerings to the needs of individual students, not just employers?

---

\* I would like to thank the Mackenzie Institute Advisory Board for comments on an earlier version.

<sup>1</sup> TLA of course stands for Three Letter Acronym.

<sup>2</sup> If we use full-time equivalents, then VET is a lot smaller than the impression given by the numbers of students. According to NCVER (2020a) the total (government funded and not government funded) number of full year training equivalents was 926,00 in 2019.

## Box 1: Recommendations of the Productivity Commission

### Key points

- This review has not found evidence of a vocational education and training (VET) system in crisis. Our recommendations address some of the system's acknowledged weaknesses and should build on its strengths to lift participation and improve the quality of training.
- The National Agreement for Skills and Workforce Development is overdue for replacement.
  - Governments have stepped back from some of its policy aspirations. Targets have not been met and the performance framework has not held governments to account.
- A new intergovernmental agreement should be principles-based, modular (to retain flexibility and currency) and reviewed every five years.
  - Australian Government funding should remain largely untied for base funding but subject to much greater accountability and transparency.
- Governments should continue to support the development of a more efficient and competitive VET market through informed user choice and a focus on quality.
  - Students need better curated information on career opportunities, the performance of training providers, course quality and prices.
  - Efforts to improve quality should be ramped up through faster changes to training packages, developing an evidence-based VET workforce strategy, and a phased introduction of independent assessment.
- There is a manifest capacity for governments to achieve a better return on the \$6.4 billion spent on VET by:
  - using the efficient costs and loadings currently being estimated by the National Skills Commission as a common basis for setting and simplifying course subsidies
  - introducing modest minimum student fees for Certificate III and above courses with exemptions for disadvantaged students
  - applying more contestability and transparency to public funding of TAFEs and enhancing the operational autonomy of public providers
  - enabling State and Territory funding to follow students enrolled with an interstate provider.
- To scale up workforce skills, governments should expand VET Student Loans (VSL) to more Diploma and above courses and to most Certificate IV courses.
  - Loan caps should better reflect course costs, and loan fees should be paid by all students.
- Reforms to the trade apprenticeship system are best focused on:
  - improving completion rates by better screening and matching of prospective apprentices
  - making pathways more flexible and providing the same subsidy for non-apprenticeship pathways as for traditional pathways
  - adjusting the timing of employer incentives to provide more support when the risk of cancellation is greatest.
- There should be a coordinated national strategy to improve school education, 'second-chance' learning in the VET sector and other adult education services to reduce the large number of Australians with low language, literacy, numeracy and digital literacy skills.
- To address some of the key obstacles to lifelong learning, this report proposes improvements in foundation skills, better credit pathways, an expansion of VSL and a trial of a new financing instrument for mature-age Australians reskilling and upskilling.

Source: Productivity Commission 2021

The answer is in the way we have set up institutions and funding arrangements. Training packages, teachers without professional credentials, providers who have little autonomy, assessment that is not independent – there are many reasons why VET is not thriving. The question is whether this report is going to assist VET in growing, or whether we are looking at a set of arrangements that inevitably will diminish the sector.

- ***The National Agreement for Skills and Workforce Development is overdue for replacement.***
  - ***Governments have stepped back from some of its policy aspirations. Targets have not been met and the performance framework has not held governments to account.***

I suspect this finding will not be disputed by anyone. However, I have misgivings about the use of targets. Targets can be good in terms of signalling where the government wishes the sector to go, but they can be a reminder of King Canute’s limitations. One cannot change the world by administrative fiat. And we know that if there is money attached to targets then behaviour will be modified to accommodate the targets. Another complication is that outcomes – take employment rates of new graduates for example- are not directly linked with the quality of the qualification or education. Individuals have choices and labour markets are a law unto themselves. If the employment rate for graduates declined in 2021, for example, because of the COVID-19 turmoil this is hardly the fault of individual providers. Is there a case, perhaps, for a more hands-off approach in which governments provide a certain level of support, we set an institutional structure (compare with rules-based international trade agreements), we support the value of education in a general sense (even if it is not STEM) and let what happens happen? But this is probably neo-liberal claptrap, in an environment where government seems to believe that it can solve all problems (or the electorate expects governments to solve all problems).

- ***A new intergovernmental agreement should be principles-based, modular (to retain flexibility and currency) and reviewed every five years.***
  - ***Australian Government funding should remain largely untied for base funding but subject to much greater accountability and transparency.***

How could one argue against a principles-based approach or a review every five years? I’m not sure what modularity means though if the funding is ‘largely untied’. The funding being untied is faithful to the principle that decentralised decision-making has more chance of getting it right relative to directions from Canberra. Accountability and transparency must be very close to motherhood in terms of good public policy.

- ***Governments should continue to support the development of a more efficient and competitive VET market through informed user choice and a focus on quality***
  - ***Students need better curated information on career opportunities, the performance of training providers, course quality and prices.***
  - ***Efforts to improve quality should be ramped up through faster changes to training packages, developing an evidence-based VET workforce strategy, and a phased introduction of independent assessment.***

It is not surprising that the Productivity Commission would advocate a more efficient and competitive VET, and it is not something one could disagree with. But nominating more informed user choice and a focus on quality is very much a ‘keep the status quo’ option. I am a great believer in competition as a driver of choice and efficiency, but it works much better in some markets than

others. Education is a rather peculiar market for a number of reasons. First, the consumer in general can only judge the quality of a training course after having done it, and typically a student will only undertake the course once (I guess if they fail they might take it again). Second, markets are distorted by government funding – if the government is paying a fair proportion of the cost then over consumption is likely. On this point, there has always been an active fee-for-service market in which there were few complaints about quality. Third, it is a market where the Government has privileged certain products through specifying that training packages are the basis of the sector. Many students are therefore buying qualifications rather than necessarily the training as such. If a student needs a piece of paper as a work ticket, then it may well be logical to pick the cheapest provider. The focus on quality through a regulatory body immediately takes away from the provider the impetus to offer high quality and innovative products, especially if regulation is focused on compliance and form keeping.

As for the ‘need for better curated information on career opportunities’. While this seems self-evident, career counsellors bring a certain view to the world (and often not one that favours VET) and ignores the reality that there is a very poor match between field of training and subsequent occupation. Many students follow advice of family and friends, and often follow the opportunities that crop up through family and friends. Also VET is largely associated with occupations with relatively low socio-economic status, and the status of VET reflects this. So I am a little sceptical that ‘better curated career information’ is going to substantively improve things. As to better information on ‘*the performance of training providers, course quality and prices.*’ We know how difficult it is to provide robust and reliable information. Prices provide something that would be useful and hopefully accurate – although sticker prices can be unreliable - but good luck in getting reliable information on course quality and performance of training providers. Student outcome and satisfaction data are very useful, especially at a system level, but are dodgy when you have thousands of small providers. Statistically, there are insufficient observations to provide a robust estimate of performance and, statistically, we know that student characteristics are important factors in outcome and satisfaction scores. But these are never taken into account when the data is compiled. Inevitably league tables emerge, in which often there is no statistical significance between providers from the 20 to 80<sup>th</sup> percentiles (which has not stopped universities trumpeting their ranking when it is favourable to them)

- ***As to Efforts to improve quality should be ramped up through faster changes to training packages, developing an evidence-based VET workforce strategy, and a phased introduction of independent assessment.***

The call for faster changes to training packages is to be expected – the speed of updating has always been a bugbear. However, giving institutions and teachers more authority may be a more flexible approach – but this would not be countenanced in an industry led system where providers and teachers hold little sway. The idea of ‘developing an evidence-based VET workforce strategy’ made me chuckle. Of course, it would be good to have a better picture of the workforce and I am all in favour of a decent survey. But how can we be serious when all is needed to teach in VET is a Certificate IV in Teaching and Assessment – even for those who deliver the Certificates IV in Teaching and Assessment. We have gone out of way to marginalise the educators.

The one recommendation in this tranche I heartily agree with is the introduction of independent assessment. The assessment of competency by those delivering the training is a clear weakness of the current system. Independent assessment would provide a huge lift in credibility for the sector. Of course, it would need to be done sensibly, and not every competency needs to be checked but it would be a great improvement to have elements of independent assessment in the sector.

It is interesting to note in this regard that the higher education sector does not have independent assessment. However, their institutional structure is a lot stronger (Academic Boards and the rest) and even here there are complaints about drops in standards.

- ***There is a manifest capacity for governments to achieve a better return on the \$6.4 billion spent on VET by:***
  - ***using the efficient costs and loadings currently being estimated by the National Skills Commission as a common basis for setting and simplifying course subsidies***
  - ***introducing modest minimum student fees for Certificate III and above courses with exemptions for disadvantaged students***
  - ***applying more contestability and transparency to public funding of TAFEs and enhancing the operational autonomy of public providers***
  - ***enabling State and Territory funding to follow students enrolled with an interstate provider.***

It is eminently sensible to try to get some uniformity into costs and loadings and perhaps the National Skills Commission is as well placed as anyone to come up with reasonable costs. That said, my recollection is that there is reasonable uniformity in views about the cost of delivering a course across TAFEs in various states. I have from time to time put forward a very cheap way of estimating these costs (theoretically there is no right answer because there are all sorts of ways of delivering material, no prescribed ideal quality, and educators will always spend the money that they get) which is to lock knowledgeable people in a room and not let them out until a consensus is obtained. I would concede, though, that ‘bladder control’ as a way of reaching consensus does not appear in any public policy textbook.

I have some sympathy with the recommendation that there should be fees for Certificate III and above. Having skin in the game prevents many perverse outcomes from occurring. If students have to pay a reasonable amount, then they will want to get their money’s worth. On the other hand, we offer free year 12 schooling to those attending a government school, and year 12 is more substantial than many Certificates III.

- ***applying more contestability and transparency to public funding of TAFEs and enhancing the operational autonomy of public providers***

This is a mixed bag. ‘Applying more contestability’ sounds a bit like TAFE bashing. While other providers may be able to deliver public good outcomes, we need to be very wary of weakening the institutions we have. We should be trying to strengthen our institutions – and hence enhancing operational autonomy of public providers (which I am very supportive of). The problem with contestability is that it can be a one-way street. If we have a number of strong providers then good, but if we end up with a residualised public system then the sector will be the loser.

- ***To scale up workforce skills, governments should expand VET Student Loans (VSL) to more Diploma and above courses and to most Certificate IV courses.***
  - ***Loan caps should better reflect course costs, and loan fees should be paid by all students.***

Income contingent loans have been the mainstay of the higher education sector, and thus it seems to make sense to ensure that VET sector students can also access them. Otherwise, it is yet another reason to go to university rather than VET. However, we have seen what happens if not carefully done, and we have seen what unscrupulous providers can get up to. The issue is that a student loan is free money if the individual never pays it back, unlike a mortgage loan which always needs to be

repaid. In making loans more broadly based we need to be sure that most people will achieve high enough earnings to pay back the loan. Therefore, we need to tread carefully, although there is a clear financial return on many diploma courses.

Loan caps better reflecting course costs sounds like prudent administration. I am generally in favour of loan fees because they recognise that there is a cost to government in providing loans – money is not free.

- ***Reforms to the trade apprenticeship system are best focused on:***
  - ***improving completion rates by better screening and matching of prospective apprentices***
  - ***making pathways more flexible and providing the same subsidy for non-apprenticeship pathways as for traditional pathways***
  - ***adjusting the timing of employer incentives to provide more support when the risk of cancellation is greatest.***

This is an interesting selection of recommendations. Certainly, completion rates are not that high and no one would argue that an increase in them would be better for the sector. We know that the three main reasons that apprentices drop out are: first, the apprentice decides that he or she does not like the type of work; second, the apprentice does not like the boss; and third, the apprentice does not like the work culture. Better screening might address the first of these, although the effect of pre-apprenticeships is somewhat mixed. In hairdressing for example, we found that a pre-apprenticeship seemed to reduce rather than increase completion rates (Karmel and Oliver, 2011). The most likely reason for this is that the level of work in a pre-apprenticeship is low (i.e., sweep the floor), and the first year of an apprenticeship can be similar. Thus, apprentices get bored and drop out. Better screening and matching, may not address the work culture issues. In this regard, work I have done suggested that large employers have much better completion rates, and this is no doubt because they have much better training frameworks and offer better support than small employers (Karmel and Roberts 2012). I once facetiously made the comment that the best way to improve completion rates would be to prevent small employers from taking on an apprentice – not a popular sentiment.

The second recommendation *making pathways more flexible and providing the same subsidy for non-apprenticeship pathways as for traditional pathways* is a radical suggestion indeed. Many countries have institutional pathways to the trades but they have been anathema in Australia. But it seemed to me a way of adding flexibility to the supply particularly when an inadequate number of employers are taking on apprentices. There is no reason why a TAFE or other provider cannot teach the skills and provide a realistic simulated workplace. For example, work hours could match industry practice, and it is easy enough to undertake construction at a TAFE campus (for example, demountables could be built as a semi commercial exercise). I recall talking to a plumbing teacher whose view was that it would take about a year to provide the necessary technical skills to be a plumber.

I am not sure about *adjusting the timing of employer incentives to provide more support when the risk of cancellation is greatest*. I always felt that in the trades taking on an apprentice is not to be taken lightly (Nechvoglod et al 2009). For starters, apprentices have to be closely supervised and this is not cost free. The idea that they are cheap labour is misleading and most employers do not take on apprentices because of the subsidy. So I am a little sceptical about this recommendation.

- ***There should be a coordinated national strategy to improve school education, ‘second-chance’ learning in the VET sector and other adult education services to reduce the large number of Australians with low language, literacy, numeracy and digital literacy skills.***

The VET sector is expected to do everything. It needs to cater for ‘industry needs’ but also be the equity sector and address disadvantage and the failings of the schooling system. Thus VET is expected to provide second chance learning. On the other hand, one of my criticisms of the VET sector is that it pays insufficient attention to broad education. I would thus be very supportive of the provision of a general education – perhaps a certificate or diploma in general education – that would create a pathway into other VET courses. However, this would need to follow a curriculum that is a world away from training packages with their focus on narrow competencies.

Separate from VET is community or adult education that has a long history of addressing the needs of those with low language, literacy, numeracy and digital literacy skills. This sector has been low key and little data has been collected about it (NCVER collects some data about the provision of VET in the community education sector –see NCVER 2020). I am not sure what the Productivity Commission has in mind when it talks about ‘a coordinated national strategy’. Another point to keep in mind is the extent to which those with low literacy skills are interested in undertaking serious study to overcome them. Australians have a tendency to say that they are interested in more education but then have many reasons (too busy, family responsibilities etc.) as to why they do not undertake lifelong learning.

- ***To address some of the key obstacles to lifelong learning, this report proposes improvements in foundation skills, better credit pathways, an expansion of VSL and a trial of a new financing instrument for mature-age Australians reskilling and upskilling.***

As I said earlier, I am not sure about what the key obstacles to lifelong learning really are. We know that the better educated tend to undertake more lifelong learning – for example, professionals have to keep the currency of their skills and knowledge up to date, and they tend to get better support from their employer than is the case of those with lower skill levels. Better credit pathways may help encourage people to undertake more education, but it can be the case that it is more trouble to get the credit than it is to undertake the education/training (my experience is that you often learn something really well when studying it for the second time). I look forward to seeing the results of a trial of a new financing instrument for mature-age Australians reskilling and upskilling. This should be successful if financing training is the main issue. But if it is the opportunity cost that is critical (too busy, have to attend to family responsibilities etc.) then a new financing instrument may not help that much. On the other hand, who could argue with ‘improvements in foundation skills’.

## **Final reflections**

The review did not find evidence of a VET system in crisis, and made a number of recommendations which fundamentally endorse (or at least accept) the status quo while polishing up some of the edges – although TAFEs would see the recommendation to apply more contestably and transparency to public funding of TAFEs as yet another attack on them. I am not so sanguine, and have formed the view that we are seeing a VET system that is becoming residualised. The higher education sector is creaming off the higher level qualifications and leaving VET as a provider of second chance and provider of lower level qualifications for low status occupations. This review was an opportunity to



shake up the sector, address the issues that are plaguing the sector, and contemplate reforms that would place the sector on an upward trajectory. But that did not happen.

I need to be more specific. The issues I see as salient are:

*A triumph of training over education.* Where is the education in VET? (and universities are taking over the vocational aspect of more and more occupations). Training packages are constructed as a prescribed set of tasks which, in theory, will enable an individual to be work ready for a workplace. There is no recognition that the training should provide a foundation, to be supplemented by further training by the employer and experience. There is no recognition that a key function of education is to provide an individual with options, and to insure against future uncertainty. We need to recognise that skills are embodied in an individual, not assigned to an employer. Broader based education and training should provide foundation skills for future challenges as well as the ability to undertake specific current tasks. Lip service is paid to generic skills but nowhere is there a recognition of general education or the need to have underpinning knowledge and theory. We also need to be mindful that there is a poor match between the VET qualifications undertaken and the occupations that VET graduates work in. The qualifications need to be useful in a wide variety of contexts. Whether we like it or not, VET needs to have a general education role, in the same way that Higher Education has a vocational role.

*The marginalisation of educators.* The competency movement and creation of training packages appears to have removed the need for VET teaching as a profession. All that is needed to deliver VET training is a Certificate IV in Training and Assessment. At the same time as we are trying to improve the professionalism of childcare and community care we have de-professionalised the delivery of VET. Universities have largely abandoned VET or adult education from their education departments. It is telling that the latest survey of the VET workforce does not even collect data about the number of VET teachers (oops, I mean trainers) who have degrees (Knight et al. 2020)<sup>3</sup>.

*The unevenness of qualifications.* On the whole, the general public has an idea of what it means to complete twelve years of schooling or to undertake a degree. This is largely due to the understanding that these qualifications take a certain period of time and effort. But in the VET world, quantity measures are not used in the design of qualifications – I guess because of the competency fixation. So we have situations in which a Certificate III can demand a high level of cognitive ability and four years of study (electrical, for example although the size of full-time off the job training would be around one year) or can be undertaken over a couple of weekends (security, for example). It is not surprising that there is general confusion about the value of qualifications. This is not to say that micro-credentials are not valuable- clearly, there is a role for ‘tickets’ (such as the licence to drive a forklift or to serve alcohol in hospitality) but more that the core qualifications should have real substance and be broadly comparable at any given level.

*Assessment.* One of the greatest vulnerabilities of VET is the lack of separation between teaching and assessment. The trainers can tick off that their students are competent. The VET sector would inspire much greater confidence if independent assessors certified students as meeting the requirements of a qualification. This is certainly done at year 12 by the various State based Boards of Studies. I acknowledge that it does not occur at universities but the difference is that universities have very tight academic governance arrangements (revolving around Academic Boards) which

---

<sup>3</sup> According to Table 6 (Knight et al 2020), 77.1% of VET trainers and assessors hold a Certificate IV in Training and Assessment, and around 16.2% have a Diploma of VET, a Diploma of Training Design and Development, any other Diploma in Adult Education, or any other higher-level qualification in Adult Education.

provide a certain degree of reassurance (although this has not stopped complaints about drops in academic standards). I am not arguing that all assessment needs to be independent from the trainers, but rather key qualifications or modules should be. In this regard, I note that there are examples of independent assessment in VET, such as the A grade Electrician Test in the electrical industry. I would also make the point that independent assessment might be expensive but the ramifications of shoddy training are likely to be even more costly. A final argument for independent assessment is that it frees up the regulatory burden in a radical way. Regulation of individual providers is not really necessary if the training is independently assessed - the quality of the provider will be self-evident.

*The institutional structure of VET.* The Australian VET sector has many thousands of small providers. The relatively large providers are the public TAFEs which have limited autonomy because of the emphasis on training packages and their relationship with their State government departments – unlike public universities which are independent of government and are responsible for their academic offerings. In my view, the VET sector would be appreciably strengthened if we differentiated by institutional type and allowed large providers (mostly TAFEs) much greater independence.

The benefits that come from having large, strong institutions are varied. First, regulation can be devolved to the institution (allowing a much lighter regulatory touch). Second, bland and homogenised providers do nothing for student choice or innovation. Third, large and strong institutions would be in a position to bridge the divide between school, VET and higher education. To me, a model of professional/vocational university (or technical institute) which offers final year of secondary schooling in a non-school environment, certificate and diploma qualifications and degrees in certain vocational areas is very attractive (of course, higher education is full of ex-technical colleges – University of NSW and RMIT university to name two).<sup>4</sup> It would allow TAFEs to go up market and defend VET as an integral component of post-school education. It would promote vertical integration in areas such as health/community care, building and engineering. However, the hurdles are high, with funding, regulatory and industrial issues being notable, and there would need to be considerable political courage to effect such a reform.<sup>5</sup>

A final issue is *the structure of apprenticeships*. In theory, the apprenticeship system has a lot going for it, with the combination of a job and therefore an income, on the job experience/training and off the job training. In practice it has drawbacks, with unevenness in the quality of on-the-job training, and no guarantee of the system producing sufficient numbers of skilled tradespeople. Perhaps it is time to supplement the current model with an alternative. An excellent model of on the job and off the job training that does not require direct employment is the clinical placement model used in nursing for both enrolled (VET trained) and registered nurses (University trained). Another possibility is a fully institutional model incorporating sophisticated and substantial simulated workplace experience. This would work well in some areas such as hospitality (the institution can have a real restaurant) or health/beauty (where the institution can have working clinics).

Thus, the Productivity Commission has largely wasted an opportunity to shake up VET.

---

<sup>4</sup> It could also offer foundation courses and skills upgrading courses, although they would face still competition from universities with their adult and professional education programs.

<sup>5</sup> It is salutary to observe that the dual sector universities do not appear to have been champions for VET or to have taken advantage of the dual sector coverage. Perhaps the separate funding arrangements for VET and Higher Education just make it too difficult.

If I were to dream I would have dreamt that the Productivity Commission had recommended<sup>6</sup>:

- Putting education back into VET
- Advocating the professionalisation of VET teaching
- Addressing the incoherence and unevenness of qualifications
- Introducing independent assessment
- Strengthening the TAFEs (and some large private providers) to allow them to become vocational universities
- Creating alternative models to supplement apprenticeships.

Just a dream.

## References

Karmel, T, Mlotkowski, P and Awodeyi, T 2008) Is VET vocational? The relevance of training to the occupations of vocational education and training graduates, NCVER

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

Karmel, T, Roberts, D 2012, *The role of "culture" in apprenticeship completions*, NCVER, Adelaide.

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

Knight, G, White, I & Granfield, P 2020, *Understanding the Australian vocational education and training workforce*, NCVER, Adelaide, viewed 30 Apr 2021, <<https://www.ncver.edu.au/research-and-statistics/publications/all-publications/understanding-the-australian-vocational-education-and-training-workforce>>.

NCVER 2020a, Total VET students and courses 2019

NCVER 2020b, Historical time series of apprenticeships and traineeships in Australia

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

Productivity Commission, 2021, National Agreement for Skills and Workforce Development Review, Study Report

---

<sup>6</sup> To be fair, the Commission did make recommendations on two of aspects of my 'dream', namely a phased introduction of independent assessment and making trades pathways more flexible.