Crunching the number

Exploring the use and usefulness of the Australian Tertiary Admission Rank (ATAR)

MARCH 2018

Sarah Pilcher and Kate Torii

About the authors

Sarah Pilcher

Sarah Pilcher is a Policy Fellow at the Mitchell Institute. She has considerable public policy experience across schools and tertiary education, skills and the labour market, having worked for governments at both the state and federal level. Prior to joining Mitchell, Sarah worked in tertiary education reform and research at Commonwealth skills advisory body the Australian Workforce and Productivity Agency. She has also worked on education and economic policy at the Victorian Department of Premier and Cabinet, and the New South Wales Department of Education and Communities.

Kate Torii

Kate Torii is a Policy Analyst at the Mitchell Institute. In her role she undertakes policy analysis and reviews research across the school and vocational learning sectors to develop new thinking and solutions for Australia's most challenging education issues. Prior to joining Mitchell, Kate worked in the Victorian Department of Education and Training on the implementation of major government initiatives designed to improve opportunities for young learners. She has a Masters in International Relations and a background in economics and political studies.

Acknowledgements

About the Mitchell Institute

Mitchell Institute at Victoria University is an independent think tank that works to improve the connection between evidence and policy reform. Mitchell Institute promotes the principle that high-quality education, from the early years through to early adulthood, is fundamental to individual wellbeing and to a prosperous and successful society. We believe in an education system that is oriented towards the future, creates pathways for individual success, and meets the needs of a globalised economy. The Mitchell Institute was established in 2013 by Victoria University, Melbourne with foundational investment from the Harold Mitchell Foundation.

Please cite this report as: S. Pilcher and K. Torii (2018). *Crunching the number: Exploring the use and usefulness of the Australian Tertiary Admission Rank (ATAR)*, Mitchell Institute paper No. 01/2018. Mitchell Institute, Melbourne. Available from: www.mitchellinstitute.org.au

■
Foreword

The Mitchell Institute's work has explored many aspects of education policy in Australia, always with a view to creating a more integrated system that better meets the needs of the individual learner, as well as the nation as a whole. We do this by approaching education as a continuum – from early years to adulthood – and by bringing evidence and new ideas to cross-cutting issues. We also engage widely with researchers, policymakers, industry, educators, students and parents.

In these discussions one issue keeps coming up - the ATAR (Australian Tertiary Admission Rank), and the belief that it acts as a barrier to reforms seeking to reshape the education system for the future. It's a complex issue, but one worth exploring, given the prominent role it plays in young people's transitions from school to post-school life. This discussion paper provides a broad picture of the ATAR, its purpose and use. It is intended to inform the debate which is already underway. We are interested to hear different points of view, and intend to continue this process by bringing stakeholders together to further the discussion.

We hope you find the paper useful in shaping your thinking.

Megan O'Connell
Director, Mitchell Institute

Table of contents

Overview

The ATAR (Australian Tertiary Admission Rank) was designed as a tool to facilitate university admissions, but has taken on a life of its own, becoming a goal in itself.

While this ranking of school leavers remains important, it is also true that in 2017, 60 per cent of undergraduate university offers were made on a basis other than ATAR. This would surprise many young people, as it seems at odds with the message reinforced by many schools, families and the media – that the ATAR is everything.

The transition from school to post-school life and tertiary study has never been more important. The world – including the ways in which we learn and work – is changing rapidly. Higher levels of education are likely to be required for the jobs of the future (Commonwealth Department of Employment, 2017). As a result, completing Year 12 is fast becoming the norm. In 2016, Year 12 school retention was at 83 per cent (ABS, 2017b). This is up nearly 10 per cent from 2000 (ABS, 2000).

More people are also entering higher education (including students from a range of non-traditional backgrounds) and are doing so at different points in their lives. There has been strong growth in postgraduate study, as people continue or top up their education over time. This means tertiary institutions need, and often want, to make admissions decisions on the basis of an applicant's demonstrated experience, aptitude and suitability, or to facilitate equity of access. Despite the existence of a common entry framework utilising the ATAR, universities are free to set their own admission criteria and standards. For a number of years, over half of undergraduate offers have been made on a basis other than ATAR (Commonwealth Department of Education and Training, 2017c).

In short, Year 12 now needs to work for a majority of young people, and admission to tertiary study is now much broader than school leavers and school results. In the middle of all this sits the ATAR.

The Mitchell Institute's past work has explored the education continuum from many angles – but always with a view to creating a more integrated, equitable and purposeful education system (Lamb, Jackson, Walstab, & Huo, 2015; Noonan, 2016; Torii & O'Connell, 2017). We have found the transition from school to tertiary study or training to be a key piece of this puzzle.

Therefore, this issues paper asks, exactly what role does the ATAR play in this transition? How is its use changing over time? What problems do we see emerging? Then, after an examination of the policy considerations, we ask, if we were designing an education system for the future, what would this transition look like?

This paper seeks to highlight the issues and provide the evidence to inform the debate. At the conclusion, and as a way forward, we provide some priorities to guide our thinking, and some proposals for change, which are open to debate.

1. Why rethink school to tertiary now?

Globalisation and technological change are reshaping the role and purpose of education. As we continue to rethink why, and how, we educate our young people – we should also revisit how best to measure student achievement and facilitate access to further educational opportunities.

1.1   What we need from education is changing

New technologies are driving new ways of living and working. To be able to thrive in the workforce of the future, young people will need the capacity to transfer skills over multiple careers and continue to learn over a lifetime. They will also need to be able to adapt and persist in less secure and more complex work settings, and to create value in a technology -rich environment.

The world young people are entering is becoming more dynamic and complex. The transition from adolescence to adult life and independence is becoming longer and more difficult (Wilkins, 2017). Pathways to work can be challenging and precarious for many young people, and there is a danger of 'falling through the cracks' at this time (Lamb & Huo, 2017).

This means education needs to equip young people with foundational skills and knowledge that become the building blocks for future learning. It also means certain skills and capabilities – such as flexibility, creativity, resilience, communication and collaboration – are becoming increasingly valuable (Lucas & Hanson, 2016).

Yet in traditional schooling these capabilities are not always prioritised or explicitly cultivated (Torii & O'Connell, 2017). The demands of teaching content and preparing students to perform well at assessment tasks often override the development of these broader capabilities or 'soft skills'.

A complex picture

- More young people than ever before are going to university and completing degrees (ABS, 2017a);

- University graduates are taking longer to find stable employment in a tough labour market with fewer entry-level positions (Quality Indicators for Learning and Teaching (QILT), 2017);

- Persistent cohorts of young people continue to disengage from education, don't complete school and face difficulties accessing the labour market with low levels of education (Commonwealth Department of Education and Training, 2016; Lamb & Huo, 2017).

Education is more important than ever to gain a foothold in the labour market, but traditional education approaches alone are not sufficient to prepare young people to succeed. Many other countries are shifting approaches to education and instigating policy and practice changes to ensure that young people are equipped to navigate complex work environments and multiple careers. This includes focusing on more than narrow testing in schooling, and cultivating a broader range of skills and attributes (OECD, 2018).

1.2   More and varied pathways to tertiary education

At the same time, Australia's tertiary education sector has seen immense change – growing significantly over the past decade and becoming more diverse and accessible.

The 2008 Review of Australian Higher Education *(the Bradley Review)* recommended that Australia increase tertiary participation and attainment (Bradley, Noonan, Nugent, & Scales, 2008). It advocated that by 2020, 40 per cent of 25-34 year old Australians hold a bachelor degree, and students from low socioeconomic backgrounds make up 20 per cent of undergraduate enrolments in higher education. The Bradley Review took a broad view of *tertiary* education, referring to the full range of post-school study and training options, including higher education and vocational education and training. This is the definition we have used in this paper (although the ATAR is primarily used by the higher education sector).

To achieve this goal, the Commonwealth Government introduced a 'demand-driven system', whereby all qualified undergraduate higher education students receive a Commonwealth-subsidised place, with funding following the student to their institution of choice. This effectively gave institutions the freedom to enrol as many students as they deemed suitable.

The introduction of this system has had an enormous impact on the higher education sector in Australia.

- 1.46 million students enrolled in Australia's higher education sector in 2016, which continues to grow each year.
- Commencing higher education students – a better picture of input – rose from around 410,000 in 2007 to nearly 600,000 by 2016.
- Commencing domestic Commonwealth supported place (CSP) students increased from around 197,000 to just over 305,000 over the same period.
- In 2017, 45.1 per cent of 25 to 34 year old women in Australia held a bachelor degree or above, and 33.7 per cent of men of the same age. This is up considerably from 24.5 per cent of women and 19.8 per cent of men in 2000.
- The proportion of all higher education students from a low-socio economic status (SES) background has increased from 16 per cent in 2009 to 19 per cent in 2016.

Source: Commonwealth Department of Education and Training (2016) & ABS (2017a)
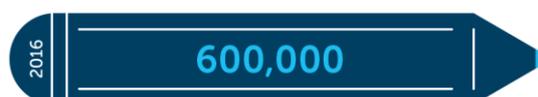
The removal of enrolment caps across the system created quite a different environment, or 'market' for higher education. In many cases it became as much a market for students as a market for institutions. This weakened the role of the ATAR across the sector, as its rationing function was less relevant, particularly in institutions seeking to grow strongly.

Since the election of the Abbott/Turnbull Government a number of proposals have sought to reform this demand driven system to limit public expenditure on higher education. In late 2017, the Commonwealth decided not to proceed with previous legislative proposals but instead to freeze the maximum amount of funding provided through the Commonwealth Grant Scheme for Bachelor degree courses at 2017 funding levels for 2018 and 2019, with funding increases from 2020 onwards to be linked to performance and national growth in the 18-64 year old population (Senator Birmingham media release, 2017).

The details and full implications of this decision are still unclear. What is apparent, however, is that the Government is placing limits on the total envelope of funding provided for Commonwealth supported undergraduate study - effectively ending the system of demand driven funding. Exactly what impact this will have on access to higher education remains to be seen. However, as enrolment growth has flattened considerably in the past two to three years the current system may be large enough to accommodate demand in the near term.

2. What is the ATAR and why do we have it?

2.1 What is the ATAR?

The ATAR is a commonly used entry criterion for admission to undergraduate university study. It is a nationally comparable percentile ranking given between 0 and 99.95 (in increments of 0.05) denoting a student's ranking relative to their 'theoretical' student cohort – all students who were due to finish school in that year (Higher Education Standards Panel, 2016).

ATAR shows how a student has performed relative to all other students in the same year

It is a number assigned between 0 and 99.95 in intervals of 0.05

0.05 … 30.0 … 99.95

Scored in intervals of 0.05 | Lowest automatically reported rank | Highest rank

Since 1998, all states and territories, except for Queensland, have had a ranking system similar to the current ATAR as a measure of student achievement in the state. In New South Wales and the ACT it was called the Universities Admissions Index (UAI), in South Australia, the Northern Territory, Tasmania and Western Australia it was the Tertiary Entrance Rank (TER), and in Victoria the Equivalent National Tertiary Entrance Rank (ENTER). Queensland retained the Overall Position (OP) system until shifting to the ATAR in 2018.

The ATAR was introduced in New South Wales and the ACT in 2009, with all other states except Queensland following in 2010 (Commonwealth Department of Education and Training, 2017c).

How is it calculated?

The method of calculating the ATAR varies across the states and territories depending on the requirements of the secondary school certificate. States and territories vary in terms of the number of subjects that are counted towards the ATAR, different pre-requisite subjects, the method of scaling each subject, and different weightings given to various forms of assessment – such as external exams and school-based assessment.

These different methodologies are used to generate an aggregate mark – in NSW the maximum is 500, in South Australia the maximum is 80, and Victoria has a maximum of 210 with an additional 5 points awarded for LOTE subjects (Matters & Masters, 2014). Aggregates are then converted to an ATAR.

Merits of ATAR

- it is transparent
- it provides a fair way for universities to compare students from a wide range of schools
- it provides a common measure of students' overall academic performance
- it allows admissions decisions to be made quickly and efficiently, in a common timeframe

Example: Obtaining an ATAR in Victoria

- In Victoria the ATAR is **based on the results of up to six Victorian Certificate of Education (VCE) subjects**, calculated using a student's best score in one of the English subjects plus the scores of their next best three subjects, plus 10 per cent of the scores of any fifth and sixth subject the student may have completed.

- Students receive **study scores** for each subject successfully completed, reported on a scale of 0 to 50 with an average score of 30. It is not a score out of 50. It is a ranking, or relative position, which shows a student's performance compared with all other students who took that study in that year. A student with a study score of 30 is near the middle of the cohort, so has performed better than about half the students. A student with a study score of 40 has performed better than around 91 per cent of all students who took that study in that year.

- **Study scores are then scaled** to adjust for the fact that it is more difficult to obtain a high study score in some subjects than others. This is not because some subjects are inherently harder than others, it is because some attract more competitive cohorts of students than others (VTAC 2017). The study scores for each subject take account of how strong the students were in that subject. The strength of competition in each subject is measured by how well the students performed in all their other studies.

  For example, in Australian Politics in 2016 the average study score was 30, but the students who took Australian Politics averaged 31 for all their studies (including Australian Politics). This shows that the students who did Australian Politics in 2016 were of above average strength in their other studies. Therefore, the scaling process adjusted the study scores upwards.

- Once subject scores have been scaled, each student is allocated an **aggregate scaled score** according to the above formula. These aggregate scores are then **ranked in order**, and a percentage rank is assigned to distribute students as evenly as possible over a 100-point scale.

- Finally, the percentage rank is converted to an ATAR, which is the estimate of the percentage of the population in the relevant age group that the student outperformed, taking into account both students who successfully complete the VCE and those who moved out of Victoria or left school before completing Year 12.

- **The ATAR is a number between 0 and 99.95 in intervals of 0.05**. The highest rank is 99.95, the next highest 99.90, and so on. The lowest automatically reported rank is 30.00, with ranks below 30.00 being reported as 'less than 30'.

Source: VTAC (2018)

2.2 Why do we have it?

The process of ranking was developed to provide a simple and equitable way to compare the overall academic performance of all students in a cohort year, despite studying different combinations of subjects.

Introducing a national ranking has enabled students and institutions to select each other from anywhere in the country, and makes it very easy to identify and target the highest-achieving school leavers for scholarships and other inducements.

It has also been a good predictor of completions in higher education, with a positive association between ATAR and completion rates, particularly among high and very high scoring students.

Figure 1: Completion rates (any year) for commencing domestic bachelor students over a nine-year period[1]
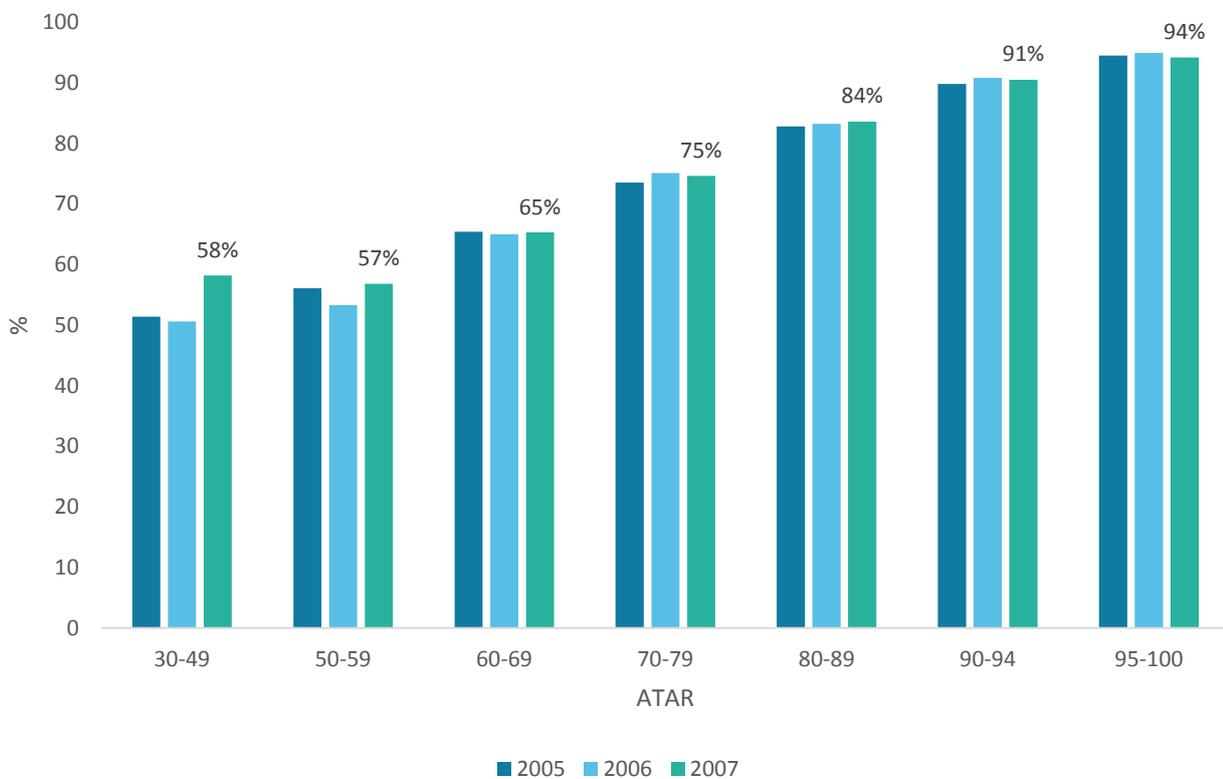
Source: Commonwealth Department of Education and Training (2017a).

As figure 1 shows, generally more than 90 per cent of students with ATARs over 90 complete their degrees.

The Group of Eight, Australia's leading research universities, has traditionally supported the ATAR system, and admits more undergraduate students on the basis of ATAR than other university groups. These universities consider the ATAR to be a strong predictor of success and retention – with high ATARs a sign that students are well prepared for university study (Group of Eight Australia, 2016).

---

[1] Cohort Analysis for Table A and B institutions. Nine-year periods 2005-2013, 2006-2014, 2007-2015.

3. Changing admissions pathways

As the tertiary education landscape changes, so too are admissions processes. More students are applying directly to institutions, and admissions decisions are increasingly being made on a range of bases other than ATAR.

3.1 More direct applications

In 2017, 346,800 individuals applied for a domestic undergraduate higher education place, either through a Tertiary Admissions Centre (TAC) or direct to an institution (Commonwealth Department of Education and Training, 2017c). Of these applications, 267,896[2] were made through TACs – a decrease of 2.3 per cent from 2016.

The total number of applications (per person per university) made direct to universities (where a student applies without going through the tertiary admissions centres and outside of the centralised application and offer timeframes) in 2017 was 131,555 - an increase of 9.1 per cent compared to 2016 (Commonwealth Department of Education and Training, 2017c). Direct applications made up around one third of total applications.

3.2 Large numbers of non-ATAR offers

A large proportion (around 60 per cent) of domestic undergraduate university offers are reported as non-ATAR/non-Year 12. As Figure 2 shows, the share of offers made across ATAR bands has been relatively stable over this time.

Figure 2: Share of applicants receiving an offer by ATAR band – 2014 to 2017[3]
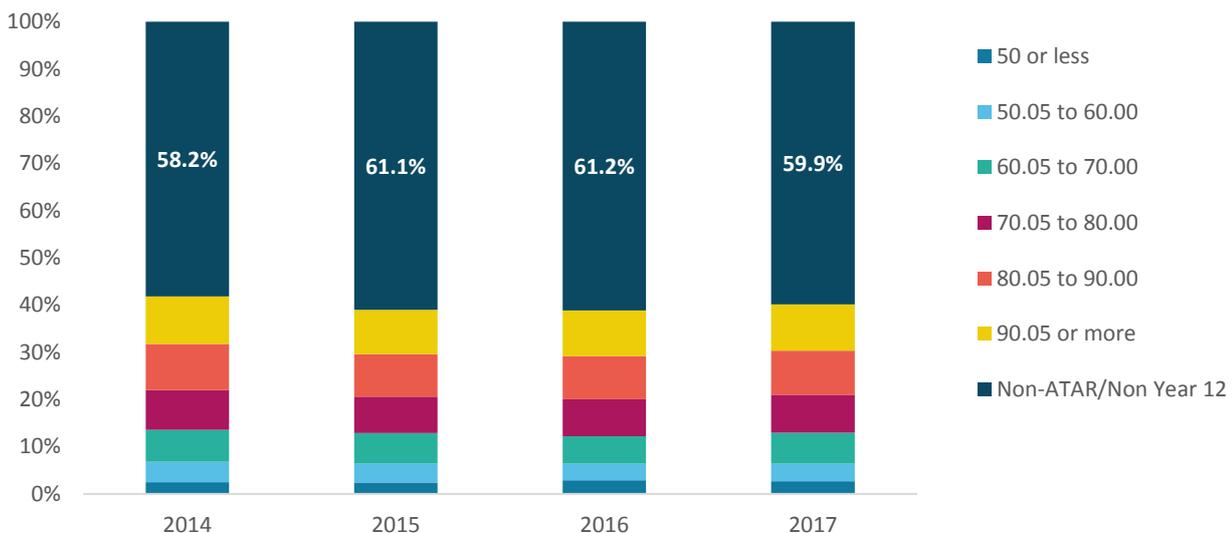
Source: Undergraduate Offers and Acceptances, Commonwealth Department of Education and Training (2017c)

---

[2] This number refers to total applications which includes double counting of applicants who submitted applications in several states. The number of individual applicants was 243,036.
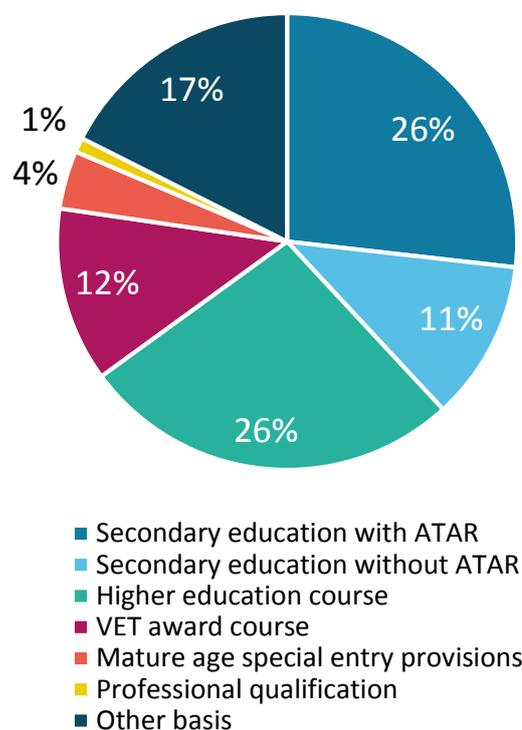[3] The Commonwealth Department of Education and Training reports on offers made to domestic applicants for Commonwealth supported undergraduate places at Table A or B Higher Education Providers. It includes all data received from Tertiary Admissions Centres and universities as of 11 May 2017.

The share of non-ATAR offers varies across fields of education, with close to 7 out of 10 undergraduate offers reported as non-ATAR/non-Year 12 in both Health and Education (Commonwealth Department of Education and Training, 2017c).

When looking beyond offers to admissions, we can see the diversity of pathways to higher education.

As Figure 3 below shows, only 26 per cent of domestic undergraduate admissions were made on the basis of secondary education with ATAR. This is down from 31 per cent in 2014.

Figure 3: Basis of admission for commencing domestic undergraduate enrolments 2016

- Secondary education with ATAR
- Secondary education without ATAR
- Higher education course
- VET award course
- Mature age special entry provisions
- Professional qualification
- Other basis

Source: Commonwealth Department of Education and Training (2018), Mitchell Institute custom request.

This broad range of pathways into university might surprise many people, given the emphasis placed on the ATAR in the public discourse on university admission.

Overall the picture is of an evolving higher education sector, where students from a range of ages and backgrounds come to study via a number of pathways. Much of this change is consistent with policy goals to increase overall levels of tertiary education participation and attainment, and to facilitate access for students from non-traditional backgrounds.

4. Problems with the ATAR

Non-ATAR pathways are becoming more common, yet the ATAR remains prominent in the school system, the community and the media.

The introduction of the demand driven system has, perhaps paradoxically, reinforced the importance of the ATAR. By widening access to higher education, it has in fact made the ATAR relevant to a much broader cohort of school leavers. In effect, the ATAR has become mainstream, with the majority of students now part of the ATAR paradigm.

This section explores some of the limitations of the ATAR as a selection tool in the current tertiary environment, as well as some of the problems associated with the broader role it plays.

4.1 Limitations as a selection tool

The ATAR is designed to measure a student's overall academic achievement relative to other students who have completed different combinations of subjects. It is a tool 'solely for use by tertiary institutions, either on its own or in conjunction with other criteria, to rank and select school leavers for admission'(University Admissions Centre, 2017, p. 3). Despite its advantages – it's relatively transparent, cost-effective and centralised – it has some considerable limitations as a selection tool.

Ranking doesn't show the full picture

Each student's ranking is generated by taking the results of a range of school-based and external assessments over the course of Year 12, scaling the results of different subjects, and creating a ranking. It converts a range of complex inputs (differently depending on the state or territory) to a single rank order of all Year 12 students in a given year.

The construction of student rankings has several limitations:

- The ranking provides only a broad indication of overall academic ability as taught and assessed in the final years of school – it says little about the full range of accomplishments and broader capabilities a student has cultivated across years of schooling.

- The ATAR can mask where students have excelled, or performed poorly, in particular subjects – information that would be useful for admissions decisions. While secondary school leaving certificates may provide this additional information, they are not commonly used for admissions.

- The process of calculating the ATAR doesn't incorporate the 'standard validity and reliability checks' to show, for instance, that the difference between a student with an ATAR of 90.05 and 90.10 is statistically significant (Matters & Masters, 2014, p. 56). University selection decisions are made on the basis of relatively small differentials in ATAR points, but it is not clear what the relationship is between relatively small differences in ATAR and student ability.

- As a relative ranking of students, rather than an absolute mark, a student's ATAR score will depend on the strength of the competition in that year – achieving the same marks, in the same subjects, is likely to produce different ATARs in different years (Blyth, 2014; James, Bexley, & Shearer, 2009). It essentially shows where a student is in a queue, rather than an indication of a student's actual ability.

- Many studies have shown a close correlation between a student's ranking and their socioeconomic status, suggesting that the ATAR merely reflects broader imbalances in educational opportunity within the school system and reproduces social inequities (Cardak & Ryan, 2009; Lamb et al., 2015; Teese, 2007).

  While on average higher ATAR students perform better once they get to university, many low SES students perform better than high SES students for a given ATAR (Messinis & Sheehan, 2015). Using only ATAR to admit prospective students can put lower SES students at a disadvantage, and many universities are now using alternative selection tools as a way to admit more students from equity groups (Harvey et al., 2016).

Less useful in an open tertiary environment

Before the introduction of the demand driven system in higher education, selection was a tight bottleneck that required a sorting mechanism to allocate a limited number of places. The demand driven system has widened the 'gates' to higher education with more students, from more diverse pathways accessing university.

The ATAR is most useful in a system of limited supply, however. Studies have shown that ATARs over 80 are a good predictor of success at university but scores below 80 are less reliable (Palmer, Bexley, & James, 2011). There has been some increase in the number of lower ATAR students being offered places. The share of offers going to students with ATARs of 60 and below increased from 6.3 per cent in 2012 to 9.7 per cent in 2016, although this still represents a relatively small share of overall offers (less than 10 per cent) (Higher Education Standards Panel, 2016).

Therefore, if the ATAR doesn't provide a reliable predictor of success for ATARs below 80, and increasingly students with ATARs below 80 are applying to go to university, the ATAR's usefulness is diminishing across the sector overall. Further, if it was designed as a common entry framework, and is not being used commonly, would another measure or series of measures be more relevant?

4.2   Other roles the ATAR plays

Whatever the merits of the ATAR as a tertiary admissions tool, it has come to play a broader role in the school system and the community.

ATAR as the focus of schooling

There are a range of important outcomes from school that extend beyond preparation for university. We have very worthwhile goals for education: that all young Australians become successful learners, confident and creative individuals, and active and informed citizens (Ministerial Council on Education, 2008).

The evidence is clear that to cultivate these broader skillsets and capabilities in young people, we need dynamic learning experiences that include opportunities for deep learning, project-based learning, and opportunities to apply learning to real-life contexts (Leadbeater, 2016; Zhao, 2012).

A system that is geared towards ATARs with a heavy focus on assessment in the senior years of schooling can limit students' opportunities for deeper learning (NSW Department of Education, 2017). A strong emphasis on assessment can narrow approaches to teaching and learning, limiting teachers' capacity to innovate and diversify teaching practices (James et al., 2009).

An example is students making subject choices based on the subject scaling or mark-up advantage. In NSW, between 2001 and 2015, there was a 9 per cent increase in the number of students choosing to study a lower level maths course (HSC General Mathematics), and a 10 per cent drop in enrolments in the intermediate maths subject, HSC Mathematics, which includes calculus. Around half of both teachers and students who were surveyed indicated that maximising ATARs was the reason behind the decision (Oo, 2017).

Adding to the pressure on young people

A focus on a single ranking can also create significant stress and anxiety for final year school students. A 2017 Mission Australia survey of around 24,000 young people found that 'coping with stress' and 'school and study problems' are the issues of greatest concern to young people. Forty-five per cent of those surveyed were extremely concerned or very concerned about stress, and 36 per cent cited major concerns about school and study problems (Mission Australia, 2017).

Pressure to achieve high scores is no doubt fuelled by the strong emphasis placed on ATAR, which sees years of schooling culminating in a single ranking against peers. While pressure to perform well in exams is a universal issue, the Australian practice of placing the full range of students across one ranking may intensify the underlying stress.

> "We [in the higher education sector] know the ATAR is a tool. *Students* treat the ATAR as the goal."
>
> **DR ALAN FINKEL**
> **AUSTRALIA'S CHIEF SCIENTIST**
> **(FINKEL, 2018)**

ATAR as the only measure of school success

In December each year there is a media flurry to announce the highest ATAR performers across the country. Many schools publicise the number of students in the highest percentiles. In the absence of other ways of recognising success at the end of schooling, the ATAR has taken on a life of its own, and is now clearly seen as the 'results' from 13 years of schooling.

Influencing students' decisions about post-school pathways

Research has found that tertiary rankings influence how students make decisions about post-school study pathways (James et al., 2009):

- Some students view university courses with high ATAR cut-off scores as an indication of the higher quality of the course.
- Prospective students may feel if they enrol in courses with cut-offs significantly lower than their ATAR that they have not 'spent' their high ATAR well or have 'wasted' their scores.
- Students see a match between their ATAR and an institution's ATAR cut-offs as an indicator of the likely 'fit' between a course and their ability.

This type of thinking is at odds with the informed decision-making processes that support students to make successful transitions. Consideration of factors such as individual strengths, capabilities, interests and potential career opportunities should be prioritised over 'spending' an ATAR.

ATARs used as a proxy for quality

The 2016 review *Improving the Transparency of Higher Education Admissions Processes* ((Harvey et al., 2016; Higher Education Standards Panel, 2016) found many universities admitting students below the advertised minimum ATAR by using alternative criteria, and through early or late round offers. It suggested that some universities had avoided publishing lower ATAR entries as a way to preserve the image of the course and institution (Harvey et al., 2016; Higher Education Standards Panel, 2016).

ATAR benchmarks set by governments

Governments have used the ATAR as a policy lever by setting compulsory minimum ATARs for entry to certain courses. For instance, in 2016, the Victorian government introduced a compulsory minimum ATAR cut off for admission into all undergraduate teaching courses in the state. The policy marked a minimum ATAR of 70 as the appropriate cut-off for entry to teaching from 2019, in an attempt to raise the quality of teaching (Minister for Education media release, 2016).

5. Beyond the ATAR – other forms of admission

Pathways to admission to higher education in Australia are becoming increasingly diverse, yet the extent of this diversity is not well known or understood. There are now a range of selection methods used by institutions which bypass the ATAR or combine it with other criteria.

On the plus side, this flexibility can reduce pressure on the final year of school, ensure students' skills and attributes are better matched to courses and careers, and help to overcome disadvantage. However, there is also evidence to suggest that diverse admissions processes can be more complex and opaque, thereby creating inequity of a different kind.

5.1 Alternative admissions pathways

Aptitude tests

An alternative tool for admission is the aptitude exam or test.

Examples include:

Undergraduate Medicine and Health Sciences Admissions Test (or UMAT) – used to select students for medicine, dentistry and health sciences at 13 Australian universities. It assesses general attributes and abilities, including the acquisition of skills in critical thinking and problem solving, understanding people and abstract non-verbal reasoning (ACER, 2017). Participating universities take the results of this test into account alongside a student's ATAR.

Law Admissions Test (LAT) – recently introduced for law studies at the University of New South Wales. Students' LAT score is added to the ATAR as 'additional points' (UNSW Law, 2017). The LAT is designed to assess 'aptitudes and skills that are critical to success in the law program, including critical thinking and analysis, and organising and expressing ideas in a clear and fluid way'.

Both of these tests have been developed by the Australian Council for Educational Research (ACER).

Computer-based Assessment for Sampling Personal Characteristics (CASPer) – recently introduced for admission to initial teacher education courses in Victoria. The CASPer tests applicants' personal and professional attributes, such as motivation to teach, resilience and organisation and planning skills (VTAC, 2017).

Alternative entry schemes

Most universities offer Special Entry Access Schemes or Education Access Schemes which enable students experiencing disadvantage to add bonus points to their ATAR. The schemes vary in each state and territory, and across different institutions, as well as for different courses within institutions.

There is also variability in terms of the profile of students eligible for bonus points. Some criteria include: educational, economic or social disadvantage, attending rural or regional schools, being the first in their family to go to university, or having an Indigenous background. At some institutions, bonus points are available for students who perform well academically in one subject.

Some schemes enable school principals to make special recommendations for students they believe are capable of performing well at university despite underperforming in the ATAR. Other schemes offer direct entry to disadvantaged students before the main round of admissions and therefore bypass the use of ATAR (Universities Admissions Centre, 2017).

While these approaches are critical for supporting the participation of disadvantaged students at university, the high degree of variability in how the schemes are applied creates a level of confusion for students and families, which may actually work against the students universities are trying to support (Higher Education Standards Panel, 2016).

Tertiary preparation and enabling courses

Another growing pathway to admission is through shorter courses or qualifications designed to prepare students for bachelor level study. These sub-bachelor level courses, referred to as enabling or tertiary preparation courses often aim to provide more supportive environments for school leavers, bridging the gap between school and more independent university study. These courses can either articulate directly into the second year of a bachelor degree, or the results can be taken into account in a separate application process.

> **Example: Direct arrangements with schools**
>
> There are some schools making agreements directly with universities setting out alternative selection mechanisms.
>
> Templestowe College in Melbourne currently has an agreement with Swinburne University and is seeking similar arrangements with other institutions.
>
> Under the agreement Templestowe students are required to achieve a minimum Study Score in English and either complete a significant personal project or successfully complete two first year university subjects by distance learning.
>
> The school does not see this as a mechanism for low performing students to gain access to university, but rather as an alternative pathway for capable students seeking to pursue a more personalised pathway in the final years of school. Under the agreement students are given guaranteed entry 12 months before graduation, pending successful completion of their prearranged program.
>
> *Source: LIFE@TC FROM A-Z Templestowe College*

Other selection methods

Selection methods such as interviews, portfolios, auditions and admission essays enable universities to get a more complete picture of student aptitudes not captured by a tertiary ranking, as well as gathering the more contextual factors necessary to determine how well a student is suited to a particular field of study. Some universities use interviews for highly selective courses, while portfolios are more commonly used for studies in creative areas.

There are also equity considerations with these methods. While they provide a fuller picture of students who may have been disadvantaged by selection processes relying on school results, it is difficult to guarantee transparency (Harvey et al., 2016).

5.2   Overseas approaches

The ranking of all final year school students on a single scale from 0 to 99.95 is unique to Australia.

The Australian approach to tertiary admission is arguably a reflection of our history and culture. The idea of the 'clearly in' cut off score likely appeals to an Australian desire for transparency and a 'fair go' for all, and the one size fits all approach worked in a university system which, for many decades, was characterised by a small population and handful of large public institutions.

Globally, demand for university places is growing, and many systems require a range of tools and criteria to admit students. While prior academic achievement is the key consideration for selection – how this is judged varies around the world (See Table 1).

Table 1: Comparison of university admissions requirements

Country	University admissions requirements
China	School leavers sit the National College Entrance Examination (*Gaokao*), a national standardised academic test. Around 9 million students compete each year. There have been concerns about the level of pressure the exam places on the school system, and the extent to which it directs the school curriculum towards exam-oriented learning (Xu, Kan, & He, 2015). Reforms are underway to make the process more flexible and allow for greater elective subject choice to match intended majors at university.
Singapore	Students are evaluated based on individual grades obtained in four content-based subjects, as well as a general critical thinking subject, and an extended group learning project. Some faculties have additional requirements such as interviews or aptitude tests (Singapore Ministry of Education, 2017). Each university publishes an indicative grade profile which students can use as a reference in selecting their courses. The indicative grade profile shows the range of grades that the previous year's successful applicants achieved for each of the core subjects. The average grade (from A to E) for the bottom 10 per cent and the top ten per cent of entrants to that course in the previous year is provided (e.g. 10th percentile BCC/C and 90th percentile AAA/B).
UK	School leavers apply to universities using their final year school results (A-levels). Universities make conditional offers well before the end of the academic year based on students predicted grades. Students must then obtain or exceed their predicted grades (Hoareau McGrath et al., 2014). Recent reforms have introduced a Tariff system which converts A-level results into points. Universities can specify the range of Tariff points required for entry to specific courses, however, not all universities use the system and over 60 institutions require students to sit an entry exam.
US	Universities require students to provide their achievement scores on a standardised aptitude test, the Scholastic Assessment Test (SAT). Students are tested on skills in critical reading, writing and mathematics, and it is usually taken within the final two years of high school (Hoareau McGrath et al., 2014). Also considered are high school grades, and in many cases personal essays detailing extra-curricular achievements.

6. Finding a way forward

Given the changing role and purpose of both secondary and tertiary education, it's timely to revisit how we facilitate young people's pathways at this critical life stage.

The ATAR presents a challenging dilemma – sitting as it does between the two sectors, it serves a range of different purposes and stakeholders. We can argue about the merits or otherwise of the ATAR as a tool for tertiary admission, however this ignores the broader issue. There appears to be no simple solution to reforming or replacing the ATAR mechanism itself, no doubt because it is only one element of a much larger and more complex picture. Many of the problems we associate with the ATAR are really symptoms of a broader disjuncture in the way we think about education and training pathways for young people.

To move forward, we need to acknowledge that secondary and tertiary education form part of one ongoing learning pathway – and any reforms need to start by recognising this.

In this section we take a renewed look at the interface between school and tertiary education, providing some key priorities to guide our thinking about this transition, and some proposals for a potential way forward.

6.1   Policy context

Many have considered the ATAR and the problems associated with it in the Australian context, but most have stopped short of providing a comprehensive alternative or achieving any significant shifts.

Review of transparency

Most recently, the *Review of Transparency of Higher Education Admissions Processes* (Harvey et al., 2016; Higher Education Standards Panel, 2016) considered the changing role of ATAR in, what was at the time of the review, a demand driven system.

The Review found that significant numbers of students being admitted to courses with ATARs below advertised 'cut offs' was compromising transparency, and could be contributing to inequity and missed opportunities across the system as a whole.

The Review identified several concerns:

- The lack of transparency of early offers and bonus points being applied differently across the system - often poorly understood by students;

- The lack of a common language used across the sector – for example terms such as ATAR, 'ATAR-plus', 'selection rank', 'course cut off' and 'clearly in', are often used in different ways by different entities. It's not always clear when a 'cut off' is truly a minimum requirement, when a given ATAR figure includes bonus points, or how institutions apply bonuses.

- Offers are increasingly made outside the timeframes of the main admission round, with 'early' and 'late' offers not included in the information published on ATARs.

It made a series of recommendations, now in the process of being implemented, which include a requirement to report the proportion of offers made below ATAR cut offs, and the publication of key information about ATARs and admission in a uniform, easy to understand format (Commonwealth Department of Education and Training, 2017b). This includes any 'bonus points' a university may use as part of the admissions process (Higher Education Standards Panel, 2016).

While these measures will improve transparency to some extent, they are unlikely to shift the ATAR's prominence in the transition from school to tertiary education.

Decision to limit funding for Commonwealth Supported Places

After the Review, the 2017 decision was made to effectively end the demand driven system, by capping funding at 2017 levels for the next two years, with growth after that contingent on performance and population growth. It is unclear what effect this decision will have on the role ATAR plays in admissions. However, if the number of places is again constrained, the ATAR may become more important as a selection tool.

Competing stakeholders and priorities

Achieving reforms is difficult given the dual role the ATAR plays across the school and tertiary education sectors. The ATAR needs to measure and mark school achievement, filter and sort applicants into appropriate pathways, and facilitate equity of access and equality of educational opportunity.

A range of individuals and institutions have a stake in the system. These include universities, with different university groups having contrasting views on the role ATAR should play. Schools also have a strong stake, as the ATAR serves as the key measure of student, and therefore school achievement.

6.2   Priorities for a better system

If we were to take a fresh approach, what should be prioritised? What if we looked at the issue, not from the point of view of schools or universities – for whom the current system is arguably designed – but from the student's perspective?

We have widespread agreement on a number of high-level objectives for our education and training system (Bradley et al., 2008; Ministerial Council on Education, 2008).

There is broad consensus that education should:

- Develop the foundation skills and broader capabilities required to succeed in a changing world;
- Support effective transitions from school to post-school life; and
- Enable more school leavers to participate in tertiary study or training.

Below is a series of priorities for policymakers to consider in designing a tertiary admissions system which better reflects these objectives:

Match the right students to the right courses – matching a student's abilities, as well as his or her interests and aptitudes for a course of study, career pathway or profession.

Avoid distortions – ensure students' decisions are not unduly distorted by the perceived prestige of one institution over another, with students encouraged to take into account the full range of post-school pathways available.

Maintain transparency – a level playing field for all with clear and publicly accessible information about entry requirements and selection processes from year to year.

Strive for equity – taking active steps to address disadvantage by ensuring a student's background or family circumstances do not act as a barrier to access.

Maximise efficiency – avoiding duplication and complexity, and centralising and streamlining the application process where possible.

Recognise it's not 'one size fits all' – recognising the wide variety of school leavers and pathways, and the need for flexibility, and a range of approaches to student selection.

Acknowledge and address competing interests – balancing institutions' interests with those of students and the public good, ensuring institutions are incentivised to match the right students to the right courses, and act responsibly in making offers, including in the allocation of public funding.

Reduce attrition – ensuring commencing students are prepared to undertake a course of study or providing those who are not with the pathways or skills they need.

Recognise broader capabilities – recognising that education needs to develop a range of broader capabilities and acknowledging and rewarding this in selection processes.

6.3   Conclusion

This issues paper has sought to unpack the ATAR's role in the education system – asking whether it continues to be an effective tool for tertiary admissions, why and for whom.

It has identified several key issues:

- The tertiary education landscape has evolved in recent years – the number of higher education places has increased, in effect widening the gates to entry;
- Alternative pathways not requiring an ATAR, or which use the ATAR alongside other criteria, are becoming more common;
- Despite the expansion of alternative pathways, the ATAR is maintaining its prominence as a marker of student achievement in the school system and the community more broadly – suggesting it may be assuming a role beyond what was intended.
- The ATAR tool itself has limitations – it simplifies a complex range of inputs, can mask where students have excelled or performed poorly, and reduces the rich skills, knowledge and capabilities students develop over 13 years of schooling to one number.

Most importantly, it has highlighted a broader disjuncture between the school and tertiary systems.

This paper stops short of calling for the ATAR to be replaced. However, as the objectives of our education system evolve, so too must the means of measuring success, and facilitating access.

Collectively, governments, students and families are investing more than ever on education and training in Australia (Pilcher & Torii, 2017). There is a broad public benefit to ensuring this investment is spent wisely, and that we have the right framework of policies and practices in place to ensure as many students as possible make a good transition from schooling to the next steps in their lives.

Future directions

As stated at the outset, this paper is not intended to provide all the answers, but to highlight the issues and inform the debate. The Mitchell Institute welcomes opportunities to work with others to further this work.

We propose the following ideas for consideration and discussion:

'Opt in' ATAR

Currently, students can complete a senior secondary certificate but 'opt out' of receiving an ATAR. Would it be better if only those students seeking admission to competitive entry courses received one – in effect an opt-in ATAR?

More emphasis on subject scores

Instead of an ATAR, should university selections be made on the basis of individual subject scores, particularly those that relate directly to the student's intended course of study?

Publishing skills and capabilities associated with a course

Would it be better if institutions provided a more detailed description of the skills and capabilities relevant to a particular course and associated careers? Does this mean that an aptitude test may be a better means of assessing whether students are suited to a course of study in some cases?

Broader statements of school achievement

Would developing other ways of recognising and communicating the wide range of accomplishments that students accumulate over their years of schooling reduce reliance on the ATAR? Should a common framework be developed to measure and communicate this?

Better careers and pathway advice

Would providing high-quality careers advice, which highlights the many pathways available, remove some of the misconceptions about, and undue emphasis on the ATAR?

References

ABS. (2000). *Schools, Australia, 2000*. Retrieved from:
http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02000?OpenDocument

ABS. (2017a). *6227.0 - Education and Work, Australia, May 2017*. Retrieved from:
http://www.abs.gov.au/ausstats/abs@.nsf/mf/6227.0

ABS. (2017b). *Schools, Australia, 2017*. Retrieved from: http://www.abs.gov.au/ausstats/abs@.nsf/mf/4221.0

ACER. (2017). *UMAT 2017 Information Booklet*. Retrieved from https://umat.acer.edu.au/files/UMAT_info_book_17.pdf

Blyth, K. (2014). Selection methods for undergraduate admissions in Australia. Does the Australian predominate entry scheme the Australian Tertiary Admissions Rank (ATAR) have a future? *Journal of Higher Education Policy and Management, 36*(3), 268-278.

Birmingham, S. (2017). Media Release *Sustainability and Excellence in Higher Education*, 18 December 2017 [Press release]. Retrieved from https://www.senatorbirmingham.com.au/sustainability-and-excellence-in-higher-education/

Bradley, D., Noonan, P., Nugent, H., & Scales, B. (2008). *Review of higher education in Australia, final report*. Canberra: Australian Government.

Cardak, B. A., & Ryan, C. (2009). Participation in higher education in Australia: equity and access. *Economic Record, 85*(271), 433-448.

Commonwealth Department of Education and Training. (2016). *Selected Higher Education Statistics – 2016 Student data*. Retrieved from https://www.education.gov.au/selected-higher-education-statistics-2016-student-data.

Commonwealth Department of Education and Training. (2017a). *Completion Rates of Higher Education Students - Cohort Analysis, 2005-2015*. Canberra Retrieved from https://docs.education.gov.au/node/46126.

Commonwealth Department of Education and Training. (2017b). *Final Admissions Transparency Implementation Plan*. Retrieved from https://docs.education.gov.au/node/44471.

Commonwealth Department of Education and Training. (2017c). *Undergraduate Applications, Offers and Acceptances 2017*. Canberra Retrieved from https://docs.education.gov.au/node/46066.

Commonwealth Department of Education and Training. (2018). *Undergraduate commencements by basis of admission 2015-16 (custom request)*.

Commonwealth Department of Employment. (2017). 2017 Employment Projections. Retrieved from http://lmip.gov.au/default.aspx?LMIP/EmploymentProjections

Finkel, A. (2018). Speech at Universities Australia Conference 'Winning the game of Faculty'. Retrieved from http://www.chiefscientist.gov.au/wp-content/uploads/Universities-Australia-dinner-address.pdf

Group of Eight Australia. (2016). *Submission to the Review of Transparency in Higher Education*. Retrieved from https://docs.education.gov.au/system/files/doc/other/no_14_group_of_eight.pdf

Harvey, A., Brett, M., Cardak, B., Sheridan, A., Stratford, J., Tootell, N., . . . Spicer, R. (2016). *The adaptation of tertiary admissions practices to growth and diversity*. Retrieved from:
http://www.latrobe.edu.au/__data/assets/pdf_file/0007/720853/La-Trobe-NPP-TAC-Research-Report.pdf

Higher Education Standards Panel. (2016). *Improving the transparency of higher education admissions; final report*. Retrieved from:
https://docs.education.gov.au/system/files/doc/other/revised_20161115_pm_final_accessibility_version_hesp_admissions_transparency_report.pdf.

Hoareau McGrath, C., Henham, M. L., Corbett, A., Durazzi, N., Frearson, M., Janta, B., . . . Guerin, B. (2014). *Higher education entrance qualifications and exams in Europe: a comparison*.European Parliament, Directorate General for Internal Policies, Brussels.

James, R., Bexley, E., & Shearer, M. (2009). *Improving selection for tertiary education places in Victoria*: Centre for the Study of Higher Education, The University of Melbourne.

Lamb, S., & Huo, S. (2017). *Counting the costs of lost opportunity in Australian education.* Mitchell Institute

Lamb, S., Jackson, J., Walstab, A., & Huo, S. (2015). *Educational opportunity in Australia 2015: Who succeeds and who misses out*. Retrieved from: http://www.mitchellinstitute.org.au/wp-content/uploads/2015/11/Educational-opportunity-in-Australia-2015-Who-succeeds-and-who-misses-out-19Nov15.pdf

Leadbeater, C. (2016). *The Problem Solvers: The teachers, the students and the radically disruptive nuns who are leading a global learning movement*. Retrieved from London: https://www.pearson.com/content/dam/corporate/global/pearson-dot-com/files/learning/Problem-Solvers-Web-.pdf

Lucas, B., & Hanson, J. (2016). *Learning to be employable: Practical lessons from research into developing character*: Retrieved from United Kingdom.

Matters, G., & Masters, G. N. (2014). *Redesigning the secondary–tertiary interface: Queensland Review of Senior Assessment and Tertiary Entrance.*

Merlino, J. Victorian Minister for Education media release. (2016). Raising The Bar: Top 30 Per Cent Of Students For Teaching [Press release]. Retrieved from https://www.premier.vic.gov.au/raising-the-bar-top-30-per-cent-of-students-for-teaching/

Messinis, G., & Sheehan, P. (2015). *The academic performance of first year students at Victoria University by entry score and SES, 2009-2013*. Analysis & Policy Observatory. *http://apo. org. au/node/54684*.

Ministerial Council on Education, Training and Youth Affairs (Australia), . (2008). *Melbourne Declaration on Educational Goals for Young Australians*. Retrieved from http://www.curriculum.edu.au/verve/_resources/National_Declaration_on_the_Educational_Goals_for_Young_Australians.pdf

Mission Australia. (2017). *Youth Survey report 2017*. Retrieved from https://www.missionaustralia.com.au/news-blog/news-media/youth-survey-report-2017

Noonan, P. (2016). *A new system for financing Australian tertiary education*. Mitchell Institute, Melbourne. Retrieved from: http://www.mitchellinstitute.org.au/papers/a-new-system-for-financing-australian-tertiary-education/

NSW Department of Education. (2017). *Submission to the Review to Achieve Educational Excellence in Australian Schools.*

OECD. (2018). *The future of education and skills: Education 2030*. Retrieved from http://www.oecd.org/education/2030/oecd-education-2030-position-paper.pdf

Oo, A. (2017). *Why aren't students studying higher level maths? How ATAR scaling may affect maths uptake*. Retrieved from https://www.cese.nsw.gov.au/publications-filter/why-aren-t-students-studying-higher-level-maths.

Palmer, N., Bexley, E., & James, R. (2011). *Selection and Participation in Higher Education: University Selection in Support of Student Success and Diversity of Participation*. Centre for the Study of Higher Education.

Pilcher, S., & Torii, K. (2017). *Expenditure on education and training in Australia 2017*. Mitchell Institute, Melbourne. Retrieved from http://www.mitchellinstitute.org.au/reports/expenditure-on-education-and-training-in-australia-2017/

Quality Indicators for Learning and Teaching (QILT). (2017). *2017 Graduate Outcomes Survey National Report*. Retrieved from https://www.qilt.edu.au/docs/default-source/gos-reports/2017/2017_gos_national_report_final_accessiblea45d8791b1e86477b58fff00006709da.pdf?sfvrsn=ceb5e33c_4

Singapore Ministry of Education. (2017). *From pre-university to university education*. Retrieved from https://www.moe.gov.sg/education/pre-university/from-pre-university-to-university-education.

Teese, R. (2007). Structural inequality in Australian education: Vertical and lateral stratification of opportunity *International Studies in Educational Inequality, Theory and Policy Volume 2: Inequality in Education Systems* (pp. 39-61). Dordrecht: Springer.

Templestowe College. LIFE@TC FROM A-Z. Retrieved from https://tc.vic.edu.au/lifeattca-z/

Torii, K., & O'Connell, M. (2017). *Preparing young people for the future of work: Policy roundtable report.* Mitchell Institute, Melbourne. Retrieved from http://www.mitchellinstitute.org.au/reports/preparing-young-people-for-the-future-of-work/

Universities Admissions Centre. (2017). *Undergraduate fact sheet 8: Early entry schemes.*

University Admissions Centre. (2017). *Report on the scaling of the 2016 NSW Higher School Certificate*. Retrieved from http://www.uac.edu.au/documents/atar/2016-ScalingReport.pdf

UNSW Law. (2017). Law Admission Test (LAT). Retrieved from http://www.law.unsw.edu.au/future-students/undergraduate/law-admission-test-lat

VTAC. (2017). *CASPer: for initial teacher education courses*. Retrieved from http://www.vtac.edu.au/files/pdf/publications/CASPer.pdf

VTAC. (2018). The ATAR explained. Retrieved from http://www.vtac.edu.au/results-offers/atar-explained.html#how

Wilkins, R. (2017). *The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 15*. Retrieved from: http://melbourneinstitute.unimelb.edu.au/__data/assets/pdf_file/0010/2437426/HILDA-SR-med-res.pdf

Xu, X., Kan, Y., & He, S. (2015). Towards diversification and flexibility: The changing of National College Entrance Examination and its impact on the transition from secondary education to higher education in China. In, C. Wing. *The transition from secondary education to higher education: Case studies from Asia and the Pacific*. UNESCO, Bangkok.

Zhao, Y. (2012). *World class learners: Educating creative and entrepreneurial students*: Corwin Press.Thousand Oaks, California.