Fit for purpose?

Reforming tertiary education in Australia

Discussion Paper

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Executive Summary

This paper reviews the basis upon which tertiary education is constructed in Australia. It considers whether the existing structure is serving Australia's interests. It concludes that the broader aim that underpinned Australia's tertiary education - that is a skilled workforce and increasing participation by disadvantaged groups in higher education, combined with high quality teaching - has not been achieved and never will be, if the existing framework is maintained.

The paper suggests that the theoretical underpinnings for higher education are flawed as a result of a misconception about the drivers of student access and success. That the underpinnings of vocational education in Australia are based on discarded and unproven ideologies.

Using data from the Organisation for Economic Co-operation and Development (OECD) that compares skilled workforces internationally, it is suggested that our existing tertiary structure has led to a hollowing out of skills within the Australian economy. That is, if the current arrangements are allowed to continue, Australia will become internationally uncompetitive.

In considering reform, the paper acknowledges the power of a rising middle class and established elites to use higher education to advance or buttress social position. It suggests that the movement towards mass systems of education can lower quality, especially if for profit providers operate.

A proposition is advanced that in any reform of tertiary education, the starting point has to be at the upper secondary education level. An analysis of Australian student outcomes in years 11 and 12 over a four-year period indicates that the outcomes are unimpressive. Drawing on an understanding of tertiary systems in Nordic countries, Germany, and the nascent UK initiatives, a framework for reform is advanced that collapses Certificates I to III into one, two year upper-secondary professional certificate taught in TAFE institutions.

The certificate has a broad-based vocational focus and has minimum requirements in literacy and numeracy. An additional strand is added to Australia's vocational education framework with the creation of teaching-focussed Professional universities that are underpinned by adult learning concepts and extensive lower level vocational programs.

These arrangements create a binary system in Australia, as well as enhancing diversity. The purpose of the Professional universities is to provide an unencumbered pathway for students both young and mature age to undertake advanced tertiary studies

A number of issues are explored in regard to the advantages and barriers to the proposed reform.

Reforming Tertiary Education

Introduction

In the past 12 months there has been an unprecedented raft of position papers from industry, universities, government, consulting firms and individuals relating to the need to rethink and reform tertiary education in Australia. While each has a particular emphasis, there are many elements in common. These include the need:

- for the Australian government to develop, in conjunction with stakeholders, a national tertiary education policy which provides an objective-based, long-term vision for the sector;

- to rebalance the current system, with particular focus on raising the status of, and participation in, vocational education and training;

- to address funding complexity, especially in relation to inequitable student loan arrangements and fees and charges at both state and Commonwealth levels;

- to create a diverse and inclusive system that assists in overcoming disadvantage and provides lifelong learning opportunities for all Australians;

- to recognise the value to the economy of an integrated tertiary education;

- to ensure that funding allocations to both (Vocational Education and Training) VET and higher education are efficient and effective;

- to establish a nationally coordinated tertiary system.

The impetus for reform is in part driven by the anticipated changes that will occur in Australia caused by the Fourth Industrial Revolution and globalisation. No one is certain what the specific future requirements will be for tertiary education, but there is overwhelming consensus that completing upper secondary education will not be sufficient for effective participation in a globalised economy.

In a domain where policy, practice and ideas are hotly contested, there is strong agreement that the current system does not meet the diverse needs of students, industry or the community, a situation that can only be expected to worsen in the near future.

Tertiary education must be accessible, inclusive, efficient, effective and forward looking.

OECD countries are now spending more of GDP on education than ever before (Wolf, Dominguez-Reig, & Sellen, 2016) and employ more of their citizens to provide education services (Organisation for Economic Co-operation and Development [OECD] 2018). In most of these countries the most rapidly growing sector is post-secondary, or tertiary education.

For governments, tertiary education is seen as a key strategy to equalise opportunity, income, and participation in society.

Growing higher education

In the past decade, enrolments in Australia's universities have seen unprecedented growth. In 2009, a total of 814,000 domestic students were enrolled and by 2017 that had increased to 1,082,000, representing a 25 per cent increase. At the same time, the total Australian population grew by 10.7 per cent (Commonwealth, Department of Education, 2018).

The massive spike in student enrolments can be traced back to a 2008 Review that had been commissioned by then Education Minister Julia Gillard. She asked former vice-chancellor Denise Bradley to "examine and report back on the future direction of the higher education sector, its fitness for purpose in meeting the needs of the Australian community and economy and the options for reform" (Bradley, Noonan, Nugent & Scales 2008).

The Bradley Review (Bradley et al, 2008), as it is commonly known, has as its underlying premise that Australian higher education was in dire need of significant reform and additional investment. Australia's current performance in higher education was likely to decline in comparison with comparable countries and decline rapidly (Bradley *et al*, 2008, p xi).

The Review argued that there was an international consensus that the reach, quality and performance of the nation's higher education system was a key determinant of its economic and social progress. It further argued that as the world became more interconnected and the global market for skills and innovation developed further, it would be crucial for Australia to have enough highly skilled people in the workforce who were able to adapt to the uncertainties of a rapidly changing future (Bradley *et al*, 2008, pp. vi-vii).

"Higher education has been and will continue to be a cornerstone of our legal, economic, social and cultural institution and lies at the heart of Australia's research and innovation system (Bradley *et al*, 2008, p. ix)."

Informed by consultancy group Access Economics, the Review claimed that Australia would have insufficient qualified people to meet its medium and long-term needs. Skill shortages would threaten the long-term well-being of the community and the country's capacity to maintain and enhance global competitiveness and prosperity. The report argued that undergraduate qualifications, in particular, would be essential for the emerging global economy and there was a risk Australia was not producing enough graduates (Bradley *et al*, 2008, p. xi).

At the time of the review, undergraduate places were capped and tightly allocated by the central bureaucracy. Bradley warned that higher education providers - universities - operating such a system were unable to increase supply to meet the predicted level of demand. The review concluded that this was a risk Australia could not afford to take (Bradley *et al*, 2008, p. xxiii, Recommendation 29).

Importantly, it was argued that actively encouraging and facilitating entry into higher education for people from groups who were underrepresented was vital. It identified those groups as being students from rural and remote parts of Australia, indigenous students, and those from low socioeconomic backgrounds.

The failure to capitalise on the abilities of all Australians was identified as a significant economic issue for the nation, particularly if individuals from disadvantaged backgrounds were being discouraged from participating in, or denied access to, the economic and social opportunities which higher education provides (Bradley *et al*, 2008, p. 27-45; 70t, 201-211).

To counter this, the report argued that the government should uncap undergraduate places and universities be allowed to enrol as many students as they deemed qualified. It was called the demand-driven system and followed similar policies in overseas countries.

In uncapping places, the Bradley Review sought to achieve two targets. The first was that 40 per cent of 25-34 year olds hold a bachelor's degree by 2025 and that 20 per cent of people from the lowest socioeconomic quartile be participating in university education by 2020 (Bradley *et al*, 2008, p. 9).

In doing this, Bradley argued, Australia would not fall behind the rest of the world in terms of graduate supply deemed essential to the country's productivity and it would create a more diverse student group and provide a stepladder of opportunity to students who had previously been denied access to higher education (Bradley *et al*, 2008, p. 9).

The outcomes: A degree of disappointment?

The Bradley Review triggered significant increases in government expenditure in higher education. Teaching grants increased from $5.1bn in 2010-11 to $7bn in 2017-18. However, it is difficult to justify the Bradley Review's claim that Australia was falling behind the rest of the world in terms of graduate supply. The Review's major concern was that Australia had slipped from seventh to ninth in the world in terms of graduates in the workforce. The impact of the demand driven system is that we are now back to seventh in the world, well above the OECD average. (Table 1.)

Table 1

Education attainment – Population with tertiary education – OECD Data
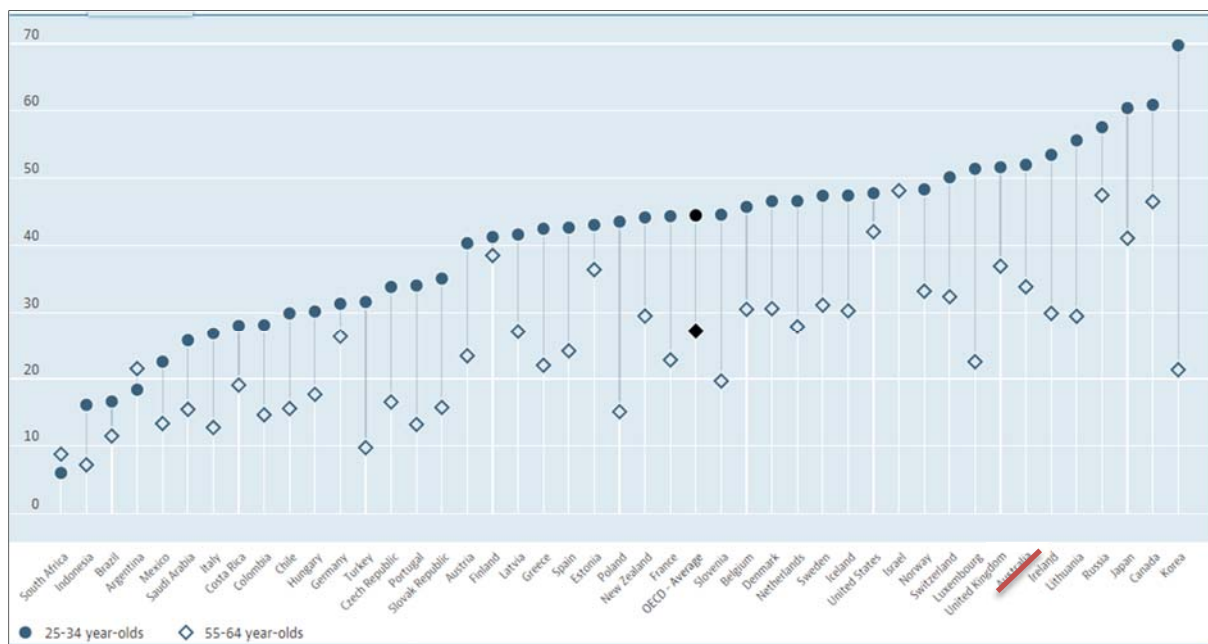
Source: OECD (2019), Population with tertiary education (indicator). (Accessed 31 July 2019)

Was there a graduate shortage?

Graduate destinations are normally captured in professional and managerial employment. This is a rapidly diminishing trend. (Table 2). In fact, the evidence suggests that the demand for graduates in 2009 was already declining and that, apart from a small jump in 2011-2012, there has been a consistent decline.

Table 2

Proportion of working graduates in professional or managerial employment (%)

> There is a slow downward trend in the share of graduates in professional & managerial jobs

Source: ABS, Education and Work. In *Demand driven facts and figures.* Grattan Institute, 2018 (p.29)

The claim that there was no shortage of graduates in the workforce is substantiated by graduate employment and unemployment data. Table 3 illustrates that unemployment was increasing in 2009, and that trend continues.

Table 3

Per cent of bachelor degree graduates still looking for full-time work 4 months after course completion, 1979-2017
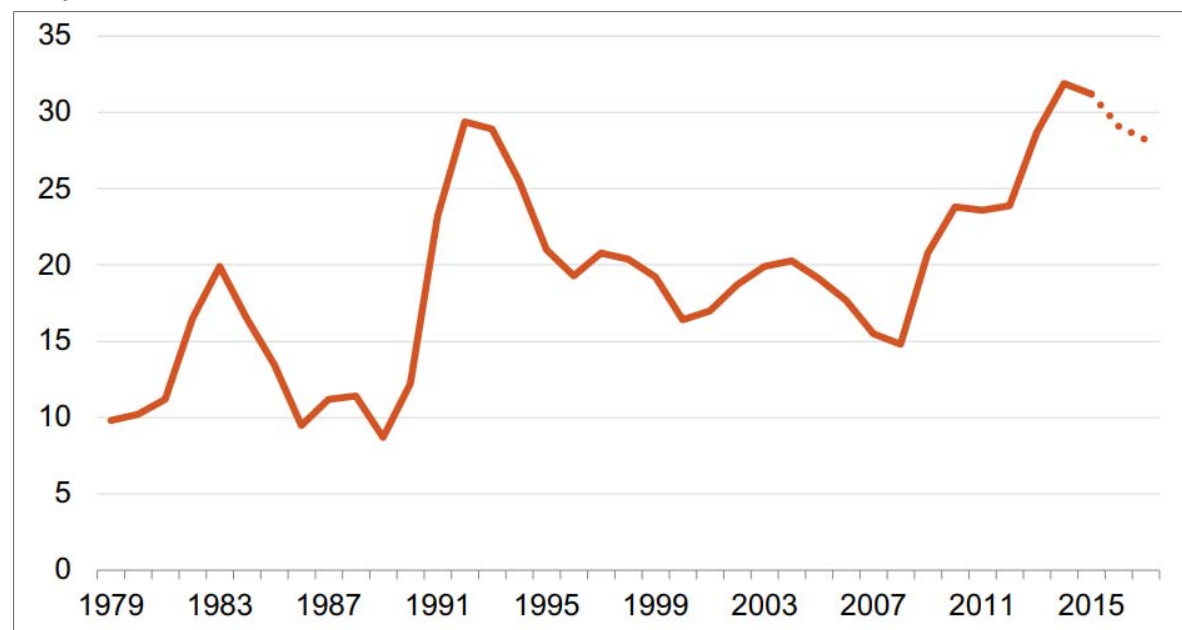
Source: Graduate Careers Australia, *Graduate Destination Survey*, Department of Education and Training, *Graduate Outcomes Survey*. In *Demand driven facts and figures, 2018* (p.26), Grattan Institute.

Supporters of mass higher education always cite expected productivity increases from graduates in highly skilled jobs as a result of the knowledge economy and the digital revolution. In these economies, they would have you believe, almost nobody but the highly educated and poorly educated have a job.

One of the staunchest critics of open door policies for higher education is British academic Alison Wolf.

In her Review of Vocational Education and Training report, Wolf described the graduate-economy as one made out of "nothing". We produce nothing and each generation of graduates makes its money from "creativity, ingenuity and imagination" (Leadbeater (1999) cited in Wolf, A., Dominguez-Reig, G., & Sellen, P. (2016) p. 32).

Indeed, the demand driven system has resulted in incongruous enrolment patterns in several disciplines that bear no relation to skills shortages in the economy. A report by the OECD shows that Australia has the seventh highest level of skills mismatch in the OECD and this is largely caused by the very large number of over-qualified workers in the Australian labour market. (Appendix 1.)

The OECD data suggests that the generalised need for higher education qualifications in the economy is highly questionable. While it does not necessarily mean there are no skill shortages, it does question the Bradley review's assumption that there was a general undersupply of graduates.

In 2015, it was shown that there were around 15,000 law graduates each year while the legal profession was comprised of just 66,000 solicitors. In other words, the number of commencing law students was equivalent to almost 25 per cent of the total profession (Ryan, 2018). According to Fagan (Fagan, 2019) 45 percent of recent law graduates are employed in clerical, sales or service occupations rather than in professional or managerial roles.

Despite evidence of this kind, organisations such as the peak body Universities Australia consistently claim there is a looming shortfall of graduates. Nor does it stop consultancy firms being hired to advise the wider community of the economic returns that will come the community's way if more graduates are produced.

Australia has never had more graduates than it has now. Yet we have a sluggish economy, stagnant wage movement, low productivity and record household debt. Productivity growth, and an increase in higher education participation can be linked. However, the primary driver of demand is not productivity: it is aspiration and social advantage.

Certainly in some fields, an undergraduate qualification is better than a lower qualification in terms of occupational choice, but the economic and productive returns may not be. An oversupply of graduates in a field of study filters some into occupational destinations that would have once been occupied by lower qualified people.

The 2018 Graduate Destination Survey showed that four months after graduating 72.9 percent of graduates had found full-time employment. The fine print, however, shows that graduates in areas such as science, creative arts, tourism and hospitality, personal services, sport and recreation, communications and the social sciences have a full-time employment rate from 52-64 per cent (Quality Indicators for Learning and Teaching, [QILT] 2019).

An argument could be constructed to suggest that many of the occupations that provide low return to the graduates would have been once taught in VET with better outcomes and at a much lower cost to the graduate and the wider community.

However, even if there is an oversupply of graduates and even as graduate outcomes worsen, students are not making an irrational decision in undertaking a degree. In addition to policy measures that make university education more attractive than vocational education, there is also a phenomenon known as 'credentialism'. As qualification levels rise, employers seek higher level qualifications whether the job justifies them or not, because they act as a sorting system that signifies staying power and resilience – but not necessarily occupational ability.

Access and equity. Accessible maybe. Successful no

The second proposition raised in the Bradley Review was that the demand driven system would create greater access to higher education for a more diverse student group, especially for those who were regarded as disadvantaged.

The Review identified four groups: indigenous students, students from low socioeconomic backgrounds, students from rural, regional and remote locations and first in family. Bradley set participation targets for each group as well as success and completion rates at 90% - 95% of that achieved by non-disadvantaged metropolitan students.

A recent Productivity Commission research paper (Productivity Commission, 2019), "The Demand driven System: A Mixed Report card" published in June 2019, evaluated the effectiveness of the demand driven system for disadvantaged students in terms of access and success. The study is an interesting one, in that it focused on the additional students "who would not have attended university before the demand driven system was introduced (Productivity Commission, 2019, p.7).

A summary of the characteristics and outcomes of these students in comparison with more traditional students can be found in Appendix 2.

The Commission's findings (Productivity Commission, 2019, p.31) included:

- That together with the long-term decline in literacy and numeracy of Australian school students, far more students are entering university ill prepared for academic study than was the case prior to the demand driven system;

- "Additional" students typically perform more poorly in terms of literacy and numeracy (based on testing at age 15);

- They have lower ATAR scores than average students i.e. less than 70;

- They are more likely to study management and commerce, information technology and teaching;

- They underperform academically relative to other students, with dropout rates at 57 -70 per cent higher than other students.

Counterintuitively, as Table 5 shows, despite the influx of "additional" students under the demand driven system, equity groups continue to remain under represented. Given the evidence, it is difficult to convincingly argue that the demand driven system has had any significant impact on equity or educational success for disadvantaged groups. The Productivity Commission commented that despite an increase in enrolments by some equity groups, all remain significantly under represented at university.

Table 5

Difference in university attendance rate by age 22 years (compared to non-equity groups) in 2016
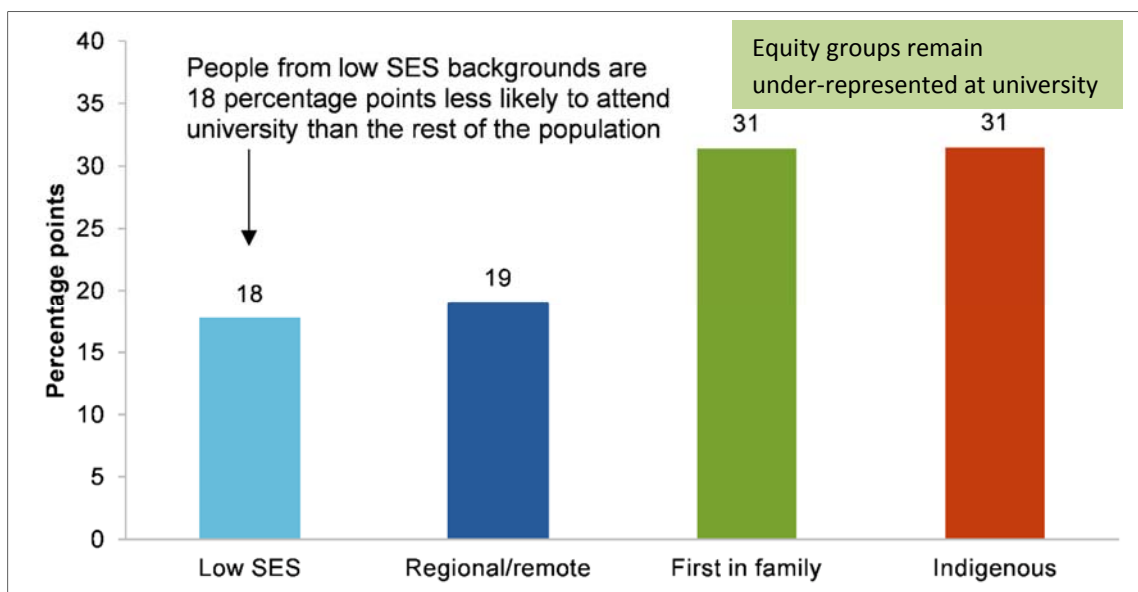
Source: *Productivity Commission, The Demand Driven University System: A Mixed Report Card* (2019), p.11.

From an institutional perspective, it is unsurprising that the Group of Eight (Go8) have barely moved in terms of diversity and inclusion. The Go8 institutions are more likely to enrol high-achieving – and high-income – school leavers than other Australian universities. What is particularly disappointing is that the regional universities, which include equity and inclusion as their core missions, have been unable to increase low-socioeconomic enrolments over the past seven years. (Table 6.)

Table 6

Low SES enrolment proportion by institutional groupings, 2012-2017

	2012	2013	2014	2015	2016	2017
Group of Eight	8.8%	9.1%	8.9%	8.9%	10.0%	9.8%
Australian Technology Network of Universities	13.9%	14.0%	13.9%	14.2%	15.6%	15.4%
Innovative Research Universities	19.3%	19.8%	19.8%	20.2%	21.8%	21.9%
Regional Universities Network	27.6%	27.4%	26.8%	26.8%	27.5%	27.6%
Unaligned Group	16.7%	16.9%	17.0%	17.0%	17.5%	17.6%

Source: Australian Government Department of Education and Training (2018). In *Equity Student Participation in Australian Higher Education* (p.8), National Centre for Student Equity in Higher Education (NCSEHE), Curtin University.

The Grattan Institute in a report analysing university attrition (Cherastidtham, Norton & Mackey, 2018) provided a further layer of analysis in relation to access and success. Its findings were that online, part time and mature age students were the most at risk of dropping out, followed by indigenous students and those from remote areas (Cherastidtham *et al*, 2018, p10).

Table 7

Percentage of 2006 domestic commencing students who did not complete a course within nine years
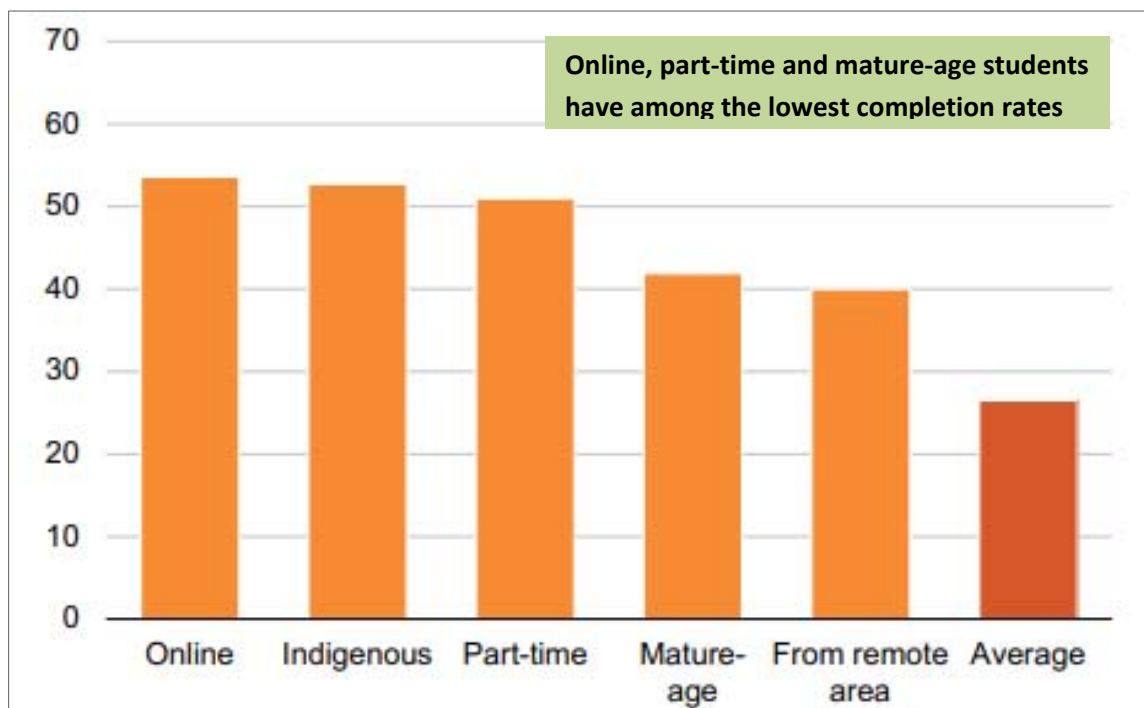
Source: Cherastidtham, I., Norton, A., and Mackey, W. (2018). *University attrition: what helps and what hinders university completion?* (p.10), Grattan Institute.

The Grattan Institute's findings (Table 8) clearly demonstrates that the lower the ATAR score on entry, the higher the risk of not completing. Men – who are in the minority in undergraduate enrolments – are also at a higher risk of non-completion.

Table 8

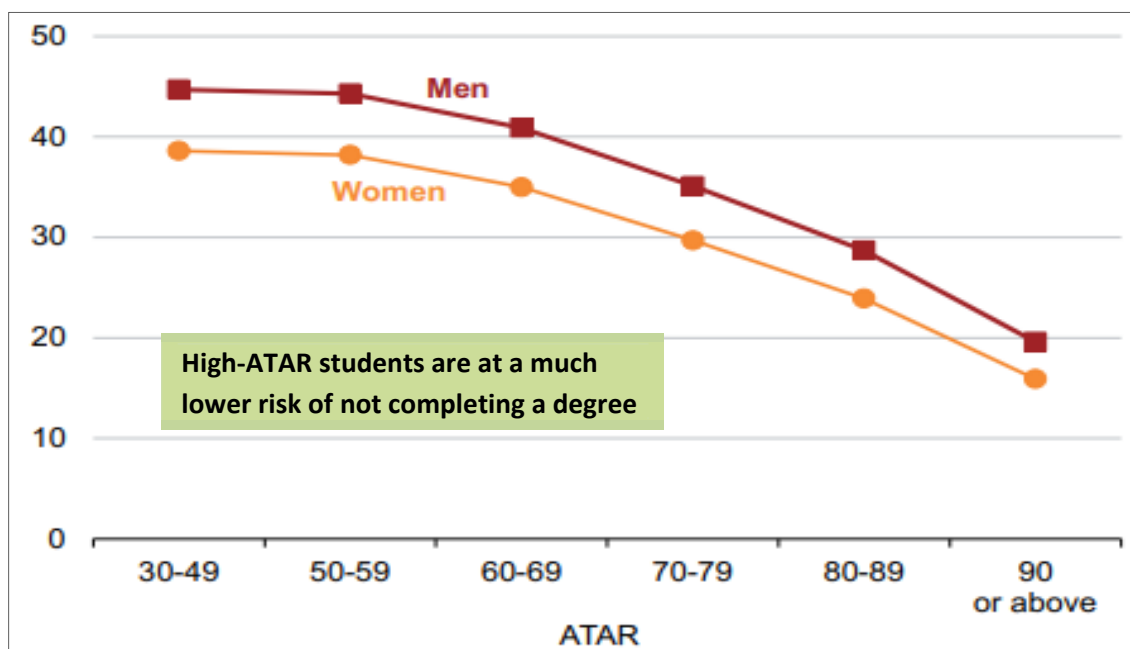**Risk of not completing within 8 years, controlling for other factors, (percent)**

Source: Cherastidtham, I., Norton, A., and Mackey, W. (2018). *University attrition: what helps and what hinders university completion?* (p.22), Grattan Institute.

In summary, the research indicates that if you enrol in university and you are:

- Mature age
- Studying part time
- From a disadvantaged group
- Have a low ATAR score
- Have poor literacy and numeracy scores,

you are at a significantly higher risk of dropping out compared to a full-time, young student with a higher ATAR, better literacy and numeracy scores and from a more privileged background (Cherastidtham *et al*, 2018, Table 8).

Observations

The two key propositions for introducing the demand driven system were to ensure greater access and success for disadvantaged groups and addressing an urgent graduate skills shortage. However, it is difficult to argue that after 10 years either of these core goals were fully realised. Australia has a significant skills mismatch and arguably, an oversupply of graduates in some areas. The socioeconomic mix of the student population at undergraduate level has shown no significant change. For those from disadvantaged groups, the chance of success is limited.

This experiment in social engineering has not come without significant costs beyond the $7bn a year in teaching grants. It also in profound ways contributed to the destruction of a functional vocational education and training sector.

Students chose university over TAFE for rational reasons: universities had stable funding; no upfront costs; high regard and status in the community and the lure of personal transformation through graduate employment.

At the same time as billions of dollars were being channelled into university coffers, state and federal governments were experimenting with a wild array of misguided free-market policies in vocational education that pitted public providers over small private colleges that all-too-often had dubious quality control over curriculum, staffing and outputs.

The coalescence of two opposing policy arrangements all but brought about the demolition of the once-respected TAFE sector.

The VET conundrum

While Julia Gillard and Denise Bradley originally set out with the intention to create a unified tertiary education sector – one that brought higher and vocational education together with common goals – it never eventuated.

With the exception of a failed agenda to increase participation in vocational education called the Productivity Places Program, Australia's tertiary education arrangements since 2009 onwards have been to promote undergraduate enrolments. Somewhat unsurprisingly, as university enrolments increased, enrolments and participation in VET decreased. (Tables 9 and 10.)

Table 9

Enrolments in VET 2016 - 2017	
Diploma and above	Decreased by 18.1%
Certificate I	Decreased by 2.6%
Certificate III	Increased by 0.1%
Certificate IV	Decreased by 4%

Source: https://www.ncver.edu.au/research-and-statistics/publications/all-publications/total-vet-students-and-courses-2017

Table 10

Tertiary education participation rates, 15-64-year-olds (actual and scenario)
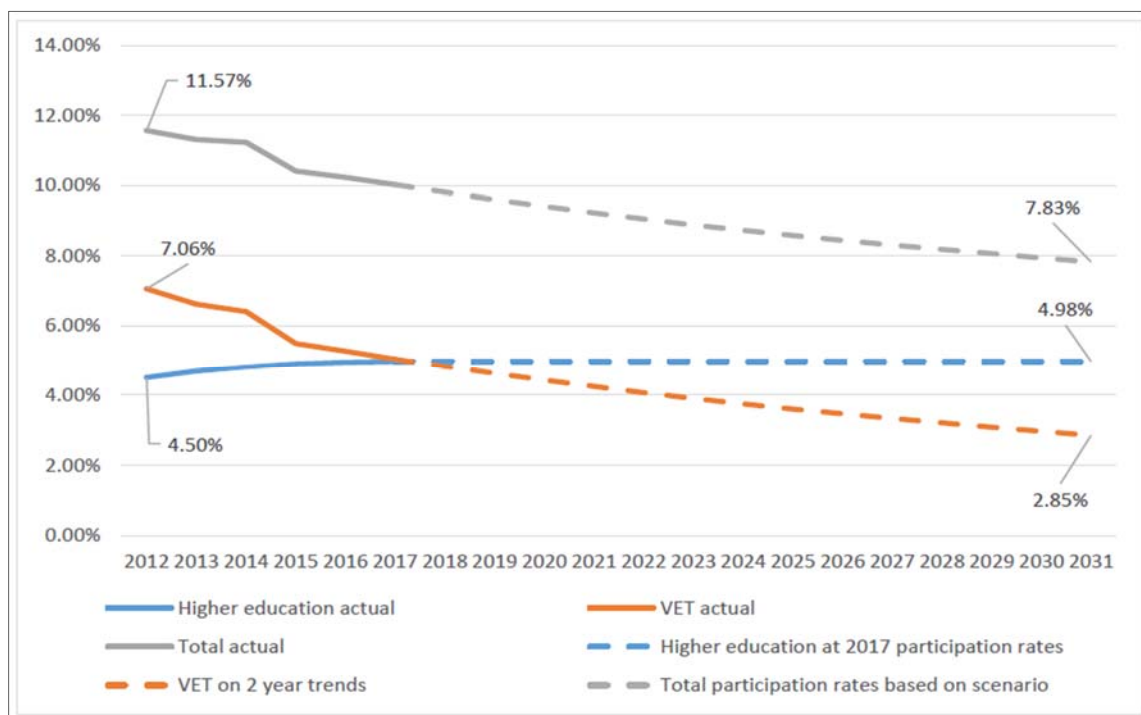
Source: ABS and NCVER data in P. Dawkins, P. Hurley, & P. Noonan, *Rethinking and revitalising tertiary education in Australia,* (Mitchell Institute, 2019), p.8.

The collapse in VET enrolments has now been met with increasing concern among policy makers and academics. Even in the university sector, there are calls for some serious steps to be taken to remedy the situation, with almost universal agreement that VET is an important part of Australia's educational infrastructure.

There is good reason for such sentiments. The student mix in VET is vastly different to that of students in higher education. VET is more likely to deal with marginal students. (Table 11.)

Table 11

Student characteristics by tertiary institute

VET		University	
Highest commencing age as % of all commencers, 2016,		Highest commencing age as % of all commencers, 2016,	
30-39 years	18%	18 years	17%
Low SES % all students		Low SES % all students	
2016	41%	2016	18%
NESB	20%	NESB	4%
Regional/Remote 2016	36%	Regional/Remote 2016	20%

Source: Strategic Intelligence and Insights Unit, 2018. Monash Commission.

- Subject pass rates are similar: 83%

- VET has lower completion rates: 44.2% university; 39.7% VET (enrolled in 2012)

- 10% of undergraduate cohort come from VET into university.

- Most VET students are upskilling/reskilling, rather than entering the labour force.

The philosophy underpinning VET was deeply egalitarian and embraced the importance and the value of work to a person's self-esteem, irrespective of gender, race, religion, or socioeconomic background.

The decline of VET

The litany of failed free market policies being imposed on VET over the past 15 years is hard to keep track of. Although it was a policy that came with the best of intentions (to give diploma students access to the same student loan system as higher education students) it was this perhaps that resulted in the most damage.

Author David Fagan described it as "the vocational casino" in his book 'Has the luck run out?' (Fagan, 2019, p162). It is worth quoting Fagan at some length to get a sense of the scandal. "Government support was available to anyone wanting to enrol in a vocational education program, so long as they didn't have an existing qualification. Private colleges and their agents went on recruiting drives to find new students to fill their classes and more importantly their bank accounts" (Fagan, 2019. p162).

Despite, the negligible quality of many courses, including some in vibration therapy, circus arts and butler services, enrolments flowed in. Fagan notes there were 617,000 VET FEE-HELP loans – as the scheme was known – issued between 2009-2016. An estimated 450,000 of those students were expected never to complete.

"The overall cost to taxpayers will be $2.2 billion in loans which will never be recovered because they were issued inappropriately or because students will never reach the income levels where they can pay back the money," (Fagan 2019, p162), Fagan wrote.

He said the individual and human costs were high. The damage to the public TAFE system through reputational damage – even though almost all the scams were perpetrated by fly-by-night private colleges – is almost impossible to measure.

Yet it was only one factor contributing to the decline of VET, particularly its once highly respected public provider TAFE.

An impoverished ideology

In the past 30 years technical education, now VET, has been subject to distinctively regressive and unsuccessful government initiatives – the most prominent of which is the emergence of contestability or the training market.

The characteristics of the training market that emerged in Australia were similar to those introduced by the Thatcher government in the UK in the 1970s. The Thatcher government's training scheme emphasised four key components:

- Competition between public and private providers;

- The establishment of a VET regulator;

- Competency-based training;

- New vocational qualifications (NVQs).

Alison Wolf has said that the architects of this policy were hoping that the UK's vocational education colleges would wither away and die. It was hoped that students would acquire their NVQs – a form of work-based assessment - on-the-job (Wolf, 2011).

At the time, it was a commonly held view that the UK reforms were the worst amongst advanced European nations (Toner, 2019). They were seen as a barrier to efficiency and industry engagement, a key source of persistent skills shortages and failed to integrate disadvantaged groups.

In 2015, the UK abandoned the system but it still bears a brutal legacy which has seen an almost complete collapse of its middle level workforce.

In Australia, the VET training market, while more moderate than even a few years ago, continues to be bedevilled by rorting of quality by providers. In 2017, the federal VET regulator Australian Skills Quality Authority (ASQA) identified systemic issues in aged care, community services, construction, early childhood, security and equine studies. It further raised concerns about misleading advertising, poor teaching or non-existent teaching qualifications and shortened training time impacting on the volume of learning.

In New South Wales, ICAC investigations have revealed extensive low-quality training and corruption.

It is not good enough. From an industry perspective, qualifications are linked to specific skills and to wage increases as a result of award restructuring. Students have had their qualifications rescinded due to lack of proper training.

The concern is that these issues are the tip of the iceberg; they are a symptom of continuing significant systemic issues.

Complexity

The VET sector is extremely complex. There are around 5000 training organisations, of which 62 percent are private, 21 percent are schools, 11 percent are community providers, 5 percent are enterprise-based and 1 percent are public providers – or TAFEs. More than 28 percent of students are with TAFEs and 58 percent with private providers (Schubert, Goedegebuure & Meek, 2018).

It is difficult for students to navigate, with a bewildering array of courses and qualifications in any given field at the same level with unclear outcomes and progression.

An effective market requires well-informed consumers. This is not the situation in VET in Australia.

Funding inconsistencies

One of the greatest sources of confusion for anyone trying to understand the sector is the differences in funding and responsibilities between the states and territories, as well as huge inconsistency between fees and charges across the country.

This mayhem is a result of VET being jointly funded by the federal government and each state or territory. The same qualification in different states can attract vastly different fees.
It is hardly a national system when such fundamental inconsistencies persist.

One thing that is nationally consistent has been the decline in funding to VET, especially when seen in light of massive funding increases to both the schools and higher education sectors.

Table 12

Public expenditure by sector, Australia, 2001-2016 ($billion)
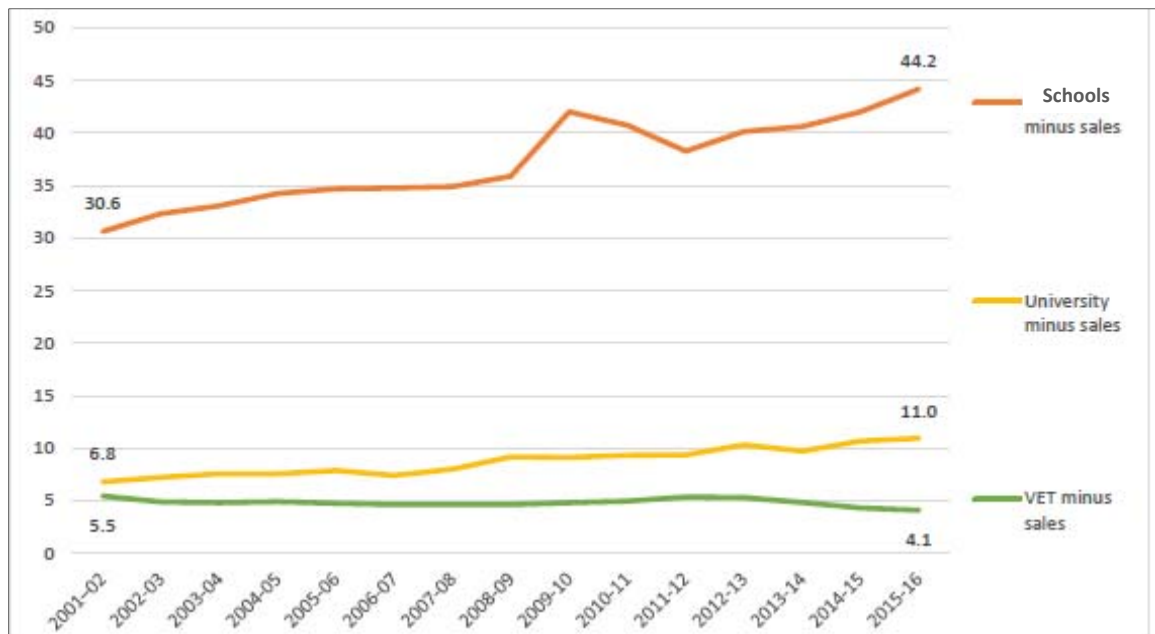
Source: ABS (2017). In Burke, G. (2018). *Changes in funding in Australian vocational education and their effect*, LH Martin Institute, Melbourne.

Compounding the confusion is that both state and federal governments frequently lurch from one new scheme to another with little or no consultation with stakeholders and rarely with any implementation strategy. Policy consistency is not something the VET sector is familiar with.

As *The Age* noted in its editorial on July 6, 2019. 'Government attempts to boost vocational training have in some cases undermined it, damaging students trust and the credibility of some providers, saddling young people with undue debts, enriching rorters, and costing billions of taxpayers' dollars (The Age, 6 July, 2019)."

Tickets to nowhere

While the philosophy underpinning VET has changed dramatically since the introduction of contestability, the qualifications framework has barely changed. Certainly, with the emphasis on undergraduate education, little attention has been paid to the usefulness and completion of access programs.

In particular Certificate I and II programs, which are categories of qualifications in their own right and were designed to meet both industry needs and social goals, have not kept pace with the higher qualifications now required for entry into the workplace.

To elaborate, the relationship between Certificate I and II and year 12 completion is vexed. NCVER in a study called The 'Vocational Alternative' by Lim and Karmel (Lim & Karmel, 2011) places Certificate II as lower than year 11 and Certificate I below year 10. Yet governments set educational targets in terms of year 12 or Certificate II, with the National Education Agreement (ABS 2011) including a target to have 90 percent of all young people with year 12 or a Certificate II by 2015.

The only study done on Certificate III and its relationship with year 12 completion, by Patrick Lim and Tom Karmel (Lim & Karmel, 2011) for the NCVER, concludes that a Certificate III is not equivalent to year 12 because of its very different nature, but it could be seen as a vocational alternative to year 12.

To argue that Certificates I and II should be considered a tertiary qualification and occur after post-compulsory schooling has been completed is difficult because both have been rendered almost valueless in recent decades.

Not only do they lack currency in the workplace, completion rates are significantly lower than for any of the other higher-level qualifications. (Table 13.)

Table 13

Observed actual and projected program completion rates and subject load pass rates by program level for government-funded programs at Certificate I and above, commencing in 2012-16

Program Level	Program Completion Rate (%)				
	Observed Actual			Projected	
	2012	**2013**	**2014**	**2015**	**2016**
Diploma and above	49.6	50.5	52.2	54.3	52.9
Certificate IV	46.3	42.3	46.2	49.2	53.7
Certificate III	47.6	45.1	49.6	53.4	54.3
Certificate II	28.0	30.1	39.0	43.2	47.4
Certificate I	21.0	23.6	24.9	26.9	32.1
Total	**39.8**	**38.9**	**44.8**	**48.3**	**49.4**

Source: NCVER Statistical Report, August 2018

In regard to accessing gainful employment, year 12 completion is no longer sufficient. That would suggest that Certificates I and II by themselves have limited utility, except maybe as entry into further training. But a difficulty for students undertaking pre-apprenticeships at this level is that there are mixed views by employers about the value of the qualification.

It seems apparent that misleading students into believing that obtaining a Certificate I or Certificate II qualification would provide them with the skills to enter work should be reconsidered. There is ample evidence to suggest that the majority of people who undertake these courses are the most disadvantaged and to have them churning through valueless courses is unfair and unjust. It should be the focus of policy discussions.

Is VET a dead-end?

One of the unintended consequences of the Bradley Review was that universities began enrolling students in large numbers with ATARs below 60 – students who would have traditionally enrolled in a VET course. This, along with reputational damage caused by the VET FEE-HELP scandal, and unmitigated complexity in the system, has led to a plunge in enrolments in VET, particularly in diploma and advanced diploma courses. (Table 14, p. 32.)

Despite much political rhetoric and years of attempts to create pathways between vocational and higher education, it is extremely difficult for a student who completes a Certificate III, IV or vocational diploma to get into university.

Part of the issue is training packages used in vocational education, which are the antithesis of academic study. In university courses, these students have to endure a totally different style of teaching which is almost entirely ill-suited to applied learning students. Around 10 per cent of students at universities in Australia have prior VET studies.

Provider chaos

The motivating force behind the introduction of free-market or competitive neutrality policies in the VET sector was that, by introducing more providers, there would be more competition and that in turn would produce a system that was more efficient and responsive to industry and student needs. More responsive than what was never clarified, but by 2012 there were around 5000 providers in VET in Australia. Not all, but most, accessed government funds.

The efficiency drive was short lived as all providers were eligible for the same subsidy for delivery of qualifications and all delivered the same curricula mandated through training packages. There was no efficiency, no diversity, other than scammed qualifications often caused by shortened delivery times which sought to maximise profits for private providers. It is an issue that still plagues the sector today.

The differences between private providers and TAFEs are enormous. Private registered training organisations receive public funds but are not subject to scrutiny by the state Auditor-General's Office. There is little public information about their size, structure, governance arrangements or history. It is very difficult to track the funds that have been allocated to them.

It is beyond comprehension that after the scandals that have plagued the sector - and continue to do so - there is no transparency as to how the public monies have been spent.

Despite the uncontrolled entry of thousands of private providers in a very short space of time, TAFE colleges have survived. This is partly because they are the primary providers of apprenticeship education which is central to the VET system.

Skills shortages, no! Inappropriately skilled, yes!

Enterprise innovation relies on a skilled workforce at the sub-professional or technician level. These technicians/sub-professionals can explain to professionals why a particular process or product should be followed or chosen over others.

For example, in prosthetic surgery, it is quite common for a surgeon to be advised in an operation by a representative of a prosthetic manufacturer as to why a particular product should be chosen over another and also how the product is properly introduced into a patient, etc. This combination of a skilled surgeon and a para-professional can lead to an improvement in performances and processes.

Another example is in building and construction. An architect designs a house and a builder builds a house, but the middle-level person or technician is the one who advises the customer on whether or not the building process is correct and proper materials are being used, etc., in accordance with the architect's design. These people are often called project managers and in the building industry, usually have a trade background.

Over the past couple of decades, Australia has hollowed out its workforce to such an extent that the OECD has ranked us the seventh worst performer in relation to intermediate skills in the workforce.

Australia sits alongside some of the world's poorest performing OECD countries and least educated economies (Portugal, Turkey, Mexico) in this regard. For a highly developed country, it is disturbing to see that Australia has large numbers of unskilled workers and sits at the OECD average for low skills. (See Appendix 3.)

But when it comes to graduates we rank sixth in the OECD. In other words, graduate numbers are out of proportion to our needs.

High-performing economies such as the US, Germany, Sweden, Finland, all have a much more balanced skilled workforce with low concentrations of low-skilled jobs, are strong in intermediate capability and high graduate numbers. With the exception of the US, all these countries have fewer graduates than Australia. Their workforces are much more balanced in terms of skills than Australia.

The skills imbalance in Australia compromises productivity, and stifles innovation. Australia is at risk of becoming that country that Alison Wolf referred to as one that produces nothing with the workforce divided into high-skill graduate jobs and low-skill service workers.

International reforms

In high performing economies in the OECD, they have been particularly concerned to ensure that VET status as a partner in tertiary education is maintained and that their higher education sector is diversified. In these countries governments have made concerted efforts to reverse the decline in vocational education and to diversify higher education.

Nordic countries in particular have led the world in modernising their education systems to make them fit for purpose. The UK has made sweeping changes to its tertiary provision, following a number of high-profile reports which have drawn extensively on work already completed in Scandinavian and other European countries.

Most recently in the UK, there have been reports by Alison Wolf (Wolf, 2011) and Philip Augur (Augur, 2019), as well as other substantial policy work in recent years.

The EU has underpinned its tertiary education system by emphasising diversity and expansiveness to meet the ever-changing needs of diverse student groups, governments and industry.

Whilst there are variations to the reforms that reflect individual countries' cultures and priorities, there are some broad changes and influences that have or are being made to the structure of tertiary education.

These include:

- The education system operates in a wider social and economic context which has changed dramatically in recent years;

- There are high returns, on average, to education and qualifications;

- There is a universal aspiration for access to higher education;

- There are good returns from employment experience or apprenticeship;

- Rapid economic change will have major implications for the job market;

- Vocational education needs to give all participants the skills they need for later progression, including a return to education in later life;

- For young people, employment patterns imply the need for a fairly general, rather than highly specific vocational qualification;

- Tertiary education should assist the individual to achieve their full potential;

- Tertiary education should provide a skilled workforce that contributes to growth in the economy and a share for all in the rewards that come with economic growth (Van Vught, Kaider, File, Gaethgens, Peter & Weisterheijden, 2008).

An underpinning principle is the importance of work experience as a component of workforce entry. This is because a workplace can teach both general and specific work skills and an employment record signals that an individual has acquired important character traits and ways of behaving.

Alison Wolf has elaborated on narrow qualifications, saying that most countries do not give sole responsibility to employers to define standards because employers have consistently promoted very specific and narrow qualifications, even though they have not, in practice, valued these (Wolf, 2011).

Design changes

Countries that have refocused on their tertiary sectors have often commenced the redesign by reviewing upper secondary education. This has often led to the creation of two options for students: an academic stream or a technical stream. In the UK, the technical option is called T level (see Appendix 4).

Without exception, a key focus of the technical option are programs designed to raise literacy and numeracy standards to levels that can underpin a student's effective functioning at work, in society and to be able to undertake further study. The achievement of the necessary competencies in literacy and numeracy is mandatory for the award of a qualification.

In the UK, digital competence has been added to literacy and numeracy as a mandatory component of any qualification. For a more detailed description of the UK T Levels – see Appendix 4.

The general design of the technical option is a broad-based education that includes general subjects such as English, maths, natural and social sciences, embedded in a curriculum built around an industry area. It also includes specialist skills and knowledge for a career in that industry. Only occupations where there is a substantial requirement for technical knowledge and skills are included.

The program length is at least 1800 hours and each of the school-based components is assessed externally. The length and time of the external assessment varies from country to country. A key component of technical streams is an industry placement up to 35 days.

In all countries, an independent oversight body has been established. The composition of these bodies depends on the country. For example, Scandinavian countries use social partners, such as trade unions and employers, as well as educators. In the UK, the Institute of Apprentices has been established.

In order to ensure that students who choose a technical option can also go on to university study, Scandinavian countries, France and Germany have created a binary university system.

The binary system consists of academic universities and professional universities. The names vary from country to country. Professional universities have a practical orientation, do not deliver PhDs and are not funded for postgraduate studies, such as master's degrees.

An important component of the design of their curriculum is on part-time study programs and short-cycle degrees, enabling greater access for non-traditional students and for those in employment.

Other significant reforms have revolved around adult retraining and recurrent education, as well institutional and system diversity. In all countries engaged in reform there is a recognition that adult learning needs can best be met by recognising the specific circumstances that impinge on their capacity to engage with education.

For example, Denmark has created a parallel adult education system. The system is divided into three levels:

- Preparatory education: aimed at strengthening the reading, writing and numeracy skills of adults. These programs are designed to raise basic skills to a level sufficient for effective participation in a knowledge society. These programs are conducted in the workplace.

- Basic adult education programs: the same content and assessment as for young people undertaking a technical option but focus on adults who are in employment and want greater competence in their occupational area. A skills assessment is made of each individual and based upon their "skills gap" an individualised education program is developed. These are part-time and conducted in professional colleges.

- Advanced adult education: programs conducted at the tertiary level in professional universities are specifically designed to meet the needs of adults who are hoping to reskill.

In Denmark, parallel adult education programs are funded by a combination of employer levies and government funds.

Underpinning these reforms is an acceptance of the importance of diversity in the systems and organisation of tertiary education, based on the theory that diverse systems are better able to meet the needs of a heterogeneous range of students and respond to a wider range of labour market demands.

Diversity is seen as an important strategy to meet student needs, their different learning styles and backgrounds. Diverse systems provide greater access for varied student types in educational environments that enable them to succeed.

It provides opportunities for education institutions to test innovative practices to facilitate student success and respond to society and industry needs.

Diversity provides for access and success and provides opportunities for students to correct poor initial choices.

In creating a diverse tertiary education system there has been a recognition that a classification structure based on empirical evidence is important. The classifications structure has to be accepted as legitimate by the system stakeholders - educational institutions, business and industry, academics, policymakers and students.

In short, the characteristics of emerging redesigned tertiary systems that reflect the values of productive economies and equitable outcomes include:

- Institutional and program diversity, incorporating a binary system of academic and professional universities, with associated equity programs and flexible student arrangements;

- An emphasis on linking entry-level qualifications to evidence-based performance in literacy and numeracy programs. It is likely digital competence will be soon added to the curriculum in many countries, as is the case in the UK.

- External assessment as evidence of quality of learning. If the private sector is engaged in tertiary education, governments strongly regulate them in terms of quality and assisting with equity goals;

- Broad-based vocational qualifications incorporating specific job competencies, especially for entrants to the workforce;

- Clear pathways for students into higher education programs from vocational education;

- A focus on diverse systems to facilitate individuals' educational needs and assist with lifelong learning;

- The development of broad-based upper-secondary qualifications in technical education for 16 to 19 year olds with a preference for applied learning styles and who want to go to work and maybe undertake further study;

- A tripartite national body to guide and implement change with clearly designated responsibilities.

Rebalancing our efforts

If Australia is to remain a productive and capable country, there is an urgent need to redress the skills imbalance. The skills mix in the Australian workforce is a direct reflection of the education system's priorities.

At the tertiary level, it might be argued that Australia's system is more reflective of Middle Eastern rather than OECD countries. There is a high concentration of undergraduate enrolments, a weak and subservient VET system, a significant proportion of the population engaged in low-skilled jobs and the importation of skilled workers. This in turn reduces access to apprenticeships for young people. As seems to be always the case in Australia, there are skilled shortages when infrastructure programs are ramped up.

However, serious reform in Australia will be difficult. It could be questioned as to whether we have the intellectual, social and political capital to engage in major tertiary reform. There are powerful groups in government, industry and unions that resist change and seek to maintain the privileges that the existing system affords them.

It is possible that industrial relations reforms of the 1980s, which were vital at the time, are now so entrenched that they impede progress. It certainly could be argued that the restructuring of apprenticeships - a key to opening careers to young people - are difficult to change because of the 1980 reforms.

Finally, it is difficult to rebalance the tertiary education sector, in part because of the maturity of the existing system and also the power of the middle class. Rebalancing our efforts would not reduce demand for higher education, irrespective of the economic and productivity shortcomings. The rise of the middle-class ensures the durability of higher education.

The durability of higher education

Martin Trow was a sociologist at University of California, Berkeley from 1976 to 1988. His research focused on the growth of higher education. He hypothesised three phases of growth: elite, mass education and universal participation (Trow, 1973).

Trow and a number of sociologists since have debunked the myth that participation rates in higher education are linked to the demand for educated labour or its rates of return. It is acknowledged that graduates do enjoy benefits over other non-graduates, but the payoffs for higher education in the mass participation stage are weak and evidence-based returns on investment, speculative.

Growth in higher education is not driven by governments or industry which engage with education only episodically. It is driven by the ambitions of families for social position and for young people's self-realisation. Higher education is seen as a privileged pathway to professional work

For governments, growth in higher education is one of the norms directly linked to an improved economy and the rise of the middle-class. It becomes a duty of governments to provide higher education, just as they should provide for railways, clean water, functioning hospitals, welfare systems and so forth. For governments it is a good deal; it is far easier to expand higher education than to create jobs and the cost can be transferred to the community by increasing fees.

Massification and equity

There is ample literature that demonstrates:

- Children from better-educated backgrounds are more likely to be found in elite universities and reap the accompanying rewards;

- Affluent families invest in high-fee private schools to access the selective universities;

- Higher earnings accrue from certain fields of study and greater prestige is linked to some occupations;

- By definition, mass systems are more inclusive than elite systems;

- Prior social inequalities such as quality of schooling, low income families, parental, occupation, and geographic location all significantly impact on participation in higher education. Access is not equal. Higher education is stratified. Privileged groups dominate elite institutions;

- Fully privatised institutions can sacrifice quality in the pursuit of profit, which has been evidenced in the US over the past 20 years. Poorer and socially disadvantaged students are more likely to enrol in for-profit colleges and therefore more likely to graduate (if they do) with substantial debt and a worthless qualification, further entrenching disadvantage.

While for-profit colleges are not common in Australia's higher education system – although they are commonplace in VET - strategies that have attempted to equate the growth in higher education with overcoming socioeconomic inequality have failed.

Simon Marginson, (Marginson, 2016), has shown that there are some strategies that may facilitate overcoming barriers to participation by socioeconomically disadvantaged groups.

- If tuition fees are charged, some form of loan scheme should be available. In addition, there should be extra financial support for under-participating social groups;

- If the private sector is involved, it is closely regulated to ensure social inclusion and quality of learning;

- A binary system of higher education is the most socially progressive. Non-research universities are designed to embrace technical vocational and applied education in a variety of fields such as manufacturing, teaching, human resources, business, construction and health. Institutional stratification has been minimised in Nordic countries, the Netherlands, Germany and even in the US. Each have created successful binary systems but Nordic countries are rarely ranked as world-class universities. The world-class university model which is popular with governments, preferences research over teaching and puts downward pressure on quality teaching, as we are seeing in Australia. The importance of a higher

education binary system is fundamental to improved success for disadvantaged groups by having some institutions prioritise teaching over research;

- Governments should value and promote rigorous learning and teaching in all institutions and ensure that student access to a place in a university is devoid of manipulation.

Education can only function as an equaliser when supported by a social consensus. Nordic egalitarianism is sustained by broad agreement on the significance of equality and mobility,

Survival of the adaptors

For Australia to create a tertiary education system that is fit for purpose, the starting point must be upper secondary education. Both the Productivity Commission and the Business Council of Australia highlighted the importance of upper secondary education and its links to successful participation in vocational and higher education. Most OECD countries have focused on upper secondary education as a key to improving productivity and overcoming socioeconomic disadvantage.

In Australia the purpose of education is broadly described in the so-called Melbourne Declaration (Ministerial Council on Education, Employment, Training and Youth Affairs. Melbourne Declaration on Educational Goals for Young Australians (2008)), which is an agreed statement on the purpose of education. The Melbourne Declaration has two major goals (Ministerial Council on Education, Employment, Training and Youth Affairs, at p6):

- The promotion of equity and excellence;
- That all young Australians become successful learners, confident and creative individuals, and active and informed citizens.

Two of the characteristics of successful learners are:

- They will have skills in literacy and numeracy and are digitally competent;
- They have access to pathways towards continued success in further education, in training or employment and acquire the skills to make informal learning and employment decisions throughout their lives.

The reality is that the outcomes of upper secondary school for most students are increasingly marginal in transitioning students into training or into effective employment and are silent on the competencies of students in literacy, numeracy, and digital expertise.

Using Victorian On Track data - which is a fair representation of student destinations nationally - the overwhelming destination of year 12 completers is a bachelor degree. However, there has been a sharp decline in year 12 completers choosing VET as a destination in the period 2014-18. The trend is consistent across these years. (Table 14.)

Table 14

Destination patterns, Year 12 completers

Destination	2014	2015	2016	2017	2018
Bachelor degree	54.3%	53.2%	54.2%	53.8%	54.9%
Certificate/Diploma	16.1%	16.3%	14.6%	12.9%	12.1%
Apprenticeship/Traineeship	7.0%	7.5%	8.1%	8.1%	8.1%
Employed	9.1%	9.6%	9.6%	11.1%	11.3%
Looking for work	3.7%	3.6%	3.3%	3.4%	3.2%
Not in labour force, education or training	0.4%	0.5%	0.5%	0.6%	0.4%

Source: *On Track 2018: Destinations of Victorian School Leavers.* Education and Training, Victoria State Government.
Note: To reflect diversity data applies to government schools only.

For year 12 non-completers the outcomes are unimpressive. Excluding apprenticeships, which have little relationship with upper secondary schooling, the majority of non-completers are either in employment or looking for work. They too are increasingly shifting away from VET as a preferred post-school destination. (Table 15.)

It could be argued that the school curriculum, which is academic in nature and designed to assist students into university, is having a negative impact on the educational aspirations of a significant student cohort.

Table 15

Destination patterns, Year 12 non-completers

Destination	2014	2015	2016	2017	2018
Bachelor degree	0.7%	0.9%	0.7%	0.8%	0.9%
Certificate/Diploma	28.1%	25.8%	23.6%	18.9%	19.5%
Apprenticeship/Traineeship	25.1%	28.2%	29.6%	31.6%	32.1%
Employed	23.9%	23.7%	24.0%	25.8%	27.5%
Looking for work	16.9%	15.6%	15.9%	16.7%	15.0%
Not in labour force, education or training	5.1%	5.5%	5.9%	5.8%	4.8%

Source: *On Track 2018: Destinations of Victorian School Leavers.* Education and Training, Victoria State Government
Note: To reflect diversity data applies to government schools only.

For those who choose employment, the outcomes are universally poor. It would be difficult to sustain an argument that being employed as a labourer, sales assistant or in hospitality after 12 years of schooling is an informed career decision.

Table 16

Top 5 preferred employment destinations

	2014	**2018**
Year 12 completers	• Sales assistants and store persons (36.5%) • Food, hospitality and tourism (28.5%) • Labourers, factory and machine workers (6.5%) • Clerks, receptionists and secretaries (4.1%) • Health, fitness, hair and beauty (3.8%)	• Sales assistants and store persons (29.9%) • Food, hospitality and tourism (29.7%) • Labourers, factory and machine workers (8.7%) • Teaching, childcare and library (4.4%) • Clerks, receptionists and secretaries (4.3%)
Year 12 non-completers	• Food, hospitality and tourism (30.3%) • Sales assistants and store persons (20.2%) • Labourers, factory and machine workers (12.3%) • Other (7.2%) • Building and construction (6.6%)	• Food, hospitality and tourism (28.7%) • Sales assistants and store persons (21.6%) • Labourers, factory and machine workers (14.4%) • Building and construction (8.9%) • Gardening, farming and fishing (6.1%)

Source: *On Track 2018: Destinations of Victorian School Leavers.* Education and Training, Victoria State Government.
Note: To reflect diversity data applies to government schools only.

Upper secondary education fails too many students in enabling them to make informed learning and career decisions.

Compounding the issues is that while students are actively being encouraged to enter university, on average 15 per cent will drop out in their first year of study – a figure that gets much higher in some institutions.

In addition, there are no published measures of year 12 literacy, numeracy and digital competency skills - skills that are fundamental to underpinning and to enable individuals to successfully negotiate a complex world and to be able to make informed decisions.

The impact of narrowly focused year 11 and 12 curricula

Australia's current policy framework of orienting upper secondary programs to university entrance is contributing significantly to the collapse of VET.

VET for year 11 and 12 students is a declining proposition. Research has shown that by 2030, on current trends, there is likely to be a close-to 100 per cent decline in VET participation. Even the most disadvantaged students are choosing not to enter VET (Dawkins, Hurley & Noonan, 2019, p7). For those students who don't complete, their future is bleak.

At the same time the highest number of enrolments at universities are in the areas of society and culture. Courses in this classification are typically law, sport and recreation, hospitality and so forth. These disciplines are important in their own right, but it is arguable whether graduates are likely to advance Australia's future prosperity in areas where the overall return to students is marginal.

Creating an internationally competitive system

As we have seen, current policies are leading to a hollowing out of Australia's skilled workforce. In countries such as the UK which have a similar distorted skill mix, significant reforms are being undertaken to both upper secondary and tertiary education.

Reform must begin, as it has in other countries, at the upper secondary level.

Upper secondary education in Australia needs to incorporated into the Australian Qualifications Framework and to be seen as integral to tertiary education.

Tinkering with reform doesn't work. In an attempt to broaden the curriculum, in the mid-1990s VET in schools was introduced to provide students with access to lower-level qualifications, principally Certificate I and II. However, as we have seen, these qualifications are now almost completely without value.

There is also very little value in VET in schools. If anything, it disadvantages students and demeans technical education. Stephen Joyce, in writing his report on reforming the vocational education system last year, made extensive commentary on the weakness of VET in schools, for both employers and students (Department of Prime Minister and Cabinet, 2019).

The need for a fresh look at senior secondary was also a strong recommendation of the Gonski report into funding schools.

"There has been very limited change in curriculum. Purpose and content, or in the model to providing senior secondary education, despite considerable growth in the student cohort; the lower numbers of young people who start secondary school but do not make it into senior secondary; profound change in the world work students are being prepared to enter; and growing levels of youth unemployment and underemployment. There is a compelling case for ministers in all states, territories and the Commonwealth to mount an urgent national review." (Department of Education and Training, 2018, p53).

In considering reform, it is useful to reflect on the characteristics of the existing tertiary sector as a viable destination for school students.

Universities are defined as conducting research which informs teaching in that institution. However, many struggle in this area. It has been argued that the need to support research activity simply makes higher education far more expensive for undergraduates and the taxpayer than it needs to be.

Vocational education is deeply constrained by its curriculum, known as training packages, which are seen by the wider community as too narrow for a digital age and of dubious quality. Training packages stifle institutional innovation and diversity.

Productivity in the workplace has plateaued. Successful innovation requires diversity and a strong middle-level skilled workforce, able to translate ideas into practical reality.

Internationally, governments concerned with an over-emphasis on university education and a hollowing out of their workforce have opted for major reforms. Typically, in these countries students at the upper secondary level are offered to two options:

- An academic option for those who are aim to progress to a full-time undergraduate course at a research-based university,

- A technical option for those wishing to gain the knowledge and skills required to progress to skilled employment, either directly after leaving school or after higher level technical education, such as a diploma or a work-inclusive degree. Completion is by external assessment.

These countries also tend to have non-research intensive universities that have been created from existing vocational institutions (such as TAFE Australia). These universities focus on offering applied qualifications from certificate to masters' programs.

The undergraduate qualifications are often short cycle, two-year degrees with a 12-month work placement related to the academic program. Most degrees are developed in a Y configuration to enable a student to exit after 12 months into employment with a diploma qualification and with the capacity to later return to study on a full-time or part-time basis with credit for their diploma. A central feature of applied universities is a focus on part-time provision.

As a first step to reform we believe that a technical option is developed for year 11 and 12 students if the goals of the Melbourne Declaration (Ministerial Council on Education, Employment, Training and Youth Affairs, 2008) are to be realised.

In brief, the curriculum for the technical option would have the following features:

- A curriculum underpinned by applied learning and adult education concepts;

- The curriculum is organised around clusters of similar occupations within a sector. For example, health and science or construction.

- Clusters would have specialisations so that students could see a direct pathway to employment at the end of year 12 if that is their preferred option,

Implementing a redesigned upper secondary education system

A curricula for technical option Certificates I to III would be incorporated into a broadly-based framework, such as in the UK. This would mean that training packages, but not competencies, would be superseded. The curriculum would have as a key component the completion of externally assessed occupational knowledge and skills, as well as underpinning literacy, numeracy and digital skills.

By incorporating Certificates I to III into a more practical technical option as part of upper secondary education, it would mean that jurisdictional and financial responsibility would rest with state governments. As such the technical option would not attract fees.

This would mean a strong case could be made for the Commonwealth to take responsibility for Certificate IV and above and it would also seemingly remove the need for the regulator ASQA for these qualifications.

Income-contingent loans

If the Commonwealth saw fit to extend income-contingent loans to the vocational sector, it would only need to make such loans available to Certificate IV and above.

It would be expected that the income threshold to facilitate repayment would be less of a challenge than if the loan scheme were to be extended to lower levels. With doubtful debts in Australia's student loan scheme standing at $20bn, it is an important consideration.

Apprenticeship education

In any revision of upper secondary education, traditional apprenticeships could be extended to become part of the Certificate IV. This paper is not about apprenticeships. The international reforms earlier described have all attached literacy and numeracy standards to all levels of technical education, including apprenticeships. It is to be noted that there has been the development of degree-apprenticeships in the UK. These are part of creating a clear pathway to further education for technical students.

Adult education

For adults, externally assessed qualifications open up far greater opportunities in the system to build on their existing skills and abilities. Strategies such as recognition of prior learning (RPL) have unfortunately been rorted by over inflated assessments of a person's capacity but they could be used with greater confidence if a student's final assessment were externally assessed. If RPL assessments were inaccurate a student would probably fail hence pressure would be put on assessments to be appropriate. A high-quality RPL system can facilitate in adults the desire to access further education if they are confident their skills and abilities are properly recognised.

There would be considerable value in considering as part of the reforms to VET a clear pathway for adult entry and progression in any VET reform.

The professional university

Internationally, a key to raising the value and importance of VET has been the development of professional universities that have as their focus the needs of students, both young and mature age. These universities cater for different learning styles, different backgrounds and accommodate the time constraints often imposed on mature age students

Australia's higher education system is largely incapable of catering to a diverse student population and its universities have proven to be in egalitarian and disappointingly uniform.

The foundation of Australia's existing university arrangements goes back to 1989 and when the cited objectives were expanding "quality, diversity and equity of access within the university sector."

The reform agenda, which saw Colleges of Advanced Education either collapsed into existing universities or promoted to become a university, was designed to see the sector become more responsive to the needs of industry and better linked to national interests.

The so-called unified system created a single idea of what a university should look like, stripping the sector of much-needed diversity and diminishing student choice. However, it has been and remains fiercely defended, no matter the cost nor how inequitable the arrangement.

The Bradley Review claimed "that the link between teaching and research is a common feature of respected universities internationally" (Bradley et al, 2008, at p124) It went on to say that "while it is difficult to find compelling research evidence which unequivocally supports the argument that graduates with degrees from such institutions are demonstrably better than those from teaching-only institutions it would not be in Australia's best interest to ignore the weight of international opinion on this issue" (Bradley *et al*, 2008, p.124).

This is nothing but hocus-pocus. There has never been any evidence that shows that students from teaching-only universities have degrees inferior to those from research institutions. Nor is there a weight of international opinion that establishes a link between teaching and research. But all Australian universities are expected to demonstrate that they carry out sufficient research in all broad fields in which they offer coursework degrees.

The Bradley Review also acknowledged that it had been difficult for some of the post-1988 universities to offer scale and depth in research in all the areas in which it taught (Bradley *et al*, 2008, p.125). It's arguable whether the students at these universities are getting any lesser of an education without that research intensity.

In other words, while a lot of universities are inept in their research endeavours, simply because they carry the title university they are compelled, at great expense to the taxpayer, to continue to conduct research. This has led to all universities siphoning off teaching money into research at a cost to students.

There is little point in attempting to reform VET unless those students who choose a vocational path also have access to higher education at an institution that has the status of a university, but prides itself on teaching over research.

It is clear that Australia has too many undergraduates in areas that are not contributing to the economy. The lack of diversity in our higher education system caused by a spurious claim in regard to research that supports a monopoly arrangement is not in the interests of this country.

TAFE, with its size and scale, a diversified student cohort and breadth of provision in vocational education is the ideal vehicle to create a new system of professional universities.

Where would the technical option be offered?

The quality of high-performing vocational education systems requires institutions of appropriate infrastructure, including high-quality teaching and access to industry-standard facilities and equipment. The Technical option would not be taught in existing schools.

TAFE institutions with their facilities and industry experienced staff would be the primary place of delivery for a reformed VET system. It may be that a partnership between schools and TAFE could be achieved. However, TAFE would need to be the lead partner and have responsibility for the carriage of the program.

Conclusion

The Australian economy is in a precarious position. We have comprehensively failed in terms of developing intermediate skills and our university system has been unable to cater for a diverse clientele.

The current VET system is in decline and unless major reforms are embraced and implemented, beginning with upper secondary education, it is unlikely that this decline can be arrested.

There is a need for the government to develop a coherent technical education option which can lead to skilled employment and/or continuing education. It is simply unjust to offer students qualifications that lead nowhere.

Similarly, it is neither necessary nor logical to reduce options to higher education and to penalise students simply because they have chosen an alternative to academic studies.

This paper has canvassed different arrangements and taken an alternative view to that which has been put forward by respected commentators. The view that has been put forward is as far as possible, based on what seems to be successful interventions internationally.

Appendices

Appendix 1

Incidence of qualification mismatch in PIACC
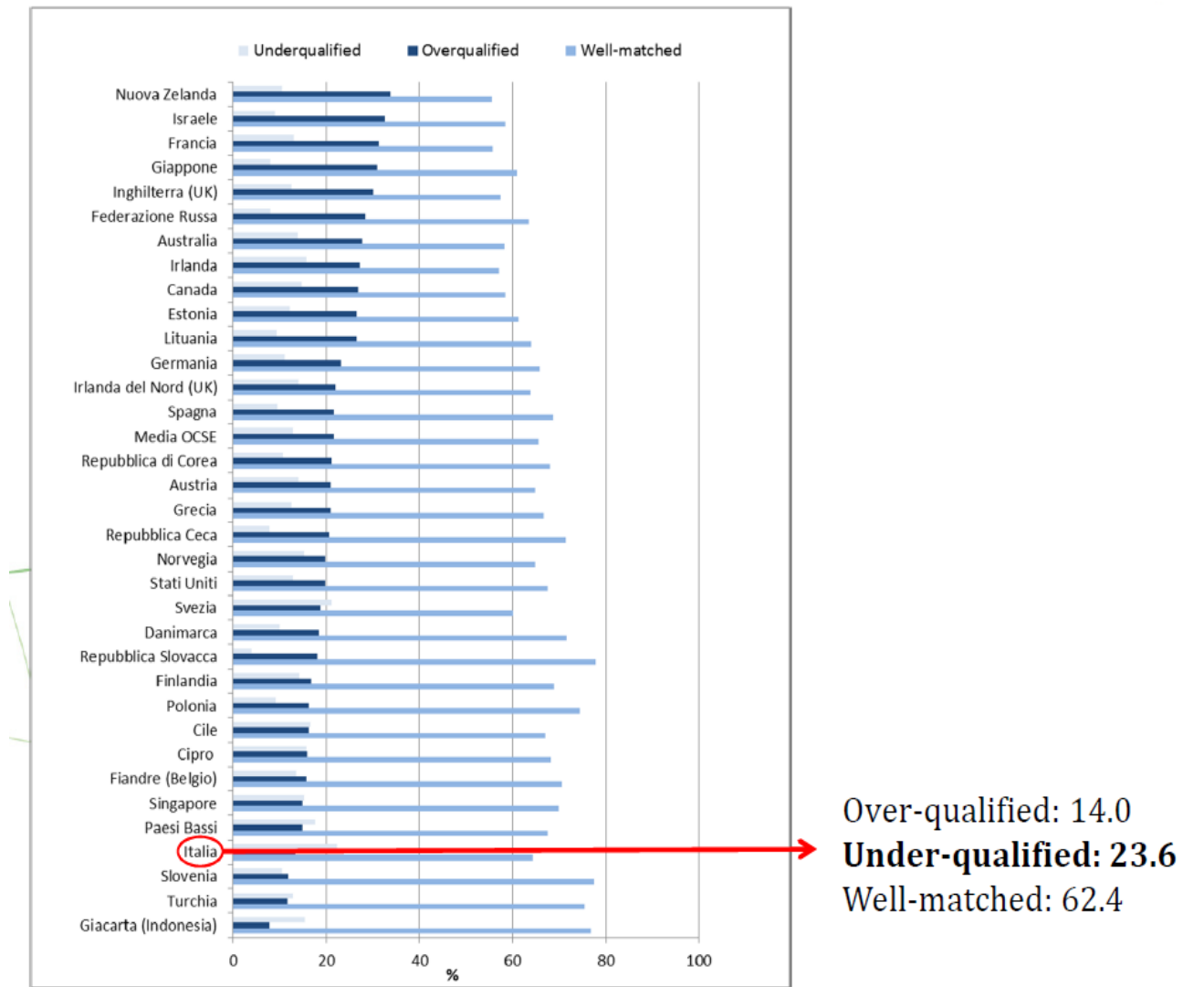
Source: B. Manuela and M. Simona, *Social Integration dynamics for migrants: PIACC to measure skill and qualification mismatch* INAPP Public Policy Innovation, Torina, 30 June 20, 2017

Appendix 2

Who are the additional students and how do they fare?
Characteristics and outcomes

Additional Students

- Students who **would not** have attended university before the demand driven system was introduced

Characteristics

- **73 per cent** have an ATAR below 70 (or received no ATAR)
- **32 per cent** are from the bottom SES quartile
- **65 per cent** are first in family students
- **18 per cent** are from regional or remote areas
- **60 per cent** are from government schools
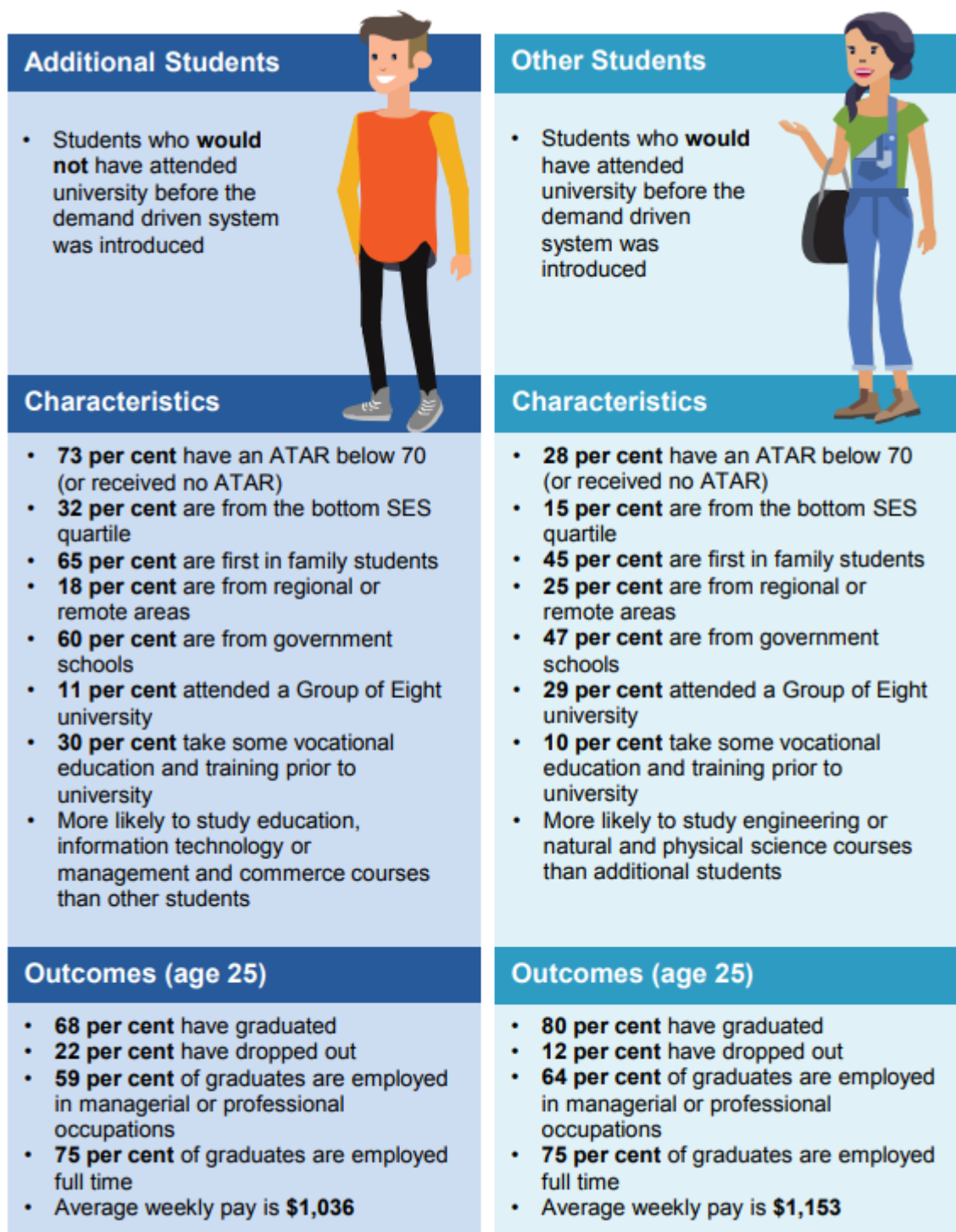- **11 per cent** attended a Group of Eight university
- **30 per cent** take some vocational education and training prior to university
- More likely to study education, information technology or management and commerce courses than other students

Outcomes (age 25)

- **68 per cent** have graduated
- **22 per cent** have dropped out
- **59 per cent** of graduates are employed in managerial or professional occupations
- **75 per cent** of graduates are employed full time
- Average weekly pay is **$1,036**

Other Students

- Students who **would** have attended university before the demand driven system was introduced

Characteristics

- **28 per cent** have an ATAR below 70 (or received no ATAR)
- **15 per cent** are from the bottom SES quartile
- **45 per cent** are first in family students
- **25 per cent** are from regional or remote areas
- **47 per cent** are from government schools
- **29 per cent** attended a Group of Eight university
- **10 per cent** take some vocational education and training prior to university
- More likely to study engineering or natural and physical science courses than additional students

Outcomes (age 25)

- **80 per cent** have graduated
- **12 per cent** have dropped out
- **64 per cent** of graduates are employed in managerial or professional occupations
- **75 per cent** of graduates are employed full time
- Average weekly pay is **$1,153**

Source: The Demand Driven University System: A Mixed Report Card, Productivity Commission Research Paper June 2019

Appendix 3

Current international skills position
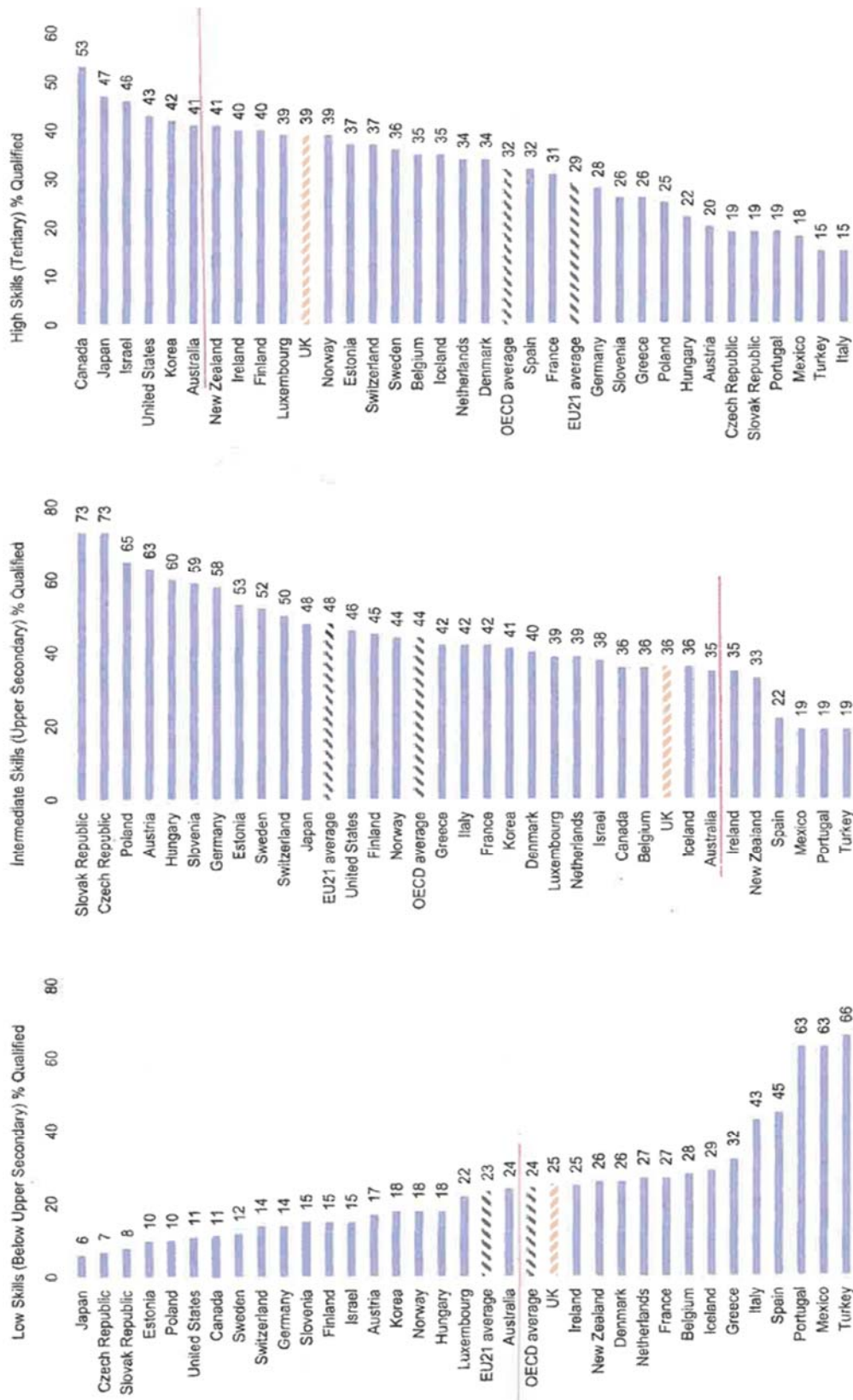
Source: OECD Education Database and Labour Force Survey, ONS. Distribution of the 25-64 year old population by highest level of education attained. Excludes Chile.

Appendix 4

T Levels: what they are

Introduction to T Levels – GOV.UK

T Levels are new courses coming in September 2020, which will follow GCSEs and will be equivalent to 3 A Levels. These 2-year courses have been developed in collaboration with employers and businesses so that the content meets the needs of industry and prepares students for work.

T Levels will offer students a mixture of classroom learning and 'on-the-job' experience during an industry placement of at least 315 hours (approximately 45 days). They will provide the knowledge and experience needed to open the door into skilled employment, further study or a higher apprenticeship.

Students will be able to take a T Level in the following subject areas:

- accountancy
- agriculture, land management and production
- animal care and management
- building services engineering
- catering
- craft and design
- cultural heritage and visitor attractions
- design, development and control
- design, surveying and planning
- digital business services
- digital production, design and development
- digital support and services
- education
- financial
- hair, beauty and aesthetics
- health
- healthcare science
- human resources
- legal
- maintenance, installation and repair
- management and administration
- manufacturing and process
- media, broadcast and production
- onsite construction
- science

When they will start

The first 3 T Levels will be available at selected colleges and schools (providers) across England in September 2020. This means pupils who entered year 10 in September 2018 will be the first to be able to study them.

We have published a list of the providers who will be offering the first courses in:
- digital production, design and development
- design, surveying and planning
- education

How T Levels will work with other post-16 choices

T Levels will become one of the main choices for students after GCSE alongside:

- apprenticeships for students who wish to learn a specific occupation 'on the job'
- A levels for students who wish to continue academic education

We are currently reviewing post-GCSE qualifications to create a simpler, high-quality system that students, parents and employers will all understand.

T Levels will be based on the same standards as apprenticeships, designed by employers and approved by the Institute for Apprenticeships and Technical Education (the Institute). We expect the total time for a T Level to be around 1,800 hours over the 2 years, including the industry placement. This is a significant increase on most current technical education courses.
This differs from an apprenticeship, which is typically 80% on-the-job and 20% in the classroom and is more suited to those who know what occupation they want to pursue, want to earn a wage and learn at the same time and are ready to enter the workforce at age 16.

How T Levels are being developed

Employers and providers are working together to develop each T Level, with support from DfE and the Institute. Groups of employers define the skills and requirements for each T Level course by participating in T Level panels. This ensures that students taking T Levels will develop the technical knowledge and skills required by employers in that industry.
The T Level panels have been developing the content for the qualification, based on the same standards as apprenticeships and these plans are being tested and reviewed with students, education providers and employers.

Structure of a T Level

T Level courses will include the following compulsory elements:
- a technical qualification, which will include
  - core theory, concepts and skills for an industry area
  - specialist skills and knowledge for an occupation or career
- an industry placement with an employer
- a minimum standard in maths and English if students have not already achieved them

Industry placements

Every T Level will include an industry placement with an employer focused on developing the practical and technical skills required for the occupation. These will last a minimum of 315 hours (approximately 45 days) but can last longer. Employers can offer industry placements as a block, day release or a mix of these, and can discuss sharing part of the placement with another employer if necessary.
Providers will support employers offering industry placements. This will include assistance with the necessary paperwork, a careful planning process and support with designing the industry placement.

The Education and Skills Funding Agency (ESFA) and National Apprenticeship Service (part of ESFA) will work with employers and providers on industry placements. Employers interested in finding out more about industry placements can contact 08000 150 600 or email tlevel.placement@education.gov.uk.

Grading

Students who pass all the elements of their T Level will get a nationally recognised certificate showing an overall grade of pass, merit or distinction. It will also set out the details of what students have achieved on the course.
The T Level certificate will include:

- an overall pass grade for the T Level, shown as pass, merit or distinction
- a separate grade for the occupational specialism, shown as pass, merit or distinction
- a separate grade for the core component, using A* to E
- grades for maths and English qualifications
- details of the industry placement

Source: https://www.gov.uk/government/publications/introduction-of-t-levels/introduction-of-t-levels#t-levels-what-they-are

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