EDU Talent

Final Report

PREPARED BY

Team 9 - 9rowth

Practera

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A. Executive Summary

This report provides a comprehensive analysis of the performance of Australian universities based on the attrition rates of their education students, an examination of historical teacher workforce attrition trends over the past 30 years, and the development of a predictive model to ensure a sufficient supply of teachers nationally. The data was collected from Monash University, the Australian Government Department of Education, the Australian Institute for Teaching and School Leadership, Queensland College of Teachers, NSW Government Education Standards Authority, State of Victoria (Department of Education and Training). Our significant 3 key findings include:

1. University Performance

The analysis identified the top-performing universities in Australia in terms of retaining education students. Monash University, The University of Sydney, and The University of Adelaide emerged as leaders with the lowest average attrition rates from 2015 to 2020.

2. Historical Trends

The report highlights significant trends in teacher workforce attrition across major Australian states, focusing on New South Wales, Queensland, and Victoria. Data indicates varying attrition rates over the years, with notable fluctuations influenced by state-specific policies and external factors.

3. Predictive Model

A predictive formula was developed to estimate the required national intake of education students. This model considers current attrition rates and aims to maintain an adequate teacher supply to meet future educational demands.

The report concludes with strategic recommendations to improve teacher retention rates and address the identified data collection and analysis limitations. By implementing these recommendations, stakeholders can enhance the sustainability of the teacher workforce in Australia.

B. Introduction

The teaching profession in Australia holds a pivotal role in shaping the nation's future by fostering the intellectual and social development of students. Teachers are instrumental in imparting knowledge and skills and cultivating critical thinking, creativity, and resilience among young minds. Their influence extends beyond the classroom, contributing significantly to the overall growth of society and the economy (Ashiedu & Scott-Ladd 2012).

However, the current landscape of the teaching profession in Australia faces a pressing challenge: a widespread shortage of teachers. This issue is particularly acute in rural and remote areas, as well as in certain subject specialties and school levels. When schools lack qualified teachers, the immediate effects include larger class sizes, fewer course offerings, and increased workloads for current teachers (Dao et al. 2024). These conditions create a challenging learning environment that can diminish the quality of education students receive and impede their academic and personal development. By addressing teacher shortages, we can ensure that students have access to a supportive learning environment that enables them to reach their full potential.

Furthermore, addressing these issues is crucial for long-term educational sustainability. A stable and well-staffed teaching workforce is essential for the consistent delivery of high-quality education. Without adequate intervention, current shortages could worsen, leading to ongoing educational disruption. This not only impacts student outcomes but also hinders the nation's ability to develop a skilled and knowledgeable workforce, which is vital for economic growth and social stability.

The objectives of this report are threefold. First, it seeks to identify the best-performing universities in Australia based on the attrition rates of their education students. Understanding which institutions excel at retaining their Initial Teacher Education (ITE) students will provide valuable insights into effective retention strategies. Second, the report analyses historical data to identify trends in teacher workforce attrition rates over the past 30 years, focusing on states with the highest number of teachers. This analysis will help pinpoint critical areas in need of intervention. Third, considering current attrition rates, the report aims to develop a predictive formula to determine the required national intake of education students to maintain an adequate supply of teachers.

EduTalent can enhance teacher placement by using attrition data to target regions with high teacher turnover and prioritise recruitment and placement in these areas, addressing immediate shortages.

Additionally, insights on teacher retention and attrition can help match teachers to schools that align with their values and goals, improving satisfaction and longevity. For strategic recruitment, schools in regions with critical teacher shortages can benefit from tailored recruitment strategies to attract teachers from over-supplied areas or other regions. EduTalent can also develop strategies to redistribute teachers from over-supplied regions to those in need, ensuring balanced resource allocation. Furthermore, schools can receive specific recommendations for attracting and retaining teachers, including incentives, professional development opportunities, and tailored support systems. By implementing these strategies, EduTalent can address immediate teacher shortages and contribute to the long-term sustainability of the educational workforce, ensuring high-quality education for all students and supporting the nation's social and economic prosperity.

The structure of the report will begin with ranking universities based on attrition rates, followed by an analysis of teacher workforce trends, and conclude with predictive models for future student enrollments in education courses.

C. Research Objectives

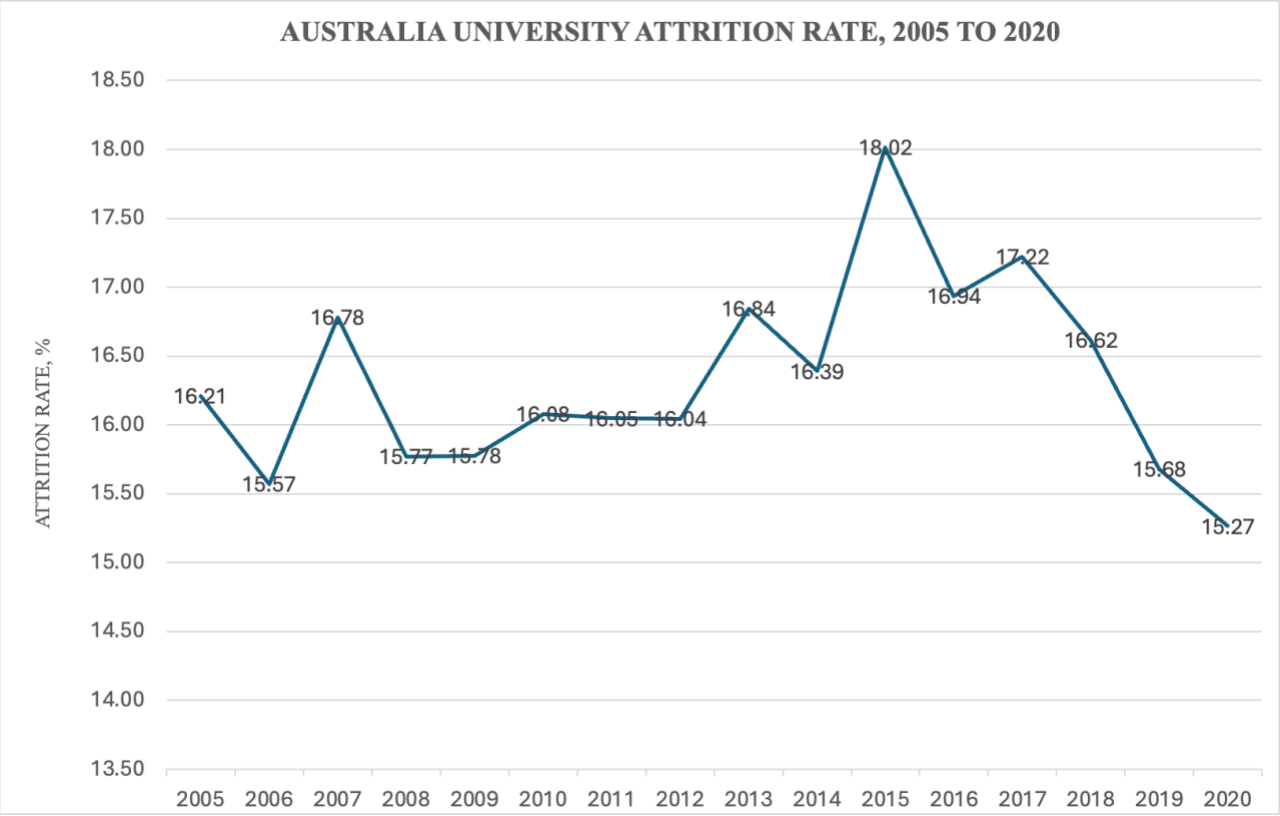
1. Identify the best performing universities in Australia based on the attrition rates of their education students.
2. Analyse historical data to identify trends in teacher workforce attrition rates over the past 30 years.
3. Develop a predictive formula to determine the required national intake of education students to maintain an adequate national supply of teachers, considering the current attrition rates.

D. Data analysis

1. Objective 1: Identify the best performing universities in Australia based on the attrition rates of their education students.

Attrition rate refers to the percentage of students who drop out of the higher education institution after their first year. The measurement for the attrition rate is based on the "new adjusted attrition rate" which refers to the percentage of students who commenced a study in the year(x) who neither completed in year(x) nor year(x + 1) nor return in year(x + 1). This involves a matching process involving the Commonwealth Higher Education Student Support Number (CHESSN) with the StudentID. Since it identifies students attending the same or different universities, this results in a more accurate attrition rate measurement. To put it another way, a student would be considered retained in the adjusted attrition rate measurement but attrited in the normal attrition rate calculation if they transferred to a different university the following year. Only students who completely left the university are included in the adjusted attrition rate measurement (Tertiary Collection of Student Information, n.d.).

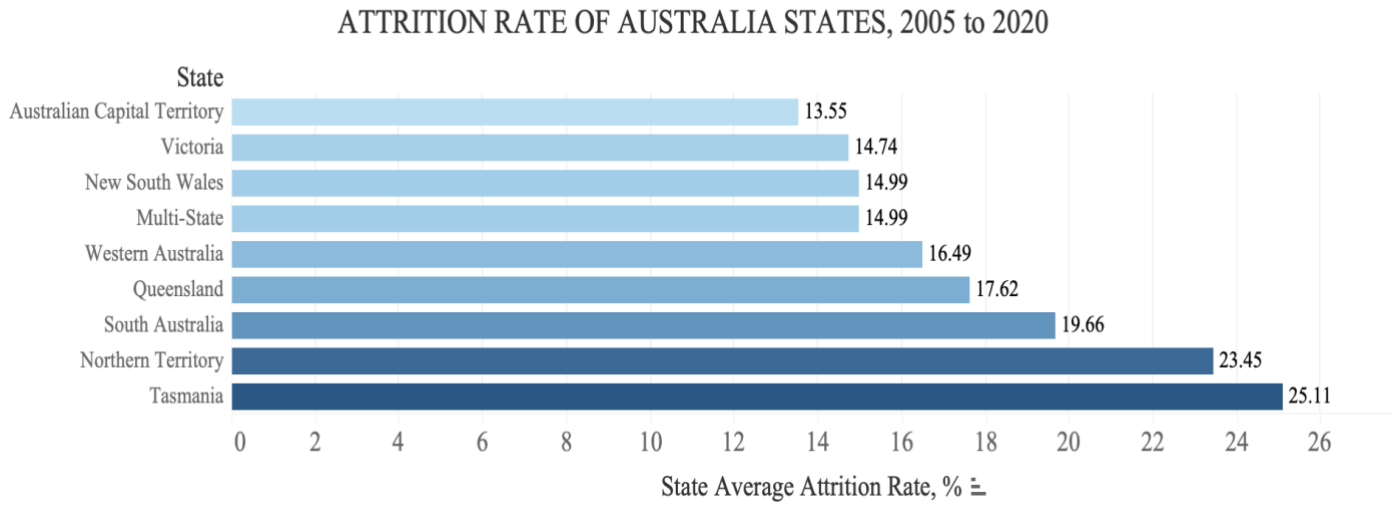
Figure 1.1: Australia University Performance for Bachelor and Postgraduate Students Based on New Adjusted Attrition Rate, 2005 to 2020



Source: Australian Government, Department of Education (n.d.). Attrition, retention and success rates for commencing higher education students.

The above graph displays the attrition rate of Australian university students from 2005 to 2020. The attrition rate varies over the years, showing periods of both.

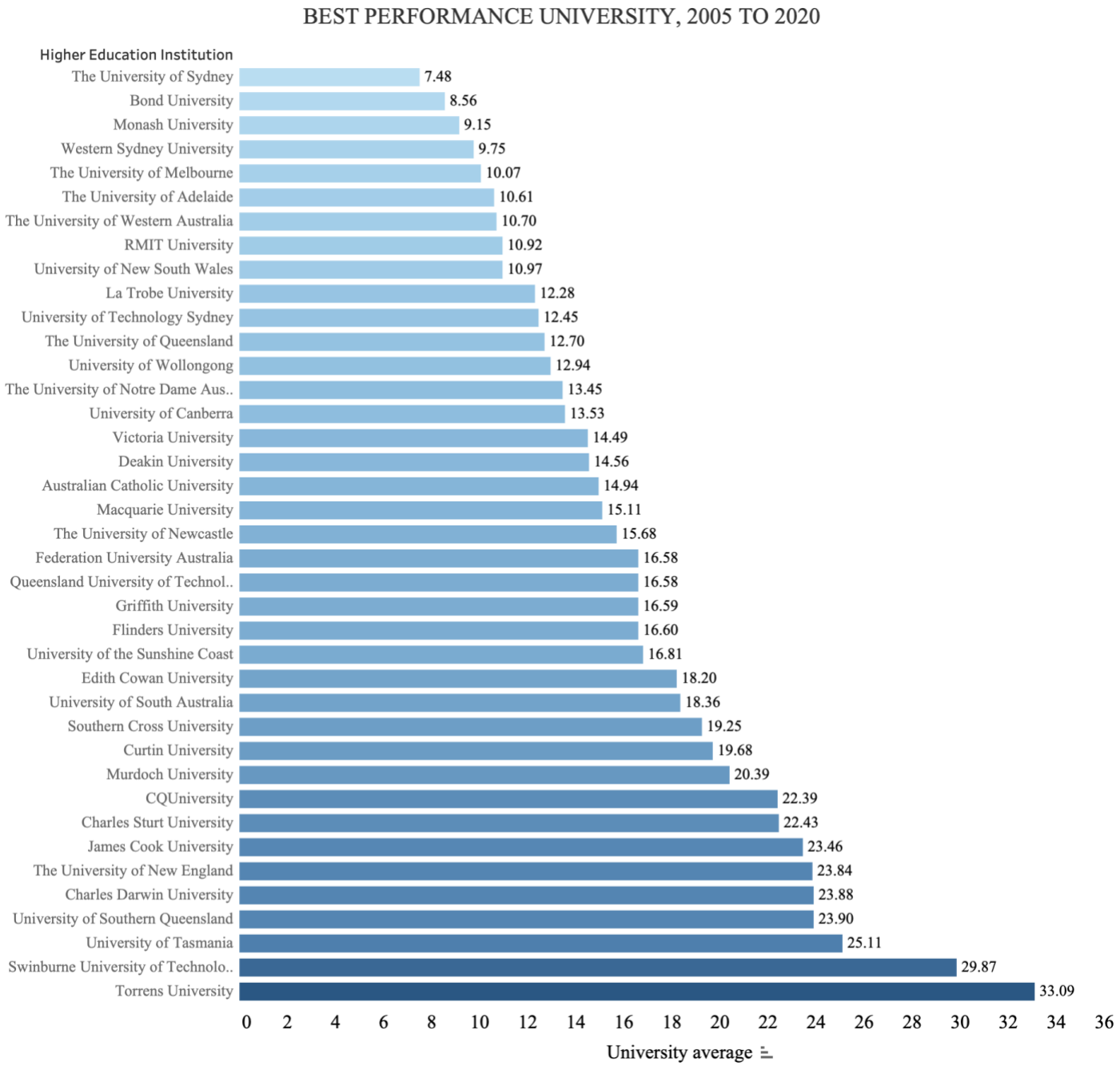
Figure 1.2: States of Australia University Performance for Bachelor and Postgraduate Students Based on New Adjusted Attrition Rate, 2005 to 2020



Source: Australian Government, Department of Education (n.d.). Attrition, retention and success rates for commencing higher education students.

The chart displays the average attrition rate of university students across different Australian states from 2005 to 2020. Australian Capital Territory has the lowest average attrition rate among all states at 13.55%, indicating relatively better student retention. Tasmania has the highest average attrition rate at 25.11% indicating significant challenges in retaining students. States like Victoria and New South Wales have similar attrition rates (14.74% and 14.99%, respectively), which are on the lower side, indicating comparatively better retention as compared to other states.

Figure 1.3: University Performance for Bachelor and Postgraduate Students Based on New Adjusted Attrition Rate, 2005 to 2020



Source: Australian Government, Department of Education (n.d.). Attrition, retention and success rates for commencing higher education students.

Note: 1. Western Sydney University lacks an attrition rate for overseas bachelor students in 2017.

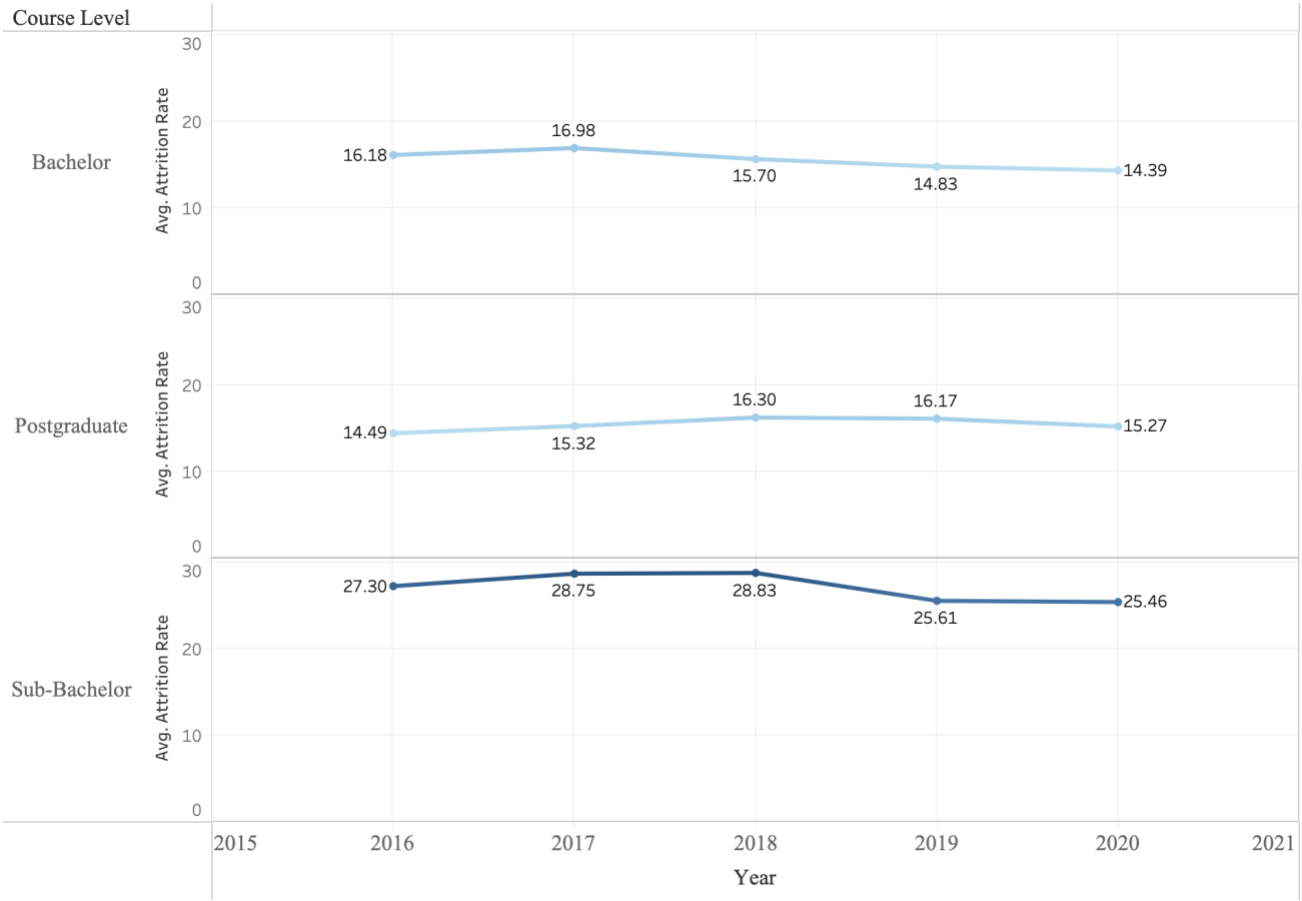
2. The University of Melbourne only has a master's of education.

3. The Australian National University lacks the attrition rate of 2015,2016,2018,2019,2020.

The above bar graph illustrates Australian universities' performance from 2005 to 2020 based on their average attrition rate of education students. Torrens University ranks highest with an average score of 33.09. The University of Sydney and Bond University have the lowest attrition rates i.e. 7.48 and 8.56 respectively.

Even though, during the data collection process, some universities were missing data for some years. We still have collected nearly fifteen years of historical data for most universities. The results show that The university of Sydney has the most outstanding performance. We will assume the part of reason may be related to QS ranking and Student Category. The specific reasons need to be further analyzed.

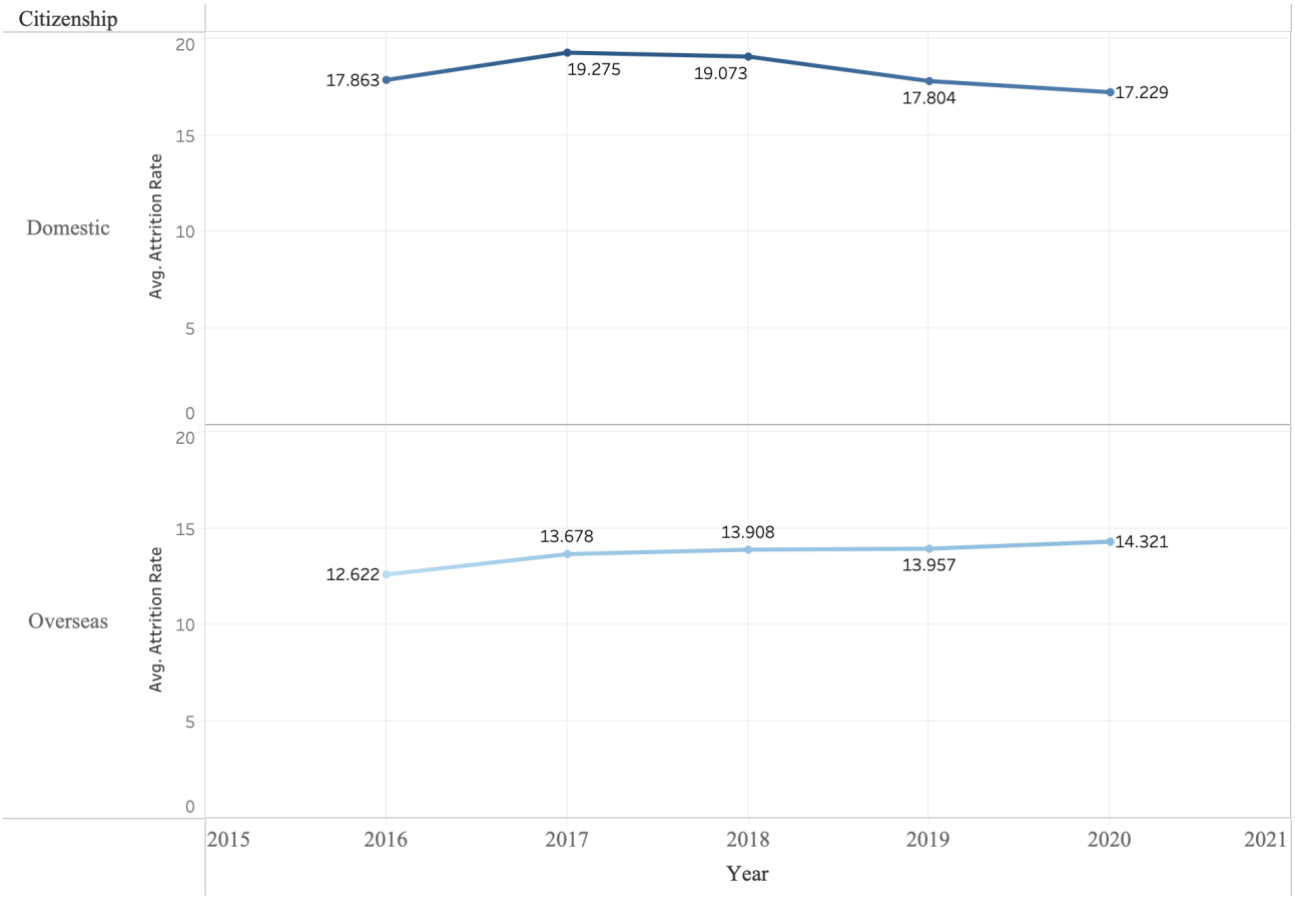
Figure 1.4: Reason 1 of Contributing Australia University Performance Based on Course Level, 2005 to 2020



Source: Australian Government, Department of Education (n.d.). Attrition, retention and success rates for commencing higher education students.

The above line graph shows the average attrition rates from 2015 to 2020 for different course levels i.e. Bachelor, Postgraduate, and Sub-Bachelor offered by top renowned universities in Australia. The attrition rate of postgraduate courses fluctuates, with a peak in 2018 at 16.30% and a general decreasing trend after that, reaching 15.27% by 2020. Similar trends followed by the students of sub-bachelor level courses, represented an initial increase, peaking in 2018 at 28.33%, followed by a decrease to 25.46% by 2020. On the other side, the attrition rate for Bachelor courses shows a slight decline overall, peaking in 2017 at 16.98% and decreasing steadily to 14.39% by 2020. Overall, the data indicates that attrition rates for all course levels tend to decrease towards the later years.

Figure 1.5: Reason 2 of Contributing Australia University Performance Based on Course Level, 2005 to 2020



Source: Australian Government, Department of Education (n.d.). Attrition, retention and success rates for commencing higher education students.

The graph displays the average attrition rates over the years from 2015 to 2020 for two different categories of domestic and international students of Australian Universities. The attrition rate for domestic students started at 17.863 in 2016, increased to a peak of 19.275 in 2017, and then fluctuated

slightly, ending at 17.229 in 2020. This indicates a generally high but slightly declining trend in attrition rates for domestic students. In contrast, the attrition rate for overseas students started at 12.622 in 2016. This rate steadily rose over the years, reaching 14.321 in 2020, suggesting a consistent upward trend. Overall, domestic students have higher attrition rates compared to overseas providers, though the rates for both categories have shown some variability over the years. The graph provides a clear visual representation of these trends, highlighting the differences in attrition rates between domestic and overseas students.

2. Objective 2: Analyse historical data to identify trends in teacher workforce attrition rates over the past 30 years.

This research will use the Victorian Government's definition of teacher attrition, which refers to registration expiration. This means that teachers are removed from the supply pool when their registration with the regulatory bodies responsible for the accreditation, registration, and professional standards of teachers within their respective states expires ("Victorian Teacher Supply and Demand Report 2020", 2021).

Figure 2.1 New South Wales, Queensland and Victoria graduate teachers removed from the Register over years.

	New South Wales[1]	Queensland[2]	Victoria[3]
2009	7.50%	13.19%	
2010	11.20%	15.96%	
2011	11.50%	14.58%	
2012	9.90%	13.38%	
2013	13.00%	13.94%	
2014	12.50%	14.27%	
2015	12.30%	9.09%	5.10%
2016	11.50%	5.46%	4.60%
2017	9.10%	3.51%	3.70%
2018	5.90%	0.96%	3.50%
2019			3.20%

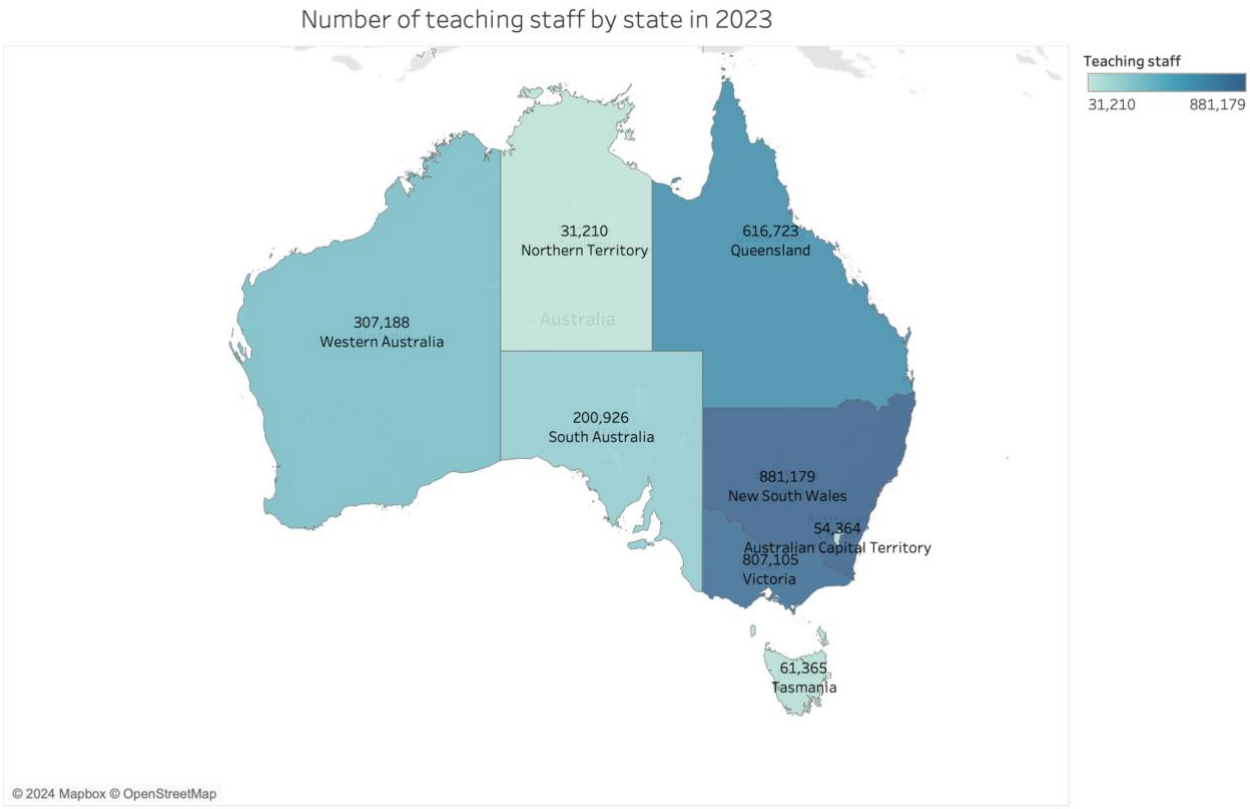
2020			3.30%
2021			4.10%
Average	10.44%	10.43%	3.93%
Australia	8.27% (*)		

Source:

1. NSW Government Education Standards Authority. (2020). Attrition of NSW Graduate Teachers. https://www.nsw.gov.au/sites/default/files/2022-11/Attrition-of-NSW-Graduate-Teachers-report.pdf
2. Queensland College of Teachers. (2019). Attrition of Queensland Graduate Teachers" https://cdn.qct.edu.au/pdf/QCT_Qld_Graduate_Attrition_Report_2019.pdf
3. Victoria State Government. (2021). Victorian Teacher Supply and Demand Report 2020. https://www.education.vic.gov.au/Documents/school/teachers/profdev/careers/teacher-supply-and-demand-report-2020.pdf

(*) Since New South Wales, Queensland and Victoria are three states that have the highest number of teachers in Australia (*Spotlight Australia's Teacher Workforce Today*, 2023). The figure 2.2 below shows the number of teaching staff by state in 2023. As can be seen from the maps, the number of teaching staff in NSW, Queensland and Victoria accounted for more than 75% of teaching staff in Australia. Therefore, we calculate the average attrition rate for the teacher workforce in Australia by taking the average attrition rate of these three states.

Figure 2.2 Number of teaching staff by state in 2023



Source: ACARA. (2023, June). Staff number. https://www.acara.edu.au/reporting/national-report-on-schooling-in-australia/staff-numbers

Based on Figure 2.1, we can have these findings as follows:

New South Wales (NSW):

- The teacher attrition rate changes over time; the average rate in this state is 10.44%, which is likewise relatively high compared to other councils. At the same time, some years have greater rates, such as 2010 (11.20%) and 2013 (13.00%), while others have lower rates, such as 2018 (5.90%).

Queensland:

- The teacher attrition rate in this state is considered very high compared to the other states, with the highest peak rate in 2010 (15.96%) and 2011 (14.58%), but compared to recent years, the rate has decreased significantly, typically in 2018 (0.96%). The state average rate is 10.43% but is still as high as NSW and higher than Victoria.

Victoria:

- This state's teacher attrition rate is lower than the other two states. The average attrition rate of this state is 3.93%, and the highest rate of this state is 2010 (5.10%), but we can also see that this rate is very even, only within 3-6%, and no year has exceeded that level.
- In this state, the premier wants to change and improve the quality of education. Because of that, pressure has been placed on teachers. According to MOJO News, increasing expectations has made the teacher professor more accountable because of expectation, and it has required catering to all students with no "pressure release value". That leads to many teachers leaving the profession.

The data are limited. A potential solution could be to use teachers' intentions to leave the profession. The reason is that measuring behaviours, especially tracking how many teachers leave, requires complex research that is challenging, costly, and time-consuming. So instead, many studies have looked at current teachers' intentions to leave as a way to estimate attrition. Likewise, according to AISTL, the intentions of the teacher workforce also offer valuable perspectives on their perceptions regarding the long-term viability of their teaching career (*National Trends Teacher Workforce*, 2023).

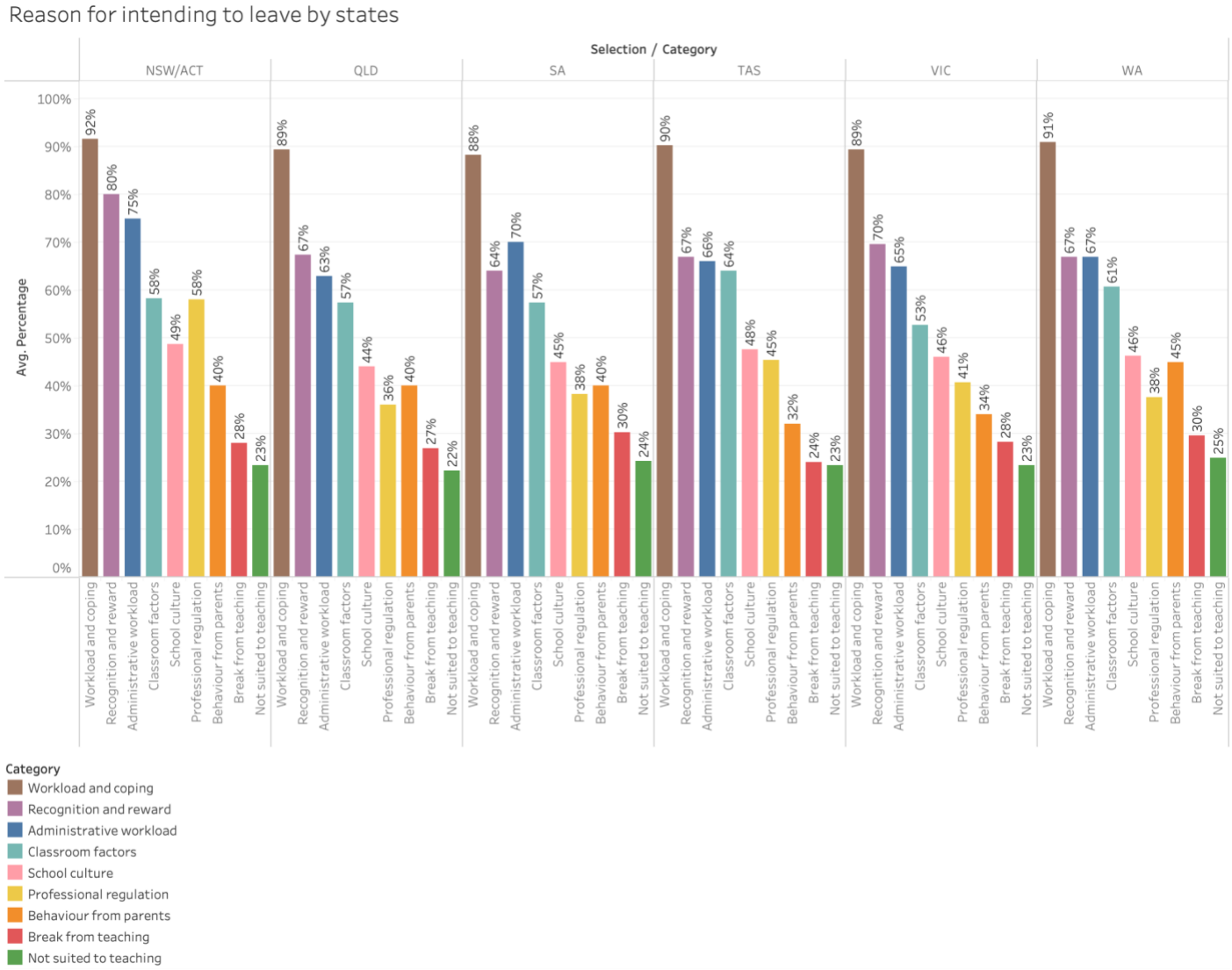
Figure 2.3 Teachers' intention to leave the profession rate from 2019 to 2022 by workforce segments

Workforce segment	2019	2020	2021	2022
Teacher workforce	26%	21%	26%	35%
Classroom teachers	28%	23%	28%	34%
Middle leaders	26%	21%	26%	35%
Senior leaders	19%	16%	20%	30%
Casual/relief teachers	23%	18%	22%	28%
Regional/remote teacher workforce	26%	23%	NR	NR
Metropolitan teacher workforce	26%	21%	NR	NR
Migrant teachers	33%	14%	NR	NR
Teachers with Australian ITE	25%	21%	NR	NR

Source: AITSL. (2023, June). Australian Teacher Workforce Data. https://www.aitsl.edu.au/research/australian-teacher-workforce-data/publications-and-data-tools/national-trends-teacher-workforce

This table shows a significant rise in the overall intention to leave the teaching profession from 21% in 2020 to 35% in 2012, a trend observed consistently across various segments. The possible reason behind this trend is decreased job satisfaction among teachers' workforce due to the COVID-19 pandemic. Teachers faced increased work demands, including higher complexity and longer hours, and had to adapt rapidly to new technologies and teaching approaches to meet students' needs. This, combined with community anxiety and the risk of contracting COVID-19, has notably impacted teachers' well-being as they continue to support their students (ORIMA Research, 2021). A survey conducted by Monash University also revealed that there was a drop of 20% in teachers' satisfaction with their roles in 2022 compared with their responses in 2019 because of workload, negative media, disrespect from parents and students, and lack of recognition (Longmuir et al., 2022).

Figure 2.4 Reason for intending to leave

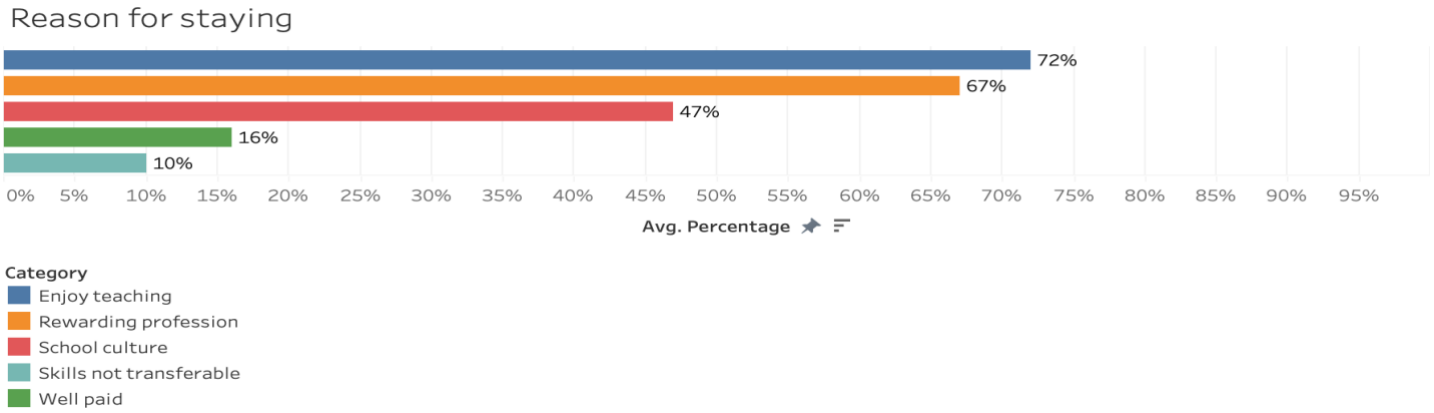


Source: AITSL. (n.d.). Australian teacher workforce data.

The primary reason why teachers intend to leave their profession is due to "workload and coping," with a substantial 91% of respondents in 2022 mentioning this factor. This number has increased from 2021 and 2020. The COVID-19 pandemic exacerbated these issues, as teachers had to adapt to remote teaching, manage hybrid classrooms, and ensure student engagement despite technological barriers. This significant increase in workload has significantly impacted teachers' ability to cope, making it a major concern. Additionally, 75% of teachers identified "recognition and reward" as their motivator, surpassing numbers from both 2020 and 2021. This reflects a compelling need for acknowledgment and fair compensation for their hard work, which many feel has been undervalued. Throughout the pandemic, teachers took on extra duties and went the extra mile to support learning in extraordinary circumstances. However, they believe that their contributions have not received the acknowledgment or compensation they deserve, resulting in frustration and the intention to quit. "Administrative

workload" is another significant factor, with 68% of teachers in 2022 citing this as a reason for their intention to leave, consistent with previous years. This highlights the burden of non-teaching tasks that add to their workload. "Classroom factors" are also a concern for 63% of teachers in 2022, suggesting that issues within the classroom environment contribute to their intention to leave. “Professional regulation” affects 51% of teachers in 2022, indicating that the policies and standards governing their work are seen as a significant pressure. "School culture" is mentioned by 48% of teachers in 2022, consistent with previous years, highlighting that a negative or unsupportive school environment can cause teachers to leave their profession. 38% of teachers in 2022 emphasise the influence of external interactions, in this case, “behaviour from parents”, on their decisions. This figure shows an increase from previous years, highlighting the fact that difficult or demanding behaviour from parents can add to the stress and challenges teachers face, making their job more difficult and less rewarding. Additionally, 24% strongly desire a "break from teaching." Lastly, 25% of teachers feel "not suited to teaching," suggesting a significant personal mismatch with the profession.

Figure 2.5 Reason for staying



Source: AITSL. (n.d.). Australian teacher workforce data.

The primary reason teachers remain in the profession is their love for teaching, with 72% of participants choosing this explanation. This suggests a strong internal drive and enthusiasm for teaching among most teaching staff. Additionally, 67% of teachers state that teaching is a rewarding profession. This points to the idea that the sense of satisfaction and accomplishment derived from teaching significantly impacts their decision to stay. Nearly half of the teachers, 47%, remain in the profession because of the school culture, showing the importance of a supportive and positive work environment in retaining teachers.

On the other hand, only 16% of teachers believe that salary is why they stay in the profession. This implies that financial compensation is not the primary motivator for most teachers, indicating that other

factors such as passion, fulfillment, and environment are more influential. The least common reason, chosen by 10% of participants, is that their skills are not easily applicable to other professions, indicating that a small percentage of teachers may feel "stuck" in the profession due to the lack of readily transferable skills, but this is not a significant concern for the majority.

3. Objective 3: Develop a predictive formula to determine the required national intake of education students to maintain an adequate national supply of teachers, considering the current attrition rates.

In summary, the process to calculate the number of required ITE enrolments can be outlined as follows::

Number of needed teachers:

$$Number\ of\ needed\ teacher\ = \frac{Number\ of\ student}{Student - teacher\ ratio\ in\ year}$$

- Number of students is based on school-aged population predictions.
- Student-teacher ratio is detailed by states and school level (primary and secondary).

Number of remained teaching staff from previous year:

Number of remained teaching staff from previous year=Number of teaching staff in previous year×(1−teacher attrition rate)

Required ITE completions:

Required ITE completions = Number of needed teachers − Number of remained teaching staff from previous year

Required ITE enrollments:

$$Required\ ITE\ enrolments\ = \frac{Required\ ITE\ completions}{1\ -\ Attrition\ rate\ (average\ by\ all\ university)}$$

The step-by-step process to calculate the required ITE enrolments is detailed with an example as follows:

Step 1: Estimate the number of students enroll in schools

Firstly, we need to predict the number of students in the future. We will divide them into two categories based on their school level: Primary (ages 5 to 11) and Secondary (ages 12 to 17). Since Australia's average enrolment rate of 99.3% (Enrolment Rates, 2023), we will assume that the entire population within these age groups represents the number of students. Using Australia's population predictions from the ABS, we will have the number of primary and secondary students in each state.

Take the estimation of primary school students in South Australia as an illustration:

Calendar year	State/Territory	School sector	School level	Number of students
2024	South Australia	All	Primary	150,082
2025	South Australia	All	Primary	149,917
2026	South Australia	All	Primary	150,191
2027	South Australia	All	Primary	150,307
2028	South Australia	All	Primary	149,901
2029	South Australia	All	Primary	150,399
2030	South Australia	All	Primary	151,282
2031	South Australia	All	Primary	152,525
2032	South Australia	All	Primary	154,252
2033	South Australia	All	Primary	155,604

In 2024, the number of students in Australia aged 5 to 11 is the sum of male and female students in that age group.

Age	Male	Female
5	10,443	10,012
6	10,710	10,088
7	10,784	10,308
8	11,145	10,688
9	11,093	10,541

10	11,336	10,713
11	11,413	10,808
12	11,517	10,978
13	11,320	10,785
14	11,637	10,822
15	11,496	11,037
16	11,502	11,229
17	11,565	11,153
18	11,598	10,856
19	11,665	11,028
20	11,876	11,016

Source: Australian Bureau of Statistics, Population Clock and Pyramid. https://www.abs.gov.au/statistics/people/population/population-clock-pyramid

Step 2: Estimate the student-teacher ratio

Secondly, we will estimate the future student-teacher ratio, categorised into primary and secondary categories. Initially, we will calculate the annual change in the student-teacher ratio using the formula:

$$Change\ in\ student-teacher\ ratio\ in\ year\ n = \frac{Student-teacher\ ratio\ in\ year\ n}{Student-teacher\ ratio\ in\ year\ (n-1)} - 1$$

Year	State/Territory	School sector	School level	Student-teacher ratio	Annual change in student-teacher ratio
2001	South Australia	All	Primary	17.00	
2002	South Australia	All	Primary	17.00	0.00%

2003	South Australia	All	Primary	16.40	-3.53%
2004	South Australia	All	Primary	16.50	0.61%
2005	South Australia	All	Primary	16.30	-1.21%
2006	South Australia	All	Primary	15.90	-2.45%
2007	South Australia	All	Primary	15.90	0.00%
2008	South Australia	All	Primary	15.70	-1.26%
2009	South Australia	All	Primary	15.70	0.00%
2010	South Australia	All	Primary	15.60	-0.64%
2011	South Australia	All	Primary	15.30	-1.92%
2012	South Australia	All	Primary	15.20	-0.65%
2013	South Australia	All	Primary	15.20	0.00%
2014	South Australia	All	Primary	15.30	0.66%
2015	South Australia	All	Primary	15.30	0.00%
2016	South Australia	All	Primary	15.30	0.00%
2017	South Australia	All	Primary	15.00	-1.96%
2018	South Australia	All	Primary	15.10	0.67%
2019	South Australia	All	Primary	14.50	-3.97%
2020	South Australia	All	Primary	14.60	0.69%
2021	South Australia	All	Primary	14.70	0.68%
2022	South Australia	All	Primary	14.30	-2.72%
2023	South Australia	All	Primary	14.00	-2.10%
Average change in the student-teacher ratio					-0.87%

Source: ACARA. (2023). Student-Teacher ratios. https://www.acara.edu.au/reporting/national-report-on-schooling-in-australia/student-teacher-ratios

Then, by calculating the average change in the student-teacher ratio, we can predict the student-teacher ratio in the future.

$$\boldsymbol{Student - teacher\ ratio\ in\ year\ n}$$

$$= (\mathbf{1} + \boldsymbol{Change\ in\ student - teacher\ ratio\ in\ year\ n}) * \boldsymbol{student - teacher\ ratio\ in\ year\ (n-1)}$$

Year	State/Territory	School sector	School level	Student-teacher ratio	Annual change in student-teacher ratio
2024	South Australia	All	Primary	13.88	-0.87%
2025	South Australia	All	Primary	13.76	-0.87%
2026	South Australia	All	Primary	13.64	-0.87%
2027	South Australia	All	Primary	13.52	-0.87%
2028	South Australia	All	Primary	13.40	-0.87%
2029	South Australia	All	Primary	13.29	-0.87%
2030	South Australia	All	Primary	13.17	-0.87%
2031	South Australia	All	Primary	13.06	-0.87%
2032	South Australia	All	Primary	12.94	-0.87%
2033	South Australia	All	Primary	12.83	-0.87%

Step 3: Estimate the number of needed teachers

Once we have both the number of students and the projected student-teacher ratio, we can calculate the required number of teachers using the formula:

$$Number\ of\ needed\ teacher\ = \frac{Number\ of\ student}{Student - teacher\ ratio\ in\ year}$$

Hence, this process helps us forecast teacher workforce needs based on the expected number of students and student-teacher ratio.

Year	State/Territory	School sector	School level	Student-teacher ratio	Number of students	Number of teachers
2024	South Australia	All	Primary	13.88	150,082	10,814
2025	South Australia	All	Primary	13.76	149,917	10,897
2026	South Australia	All	Primary	13.64	150,191	11,012
2027	South Australia	All	Primary	13.52	150,307	11,118
2028	South Australia	All	Primary	13.40	149,901	11,185
2029	South Australia	All	Primary	13.29	150,399	11,320

2030	South Australia	All	Primary	13.17	151,282	11,486
2031	South Australia	All	Primary	13.06	152,525	11,682
2032	South Australia	All	Primary	12.94	154,252	11,918
2033	South Australia	All	Primary	12.83	155,604	12,128

Step 4: Estimate the number of number of remaining teaching staff from the previous year

The number of teaching staff for 2023, detailed by school level and state/territory, is as follows::

Year	State/Territory	School sector	School level	Number of teaching staff in 2023
2023	New South Wales	All	Primary	46,752
2023	New South Wales	All	Secondary	45,213
2023	Queensland	All	Primary	32,597
2023	Queensland	All	Secondary	33,173
2023	South Australia	All	Primary	10,649
2023	South Australia	All	Secondary	10,382
2023	Victoria	All	Primary	43,059
2023	Victoria	All	Secondary	41,580
2023	Western Australia	All	Primary	16,526
2023	Western Australia	All	Secondary	16,052
2023	Tasmania	All	Primary	3,281
2023	Tasmania	All	Secondary	3,258
2023	Australian Capital Territory	All	Primary	2,936
2023	Australian Capital Territory	All	Secondary	2,759
2023	Northern Territory	All	Primary	1,963
2023	Northern Territory	All	Secondary	1,467
2023	**Total**			**311,655**

Source: ACARA. (2023, June). Staff number. https://www.acara.edu.au/reporting/national-report-on-schooling-in-australia/staff-numbers

With a teacher attrition rate of 8.27%, as calculated in task 2, the remaining 2023 teaching staff in 2024 is calculated as follows:

Number of remained teaching staff from previous year=Number of teaching staff in previous year×(1−teacher attrition rate) = 311,655 * (1 - 8.27%) = 285,891

Step 5: Estimate required ITE completions

Based on the formula to calculate the number of needed teachers as presented in step 3, the number of needed teachers in 2024, detailed by state/territory and school level, can be summarised as follows:

Year	State/Territory	School sector	School level	Number of needed teachers in 2024
2024	New South Wales	All	Primary	48,507
2024	New South Wales	All	Secondary	51,645
2024	Queensland	All	Primary	32,907
2024	Queensland	All	Secondary	36,729
2024	South Australia	All	Primary	10,814
2024	South Australia	All	Secondary	10,977
2024	Victoria	All	Primary	44,256
2024	Victoria	All	Secondary	45,247
2024	Western Australia	All	Primary	16,893
2024	Western Australia	All	Secondary	18,001
2024	Tasmania	All	Primary	3,392
2024	Tasmania	All	Secondary	3,724
2024	Australian Capital Territory	All	Primary	2,899
2024	Australian Capital Territory	All	Secondary	2,672

2024	Northern Territory	All	Primary	2,126
2024	Northern Territory	All	Secondary	1,884
2024	**Total**			**332,673**

Required ITE completions = Number of needed teachers − Number of remained teaching staff from previous year = 332,673 - 285,891 = 46,782

Step 6: Estimate required ITE enrolments

Then, the required ITE enrolments can be calculated as follows:

$$Required\ ITE\ enrolments\ = \frac{Required\ ITE\ completions}{1 - Attrition\ rate\ (average\ by\ all\ university)} = \frac{46{,}782}{1 - 16.34\%} = 55{,}921$$

Step 7: Estimate required ITE enrolments for the next 10 years

Following the formula above, we can calculate the required ITE enrolments for the next ten years:

Year	Sum of Number of needed teachers	Remained staff from previous year	Required ITE completion	Required ITE enrolment
2024	332673	285,891	46,782	55,921
2025	337027	305,172	31,855	38,078
2026	341061	309,166	31,895	38,126
2027	345337	312,867	32,470	38,814
2028	348742	316,789	31,953	38,195
2029	352660	319,913	32,747	39,145
2030	356560	323,507	33,053	39,510
2031	360642	327,084	33,558	40,113
2032	365169	330,829	34,340	41,048
2033	370241	334,982	35,259	42,147

E. Recommendations

Objective 1 Recommendations

According to Figure 1. 3**,** Universities should establish a robust system for regularly monitoring and evaluating student attrition data. This includes conducting exit interviews or surveys to understand why students are leaving and implementing changes based on feedback.

Collaboration between government bodies and universities to develop policies that support student retention can be crucial. This might include funding for student support services, scholarships, and grants targeting at-risk populations.

Objective 2 Recommendations

According to Figure 2.4, the primary reason for teachers intending to leave their positions is "Workload and Coping." Additionally, the third highest reason is related to "Administrative Workload."

To address these concerns, we highly recommend that our clients consider leveraging the services provided by EDU Talent for their teacher recruitment needs. By engaging EDU Talent, clients can achieve several key benefits.

Firstly, by Reducing Teacher Workload by hiring more teachers through EDU Talent, the overall workload for each teacher can be significantly reduced. This can help alleviate the primary reason for teacher attrition related to excessive workload and coping challenges.

To minimise administrative stress, EDU Talent also offers solutions to streamline administrative tasks, which are identified as the third highest reason for teachers intending to leave. By simplifying administrative processes, teachers can focus more on their core responsibilities, leading to higher job satisfaction and retention.

Investing in a larger teaching workforce through EDU Talent can result in long-term savings. Reducing the frequency of hiring and training new teachers lowers associated costs and minimises disruptions in the learning environment.

EDU Talent specialises in providing well-qualified and trained educators, ensuring that new hires are ready to contribute effectively from day one. This reduces the time and resources typically spent on onboarding and professional development.

By addressing these critical factors through the strategic hiring of additional teachers via EDU Talent, our clients (schools) can create a more supportive and sustainable work environment for their educators. This not only improves teacher retention rates but also enhances the overall quality of education provided.

We strongly encourage our clients to prioritise these recommendations to foster a more resilient and efficient educational workforce.

F. Limitations

The predictions for the 2021 and 2022 attrition rates, based on historical trends, may not fully account for unexpected factors, potentially affecting their accuracy. Additionally, the rankings provide an overall view of performance but should be used with caution due to possible discrepancies in data reporting and variations in student demographics.

G. Conclusion

This report has provided a comprehensive analysis of the performance of Australian universities based on the attrition rates of their education students, an examination of historical teacher workforce attrition trends over the past 30 years, and the development of a predictive model to ensure a sufficient supply of teachers nationally.

The analysis identified top-performing universities, such as Monash University, The University of Sydney, and The University of Adelaide, which have successfully maintained low attrition rates among their education students from 2015 to 2020. These universities offer valuable insights into effective retention strategies that could be adopted by other institutions.

The historical analysis of teacher workforce attrition highlighted significant trends and variations across different Australian states. Notably, New South Wales, Queensland, and Victoria exhibited fluctuating attrition rates influenced by state-specific policies and external factors. The average attrition rates and reasons behind teacher turnover underscore the need for targeted interventions to improve teacher retention.

The development of a predictive model to estimate the required national intake of education students has provided a strategic framework to maintain an adequate supply of teachers. By considering current attrition rates and future student enrolments, the model offers a data-driven approach to address the teacher shortage issue effectively.

Despite the robustness of the data and methodologies employed, this report acknowledges certain limitations, including potential discrepancies in data reporting and variations in student demographics. Future research could benefit from more granular data and continuous monitoring to refine predictive models further.

In conclusion, the findings and recommendations presented in this report are crucial for stakeholders aiming to enhance the sustainability of the teacher workforce in Australia. By implementing the strategic recommendations, improving data collection, and fostering collaboration between government bodies and educational institutions, Australia can ensure a stable and well-supported teaching workforce. This, in turn, will contribute significantly to the overall quality of education and the nation’s socio-economic development.

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