



Flanders
State of the Art



THE EDUCATION SYSTEM AND EDTECH

IN AUSTRALIA

FLANDERS INVESTMENT & TRADE MARKET SURVEY

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THE AUSTRALIAN EDUCATION SYSTEM AND EDTECH

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The last three chapters of this market study contain practical information such as contact lists (only available upon request by Flemish companies), trade shows and the sources for this document.

This template is both a template and a manual. Open it 2 times, 1 time to create your actual study and the other version as a reminder and to easily copy paste the diagrams and charts to your actual study. This way you can actually delete everything in your working document from above (Tip) to just before the disclaimer.

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2. AUSTRALIAN MACRO-FACTOR ANALYSIS

To gain a better understanding of the Australian education industry, a preliminary overview of local key macro-economic factors is useful to understand the demographics of the population and Australia's financial status.

2.1 DEMOGRAPHIC FACTORS

On 31 March 2022, Australia's population was 25,890,773 people. The annual growth was 124,200 people (0.5%), slightly better than the previous period, but much less than pre-COVID. This is due to the closure of Australia's international borders between March 2020 and March 2022 which prevented immigration.

	Population at 31 Mar 2022 ('000)	Change over previous year ('000)	Change over previous year (%)
New South Wales	8130.1	44.4	0.5
Victoria	6593.3	41.5	0.6
Queensland	5296.1	92.1	1.8
South Australia	1815.5	15.4	0.9
Western Australia	2773.4	32.2	1.2
Tasmania	571.2	4.1	0.7
Northern Territory	250.4	1.0	0.4
Australian Capital Territory	455.9	3.4	0.7
Australia (a)	25890.8	234.1	0.9

Source: Australian Bureau of Statistics, released 21.09.2022, Reference period March 2022

Despite the fact that Australia is a vast geographical area, approx. 90% of the Australian population lives in urban areas, with about two-thirds living in capital cities:

	ERP at 30 June 2021	2011-21 (no.)	2011-21 (%)
Sydney	5,259,764	650,815	14.1
Melbourne	4,976,157	806,791	19.4
Brisbane	2,568,927	421,491	19.6
Adelaide	1,402,393	138,302	10.9
Perth	2,192,229	358,662	19.6
Hobart	251,047	34,774	16.1
Darwin	148,801	19,695	15.3
Canberra	453,558	85,573	23.3
Total capital cities	17,252,876	2,516,103	17.1

Source: Australian Bureau of Statistics, released 26.07.2022, reference period 2021

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Melbourne's population grew by 806,791 during 2021, which was the strongest performance by actual numbers for capital cities. It was followed by Sydney and Brisbane. However, looking at percentages, Brisbane and Perth grew strongest, narrowly followed by Melbourne.

The population of Australia consists of a unique composition. In 2021, there were 7.5 million migrants living in Australia. This means that 29.1% of the population was born abroad. The majority of migrants are born in the following countries: a) England – 967,000 people; b) India people - 710,000; c) China – 596,000 people.

COVID-19 and international and domestic border closures between March 2020 and March 2022 have impacted population growth. Usually, more people immigrate to, than emigrate from, Australia each year thereby adding to the growth of the national population. In 2021 however, this was not the case. In 2021, there was a decrease in arrivals of people born overseas immigrating to Australia, as well as a decrease of people born in Australia departing to live overseas.

The median age of the Australian population has increased over time. The median age for capital cities (37.1 years) was younger than the rest of Australia (41.8). Australians live longer than ever before, but half of the population lives with at least one chronic condition. Many of these chronic conditions, such as overweight and obesity, insufficient physical activity and alcohol consumption, are related to lifestyle factors.

2.2 ECONOMIC FACTORS

Australian GDP had grown for 28 years, with a growth rate above the OECD average, confirming the successful transition from the largest resources and mining investment boom in Australian history to a broader-based growth. Unfortunately, COVID-19 ended Australia's record-breaking years of growing GDP.

The Australian economy contracted by 7% in the June 2020 quarter, the biggest peace-time recession Australia recorded since the early 1930s. Record falls were observed in Accommodation and Food Services (-39%), Arts and Recreation (-22.6%) and Transport, Posting and Warehousing (-21.5%) due to COVID-19 restrictions. The only sectors that kept growing were Mining (+1.1%), Financial and Insurance Services (0.7%), Public Administration and Safety (+0.9%) and Education and Training (+0.4%).

The decline in GDP was immense, but less severe than in many other advanced economies because health outcomes in Australia were less severe and policy support from the federal and state/territory governments was substantial.

The latest economic data published by the Reserve Bank of Australia indicates that Australia's economy only shrank 1.1% overall in 2020, which is a better outcome than most economists had predicted. GDP started growing again in the September 2020 quarter and rose 3.9% in 2021-22. As at 2 November 2022, economic growth is rated 32.6%.

Other key economic indicators show the following:

- Official cash rate 2.85% (following recent Australia's central bank rises since the start of 2022)
- Unemployment rate 3.5% (employment growth is 5.4%)
- Inflation rate 7.3%
- Average weekly earnings \$1,344.7 with a household saving ratio of 8.7%

Exchange rate Euro: 0.6479 (in Units of foreign currencies per Australian dollar) on 14.11.2022
<https://rba.gov.au/statistics/frequency/exchange-rates.html>

Australia's political stability, transparent regulatory system, and sound governance frameworks underpin its economic resilience. Ranked in the global top five on the Index of Economic Freedom, Australia's effective governance provides multinationals with a safe, secure business environment, offering:

- A business environment that is ranked 14th out of 190 economies for ease of doing business;
- A robust regulatory system noted for its strong finance and banking regulations;
- A competitive remuneration for professionals;
- A high purchasing power;
- A quality of life that is rated the 6th highest in the world.

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3.1 INTRODUCTION AND LEVELS

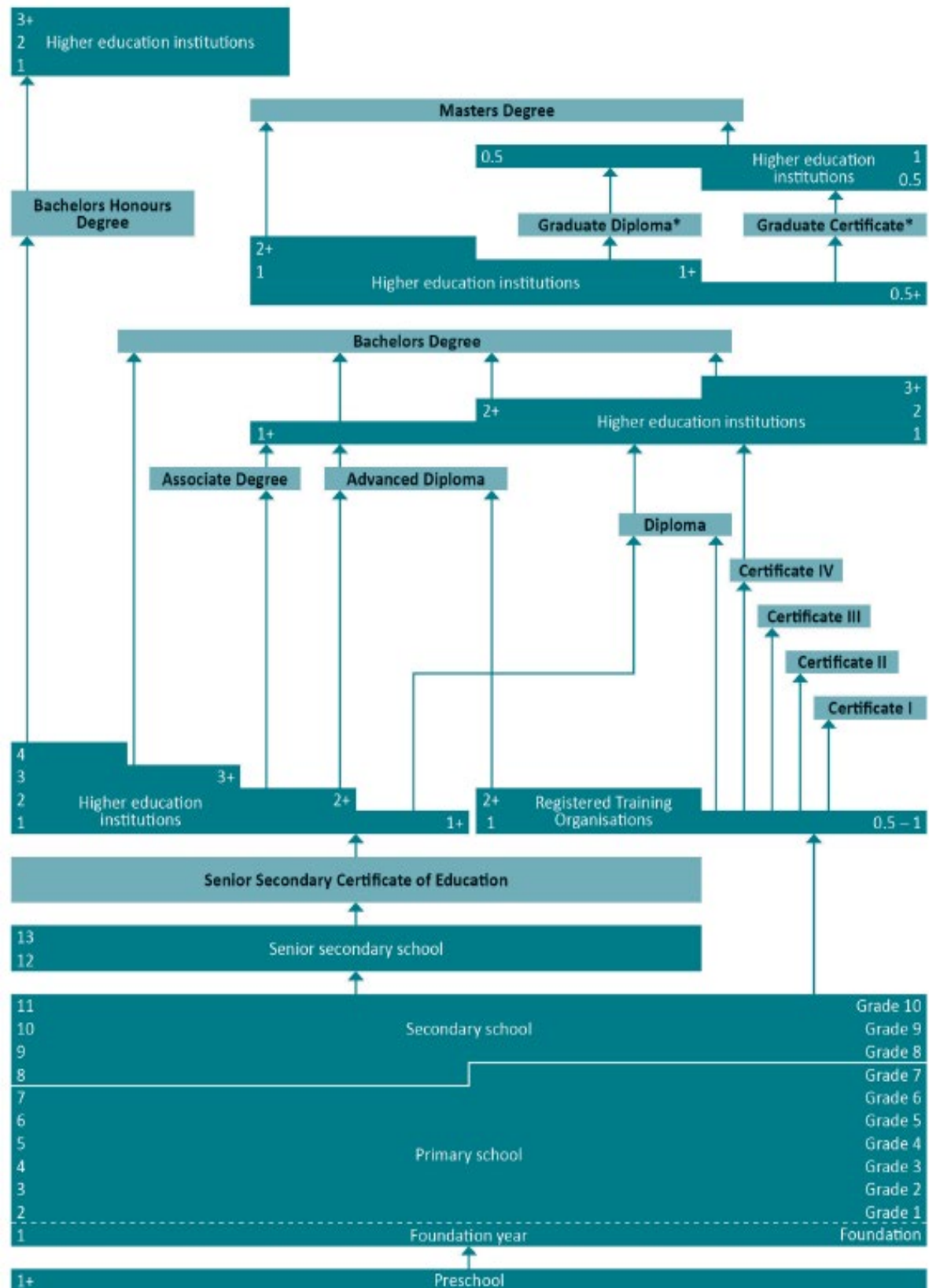
Before school education, parents often enroll their children in Early Childhood Education, which consist of child care and kindergarten or preschool.

- Primary school - Runs for seven or eight years, starting at Foundation through to Year 6 or 7.
- Secondary school - Runs for three or four years, from Years 7 to 10 or 8 to 10.
- Senior secondary school - Runs for two years, Years 11 and 12.

Tertiary education includes both higher education (including universities) and vocational education and training (VET).

Below is an outline of the various levels of the Australian education system.

Australian education system at a glance



*Graduate Certificates and Graduate Diplomas are also awarded by registered training organisations (RTOs) as VET qualifications

three years through 2021-22, largely in response to the pandemic. Overall, industry revenue is expected to rise by 1.5% in 2022.

The Federal Government’s commitment to universal access for early childhood education is forecast to sustain industry revenue growth over the next five years. A projected rise in preschool enrolment numbers will likely increase revenue through preschool fees. However, competition from childcare centres offering preschool programs is forecast to intensify over the period, which will likely constrain industry growth. Overall, industry revenue is projected to increase at an annualised 3.0% over the five years through 2026-27, to \$2.2 billion.

3.3 PRIMARY AND SECONDARY SCHOOL

In 2020 the majority of students (65.6%) were enrolled at public schools. Nevertheless, the Australian education system is highly privatised with 34.4% of enrolments in private schools (19.4% in Catholic schools and 15% in independent schools).

In 2020 there were 9,542 schools in Australia, a net increase of 39 schools since 2019 (16 government, 17 independent and 6 Catholic schools). Queensland reported the largest increase in total school counts (15 schools), followed by Western Australia (11 schools) and Victoria (7 schools).

3.3.1 Public Schools

The Public Schools industry has grown due to rising student numbers and government funding over the past five years. The industry receives most of its income from the federal, state and territory governments, with state and territory funding providing approximately 80% of revenue.

Political debate surrounding school funding has introduced volatility to industry revenue over the past five years. However, student enrolment numbers have increased over the period, driving growth in revenue. Overall, industry revenue is expected to rise at an annualised 0.9% over the five years through 2026-27, to total \$54.8 billion. This includes an anticipated increase of 1.4% in 2021-22.

Enrolment at government schools has grown as the population has increased. The weak Australian dollar over the past five years has ensured the cost of Australian schooling for overseas students has remained low relative to other markets, which has further supported enrolments. However, the closure of Australia’s borders in response to the COVID-19 pandemic has caused international enrolments to decline over the past two years.

The Quality Schools package, also known as Gonski 2.0, was implemented in January 2018. Recurrent funding for all Australian schools is projected to rise to \$32.4 billion in 2029.



\$54.8bn

Major Market Segmentation



\$54.8bn Government Schools

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3.3.2 Private Schools

The Private Schools industry delivers primary and secondary education to approximately 1.4 million students in Australia. Private schools are primarily funded by the federal and state governments. However, they also generate revenue through tuition fees and donations. Strong demand for private education and rising tuition fees have augmented industry revenue over the past five years. The perception that private schools deliver higher quality education, combined with the significance placed on education in Australia, has boosted enrolment numbers over the period. Industry revenue is expected to grow at an annualised 2.0% over the five years through 2021-22, to \$30.3 billion. This trend includes an anticipated increase of 0.5% in 2022.

This industry has expanded over the past five years as enterprise numbers, tuition fees and government funding have increased. The weakening Australian dollar has made Australian private schools more affordable in the international market, boosting international student enrolments. Indigenous student numbers have also increased. Private schools have increased their investment in extracurricular programs, grounds and facilities to improve their competitive advantage. Growing demand has also increased the number of special schools over the past five years.

Industry operators are anticipated to enjoy improved demand conditions over the next five years, as the economy recovers from the negative effects of the recession attributable to the COVID-19 pandemic.

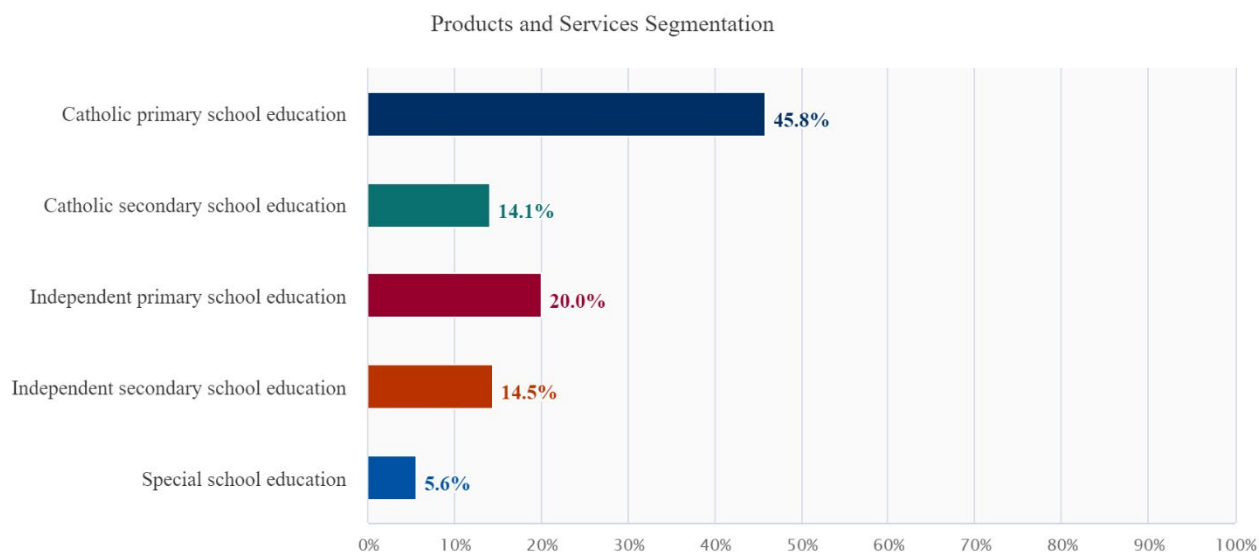
The national unemployment rate is expected to decline over the next five years, encouraging further growth in household incomes and making private education more affordable for a larger section of Australian society.

The Australian Government's latest model for federal funding for all Australian schools, the Quality Schools package, increases the base amount of funding that schools receive per student, with additional loading for disadvantaged students and schools. The package will increase funding for government schools, which is anticipated to make these schools more competitive against private schools over the period. The changes are projected to restrict government

Key Statistics



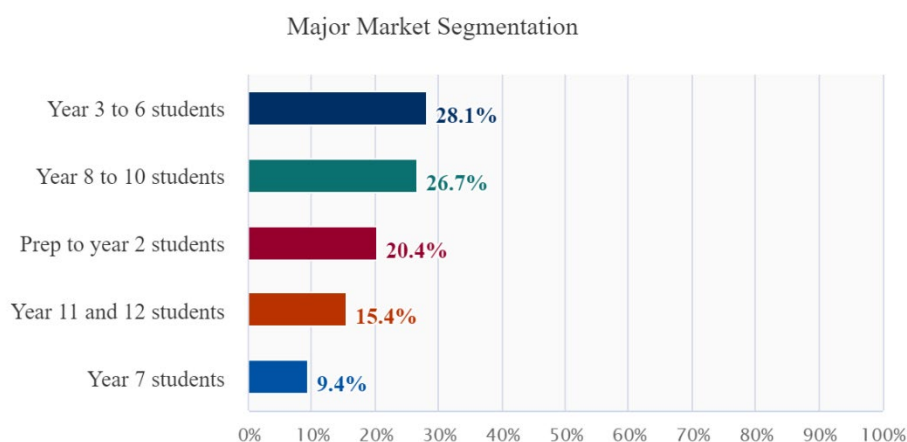
funding for many elite private schools. Overall, industry revenue is forecast to grow at an annualised 1.8% over the five years through 2026-27, to \$33.1 billion.



2022 INDUSTRY REVENUE

\$30.3bn

Private Schools
Source: IBISWorld



2022 INDUSTRY REVENUE

\$30.3bn

Private Schools
Source: IBISWorld

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3.4 TERTIARY EDUCATION

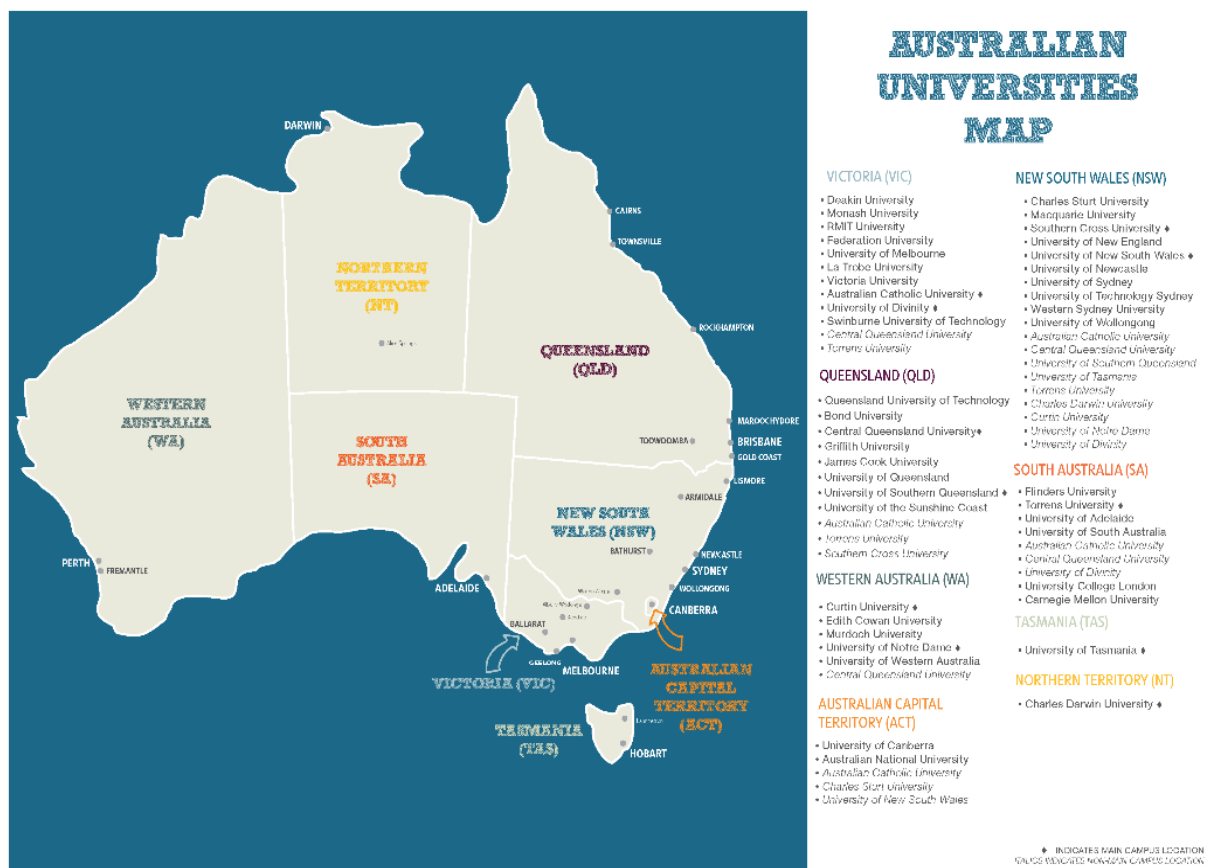
Tertiary education includes both higher education (including universities) and vocational education and training (VET).

3.4.1 University and other Higher Education

3.4.1.1 Introduction

Australia hosts 43 universities, which could be considered a large number compared to the total population of just over 25.5 million people. Australian universities can be divided into three groups: public universities, private universities and Australian branches of international higher education institutions.

Below is an overview of where Australian universities are located.

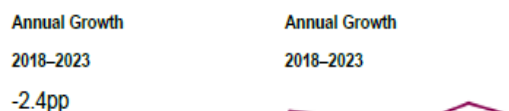


The University and Other Higher Education industry has undergone significant review and reform over the past decade. Since 2012, the Federal Government has uncapped enrolment places for universities, instead introducing a demand-driven system that has enabled industry operators to offer a higher number of places for most degrees. The government also removed the cap on Commonwealth supported places under the Commonwealth Grants Scheme, which has significantly increased public expenditure on universities over the past five years. The 2017 cap on government funding for bachelor courses remained in place for the 2018 and 2019 calendar years. These caps limited increases in funding over the three years through 2019-20. Since early 2020, Federal Government funding has risen in line with growth in the population aged 18 to 64.

However, industry revenue is expected to decline at an annualised 1.2% over the five years through 2022-23, to total \$34.1 billion. This trend includes an anticipated 0.1% rise in 2022. This performance is largely attributable to the decline in demand from international students as a result of the COVID-19 pandemic and associated border closures.

A projected rise in the unemployment rate will likely encourage many domestic students to undertake postgraduate courses to be more competitive applicants in the workforce. The industry is highly regulated and receives a large proportion of its funding from the Federal Government. As a result, changes to public policy and funding that alter the higher education landscape are forecast to continue affecting the industry's performance. Additionally, funding growth for bachelor's degrees will continue to be linked to performance requirements and population growth. These measures are projected to restrict industry revenue growth over the next five years.

\$34.1bn
Revenue



3.4.1.3 Ranking

According to the [Times Higher Education World University Rankings 2023](#), these are the 10 best Australian universities:

1. University of Melbourne (Rank 34)
2. Monash University (Rank 44)
3. University of Queensland (Rank 53)
4. University of Sydney (Rank 54)
5. Australian National University (Rank 62)
6. UNSW Sydney (Rank 71)
7. University of Adelaide (Rank 88)
8. University of Western Australia (Rank 131)
9. University of Technology Sydney (Rank 133)
10. Macquarie University (Rank 175)

For comparison, KU Leuven is ranked 42 and Ghent University is ranked 107.

3.4.1.4 Group of Eight

The Group of Eight (Go8) comprises Australia's leading research-intensive universities. The Go8 is focused on influencing the development and delivery of long-term sustainable national higher education and research policy, and in developing elite international alliances and research partnerships.

Group of Eight Members



Each year the Go8 spends some \$6 billion on research – more than \$2 billion of which is spent on Medical and Health Services research. A 2018 report by London Economics found that the Go8 had an annual economic impact to the Australian economy of some \$66.4 billion each year.

Before the COVID-19 pandemic, the Go8 educated 380,000 students yearly– more than a quarter of all higher education students in Australia. It graduated some 96,000 quality graduates each year. Its student cohort included 100,000 international students from some 200 countries, with one in three of Australia's international students choosing to study at a Go8 university.

3.4.2 Technical and Vocational Training

This overview consists of registered training organisations (RTOs) that offer technical and vocational education and training. RTOs include TAFE institutes, dual-sector institutions and other private and community providers.

Regulations in the Technical and Vocational Education and Training industry are frequently changing. Prior to 2017, a steep increase in outstanding student loans brought to light unsatisfactory conduct by some providers. As a result, in January 2017, the Federal Government introduced the VET Student Loans scheme. This scheme has raised the standards of providers, but has also reduced the number of eligible courses, which has constrained revenue growth. Industry revenue is expected to rise at an annualised 1.6% over the five years through 2021-22, to \$10.7 billion. Some COVID-19 specific funding is expected to expire in 2022. Further, Australia's borders remained closed until February 2022. These factors will contribute to an anticipated decline of 2.3% in the 2021-22 financial year.

The COVID-19 outbreak is expected to have a mixed effect on industry revenue. The depreciation of the Australian dollar contributed to increased international student enrolments over the early half of the current five-year period, as the weaker dollar has made Australian vocational education more affordable for overseas students. However, the closure of Australia's borders in response to the COVID-19 pandemic has stripped operators of a key source of revenue. Additionally, the VET Student Loans scheme significantly constrained student demand and contributed to falling industry revenue over the past five years.

Nevertheless, growth in Federal and State funding to promote upskilling during the COVID-19 pandemic is anticipated to temper the decline in revenue during the economic downturn.

Industry revenue is forecast to grow at an annualised 1.1% over the five years through 2026-27, to \$11.3 billion. The VET Student Loans scheme has imposed tighter course eligibility requirements, reduced the cap available on student loans, and reduced or removed subsidies for many courses. These changes will likely continue to limit industry growth over the next five years. However, these changes are not anticipated to deter student enrolments, which are forecast to rise. Placements and apprenticeships will likely become more important for employment over the next five years, encouraging students to enroll in vocational education.

Key Statistics

\$10.7bn
Revenue

Annual Growth	Annual Growth	Annual Growth
2017-2022	2022-2027	2017-2027
1.6%	1.1%	

\$503.0m
Profit

Annual Growth	Annual Growth
2017-2022	2017-2022
-4.5%	

4.7%
Profit Margin

Annual Growth	Annual Growth
2017-2022	2017-2022
-1.7pp	

9,896
Businesses

Annual Growth	Annual Growth	Annual Growth
2017-2022	2022-2027	2017-2027
2.1%	1.0%	

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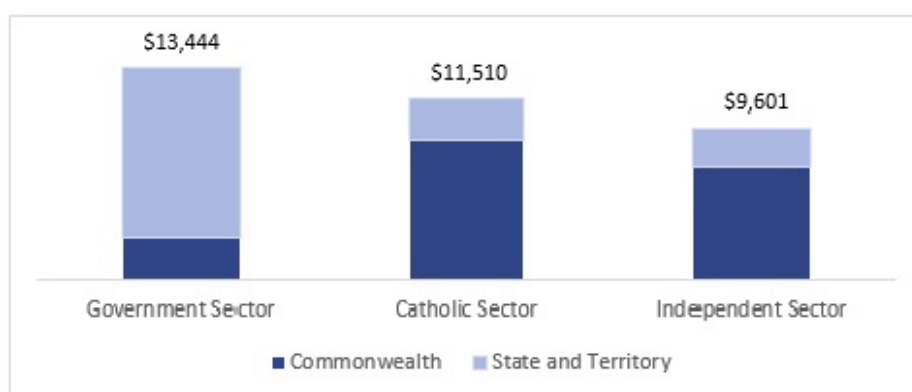
4. FUNDING

4.1 PRIMARY AND SECONDARY EDUCATION

Schools receive funding from both the Australian Government and their state or territory government:

- **Government schools** account for **65.6%** of students in 2020. States and territories are the majority public funder of the government sector in line with their constitutional responsibility. The Australian Government is the minority public funder.
- **Non-government schools** account for **34.4%** of students in 2020. The Australian Government has historically been the majority public funder, reflecting its commitment to supporting parental choice and diversity in the schooling system. State and territory governments are the minority public funders.

National average government funding per student by sector, 2017



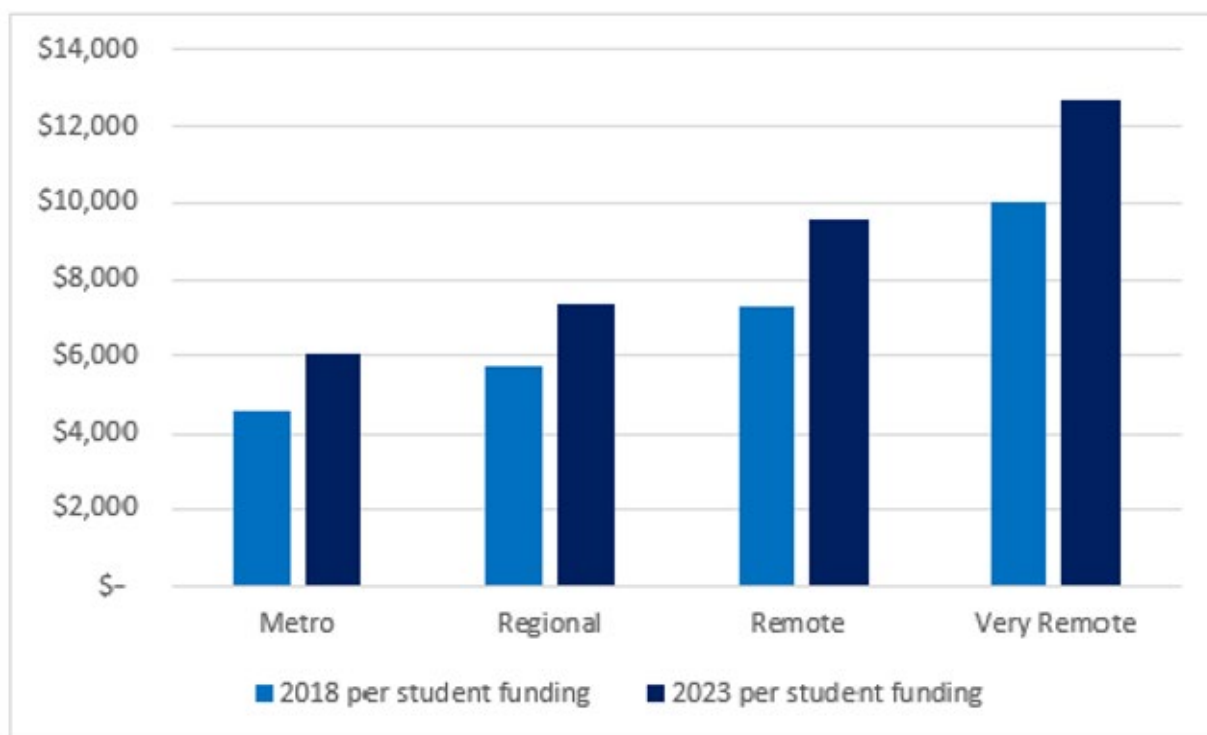
Source: Australian Curriculum, Assessment and Reporting Authority (ACARA) (2019). My School Finance Data Collection, as published on ACARA's National Report on Schooling in Australia: [Data Portal](#)

Australian Government funding to non-government schools takes into account the capacity of school communities to contribute to school's operating costs, for example the ability of parents to pay school fees. While four out of every five school funding dollars comes from public sources, it is not evenly distributed across sectors. On average, around three quarters of funding for Catholic schools and less than one half of funding for independent schools is from public sources. In contrast, almost 95% of funding for schools in the government sector comes from the Australian Government and state and territory governments. The government sector receives around 70% of total combined public funding.

4.3 SUPPORT AND FUNDING OF REMOTE SCHOOLS

The Government is investing an estimated \$314.2 billion for school recurrent funding from 2018 to 2029. Of this, an estimated \$70.6 billion is benefitting students in regional and remote schools.

Total Commonwealth funding for students in regional and remote Australia is growing from \$4.4 billion in 2018 to an estimated \$7.2 billion in 2029— this is an increase of 64.7%. On average, per student funding for students in regional and remote areas will grow by 3.9% per year over the same period.



Source: Department of Education, Skills and Employment’s school funding model, reflecting 12 January 2020 enrolment data. Geographic locations are based on the classification of schools in section 13 of the Australian Education Act 2013.

4.4 UNIVERSITY FUNDING IN AUSTRALIA

University funding in Australia is complex. The Australian university system is largely funded through Government research and teaching grants and student fees supported by a Government-backed loan scheme. Other funding sources include state government funding, overseas student fees, investment income and income from contract research and consultancy. Government funding for universities is detailed within the annual Australian [Federal Budget](#). All Australian universities are required to provide [financial statements](#) to the Department of Education outlining sources of revenue and expenditure.

4.4.1 Grants for Teaching

The Commonwealth Grant Scheme (CGS) is the biggest single source of Government funding for universities. It is allocated on the basis of the number of full-time equivalent domestic students in Commonwealth Supported Places (CSPs). For each CSP, a university receives a Commonwealth contribution from the CGS. The amount of the Commonwealth contribution depends on field of education. There are eight different levels of Commonwealth contribution or 'funding clusters'.

Through the Commonwealth Grant Scheme (CGS), the Australian Government subsidises tuition costs for higher education students across a wide range of discipline areas and qualification levels. Since the beginning of 2012, public universities have been able to decide how many domestic students they enroll in bachelor level courses (excluding medicine). They receive funding for these 'Commonwealth supported places' (CSPs), up to a limit currently determined by the Minister for Education and Training.

For 'designated' courses of study (non-research postgraduate courses, medicine courses, enabling courses and courses of study leading to a diploma, advanced diploma or associate degree), the Government provides funding to public universities for an agreed number of CSPs in a given year. All other providers are funded for CSPs based on allocations by the Government.

Each higher education provider that receives CGS funding has entered into a funding agreement with the Commonwealth. These funding agreements are available [here](#).

In 2020 the federal government announced the Job-Ready Graduates Package which came into effect on 1 January 2021. Under the Job-Ready Graduates Package of reforms to higher education, Government university funding of \$18 billion in 2020 will grow to \$20 billion by 2024. The package will create up to 30,000 new university places, and 50,000 new short course places by 2021 and provide additional support for students in regional and remote Australia. The cost of university degrees [in areas of national priorities are significantly reduced](#), in courses in engineering, computing, allied health, education, and nursing, for example. Other university degrees became a lot more expensive because of the priority given to some courses.

4.4.2 Student Contributions and Loans

Commonwealth Supported Places (CSPs) are funded by a mix of Commonwealth contributions through the Commonwealth Grant Scheme and student contributions. Like Commonwealth contributions, student contributions vary by field of education.

The Higher Education Loan Program (HELP), formerly known as HECS, is available to domestic students in a CSP. Students using a HELP loan do not need to pay any university fees upfront, but instead make contributions once they are in the workforce earning an income. The loan does not have to be repaid until the borrower is earning more than a specified amount, known as the 'repayment threshold'. Payments are a percentage of borrowers' annual earnings and this repayment rate rises as the borrower's income increases.

HELP has enabled millions of Australians to gain access to higher education, and to realise the benefits that higher education brings. By enabling students to defer paying their fees until they are earning a premium from their education, HELP facilitates access to university for students regardless of their financial background.

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HELP also includes other loans for different types of students and different types of fees:

- FEE-HELP: for domestic, non-Commonwealth-supported students
- OS-HELP: to assist domestic students undertaking study overseas
- SA-HELP: to cover the cost of the Student Services and Amenities Fee.

Repayment thresholds and rates are the same for all types of HELP loans.

4.4.3 International University Students

For Australian universities, overseas student fees have been the largest source of revenue growth in recent years. Revenue from overseas student fees has grown as a proportion of total revenue, from 17.5% in 2010 to 27.3% in 2019 (latest year available). Well over half (58.5%) of the \$6.4 billion revenue increase from 2016 to 2019 came from overseas student fees. Due to the closure of Australia's international borders since March 2021, Australian universities have been hit hard financially. Universities Australia said the sector lost \$1.8 billion in revenue in 2020 and \$2 billion in 2021.

Under the Higher Education Support Act 2003, the Higher Education Provider Guidelines 2012 specify:

- fees charged to overseas students must be sufficient to recover the full cost of providing the course to the student and;
- the fee cannot be less than the relevant domestic student fee, unless the course is fully offshore or permission for the lower fee is granted by the responsible department.

The Guidelines do not set an upper limit for overseas student fees.

According to the Australian Government's [Study Australia webpage](#), Australian higher education providers charge international students on average \$20,000 to \$45,000 for an undergraduate bachelor degree and \$22,000 to \$50,000 for a postgraduate Master's degree. These figures do not include high-cost courses such as veterinary and medical degrees and exclude additional costs such as international flights, accommodation in Australia and other living expenses.

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6. STUDENTS STATISTICS

6.1 PRIMARY AND SECONDARY SCHOOL

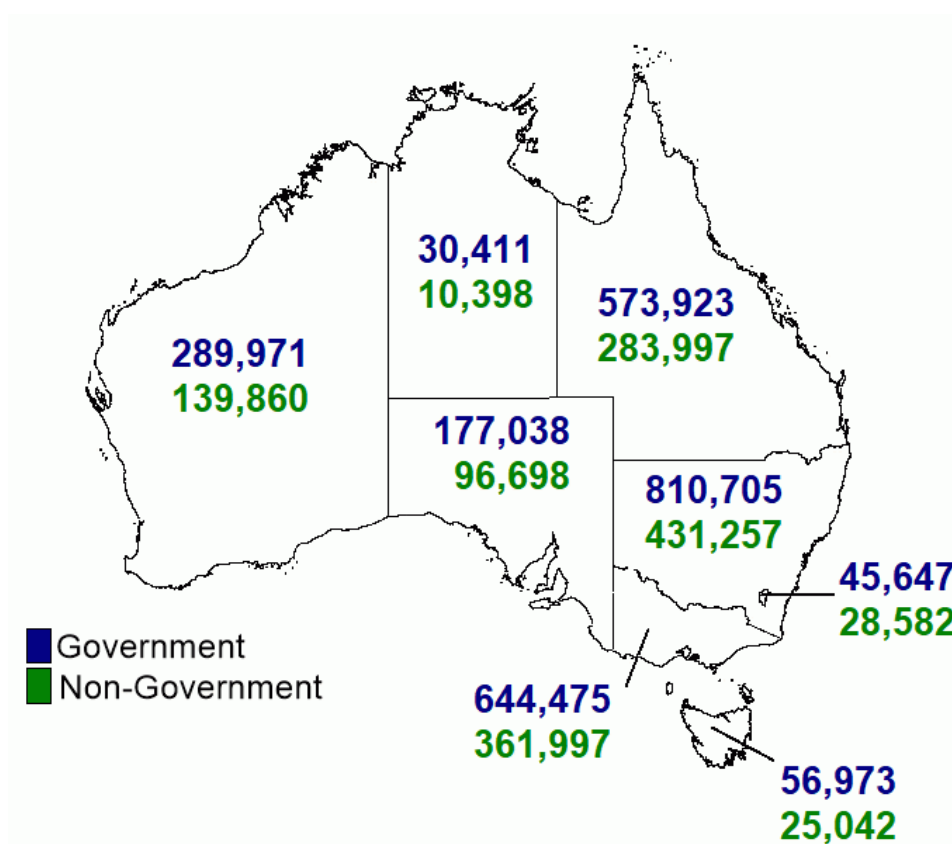
In 2020 there were 4,006,974 primary and secondary students enrolled in 9,542 schools across Australia, an increase of 58,163 (1.5%) since 2019

Table 1. Student enrolments by school affiliation, Australia, 2016-2020

	2020	2019	2018	2017	2016	2016-20 (% change)
Government	2,629,143	2,594,830	2,558,169	2,524,865	2,483,802	5.9
Catholic	778,605	769,719	765,735	766,870	767,050	1.5
Independent	599,226	584,262	569,930	557,490	547,374	9.5
TOTAL	4,006,974	3,948,811	3,893,834	3,849,225	3,798,226	5.5

Queensland, the Australian Capital Territory, Victoria and Western Australia reported the highest annual growth rates of student enrolments in 2020 (2.8%, 2.5%, 1.6% and 1.5% respectively), while the Northern Territory reported the lowest growth rate (0.3%). These patterns are consistent with changes to the total population aged 5 to 19 years living in these states and territories.

Below is an breakdown of public vs private students in Australia per state and territory.



7.1 MARKET VALUE

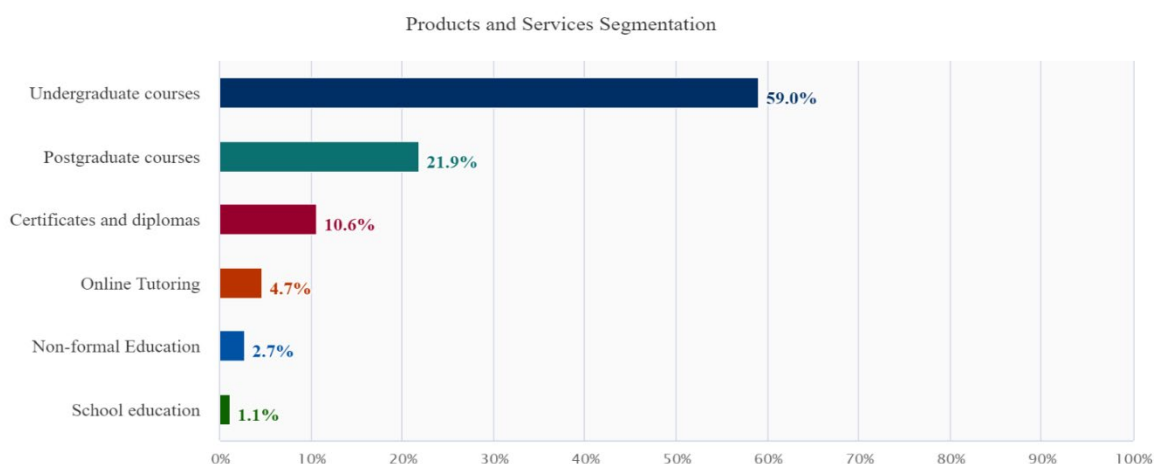
The Online Education industry has expanded over the past five years. Technological advancements and wider internet access have made the online education model an increasingly viable option for learning and career advancement. The COVID-19 pandemic accelerated these trends, as social distancing restrictions forced many educational providers to migrate their services online. Consequently, industry revenue is expected to rise at an annualised 8.0% over the five years through 2021-22, to total \$8.4 billion. This includes an expected growth of 5.4% in 2022, as students increasingly opt for the flexibility and accessibility offered by online study.

However, a sharp fall in international student enrolments has reduced profitability over the period, as these students typically pay substantially higher fees.

\$8.4bn
Revenue



The industry is projected to continue growing over the next five years, as population demographics increase the volume of students in higher education and educational providers increasingly shift towards online delivery of education to reduce costs, particularly for staff and infrastructure. These trends are also forecast to reduce wage costs as a share of industry revenue over the period. Consequently, industry revenue is forecast to increase at an annualised 7.6% over the five years through 2026-27, to \$12.2 billion.



2022 INDUSTRY REVENUE

\$8.4bn

Online Education
Source: IBISWorld

No operator in the Online Education industry commands significant market share. Although the largest players are typically universities that provide online courses, the industry is mostly made up of smaller education providers. The following entities are noteworthy players that deliver online education services:

- Charles Sturt University: 4-5%
- Swinburne University of Technology: 1-2%
- Kaplan Education Pty Limited: 0-1%

7.2 TECHNOLOGY

While specialised software has been developed for online learning, many institutions use applications such as Facebook, YouTube and Skype. These technologies have also allowed operators to deliver education to remote parts of Australia. One of the main technologies used is videoconferencing, which allows students to join classes from a remote location and to go on virtual excursions.

Most universities now use a combination of in-house and commercial courseware management systems to provide an integrated online system for students to access E-mail, course notes, timetables, and other learning and administrative resources. Some of the more popular learning management systems include Blackboard Learn and Moodle. Industry providers also commonly use in-house systems. Students in an online course can interact with their peers and teachers or lecturers through online platforms. Many platforms allow lectures, tutorials and classes to be streamed live online and recorded. Providers also typically conduct assessment submissions and tests on digital platforms. Other applications used in online education include collaborative software, teleconferencing, online portfolios, instant messaging, E-mail, chat rooms and forums.

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7.3 MASSIVE OPEN ONLINE COURSES (MOOC)

Massive Open Online Courses have shown to be the most popular among mature-age students that are looking for professional education. Australian universities have worked to develop partnerships with successful MOOC providers over the past five years. For example, the University of Melbourne, University of Sydney and University of Western Australia supply course materials to US-based MOOC provider [Coursera](#). While such ventures have yet to turn into significant income-generating investments, universities are positioning themselves to capture potential benefits and revenue from these courses.

Although students and employers are projected to increasingly accept the industry over the next five years, a preference for face-to-face learning will likely limit industry revenue growth. Furthermore, pure-play online providers face challenges in retaining students due to the lack of personal interaction and support. However, the success of MOOCs, primarily Coursera and [edX](#), has helped drive interest in online education. Only a few course providers offer accreditation and an even smaller subset have monetised these courses. However, MOOCs have caused a range of established education institutions to consider alternative delivery models. MOOCs and other online courses provided by reputable education providers abroad are proving strong competition for Australian online education providers. Increasing competition is anticipated to present one of the greatest challenges for industry operators over the next five years.

8. IMPACT OF COVID-19

8.1 PRIMARY AND SECONDARY EDUCATION

Primary and secondary schools all around Australia have experienced interruptions to normal school life, especially during Australia's first wave between March-May 2020. The extent and period of closures thereafter varies significantly across states and territories and even within them. [According to pwc](#) "the difference reflects government advice in those states at the time, which in turn reflects a difference in infection rates. In addition, the most populous states of New South Wales, Victoria and Queensland have had the highest numbers of COVID-19 cases, and authorities there have proceeded with a cautious, staggered reopening of schools."

The Melbourne Metropolitan region saw the longest periods of school closures due to covid since the start of the pandemic. Other regions in the state had shorter periods of school closures as did Sydney (and the rest of NSW) and Queensland.

Impact of Home Schooling

While lockdowns and school closures continue to happen, it is difficult to gauge impact outcomes of home schooling. However, we can look at some of the information that is already available.

A [national survey exploring the impact of COVID-19 on teaching and learning](#) across all educational sectors was undertaken by researchers at the Melbourne Graduate School of Education at the University of Melbourne. This research has recorded a snapshot in time during the height of the pandemic restrictions and the rapid shift to remote and online learning.” Below are some extracts from the report.

Equipment

"49.45% of teachers reported that all of their students had *access to devices* and 43.28% of teachers reported that most of their students had access to devices. 1.5% of all respondents reported that only a few students (25%) in their class had access to devices. In some cases, students needed to share devices with other family members."

“Even though most students had access to a device, student access to *reliable internet* for synchronous teaching and learning activities was more varied. Only 10% of teachers identified stable and reliable internet 100% of the time for their classes. 70.25% of all teachers reported that stable and reliable internet was available to students 75% of the time and 11.47% of teachers identified that students had stable and reliable internet 50% of the time.”

Remote Learning Tools

“Approximately one-quarter of teachers used *pre-recorded videos* in their teaching. Teachers also used a wide range of tools including *apps to conduct synchronous lessons* (Zoom, Google Meet), pre-recorded videos made by teachers, pre-recorded videos available online, *interactive games and tasks*, *learning platforms* (such as Edrolo and Education Perfect), *classroom organisation programs* (such as Google Classroom and Teacher Dashboard 365) and *tasks that could be completed in the home environment*.

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Nearly twice as many secondary teachers (14.21%) than the primary teachers (7.8%) indicated that they used group tools such as Microsoft Teams and Google docs. However, more than twice as many primary teachers (14.16%) than secondary teachers (5.97%) used tasks that made use of the student's home environment such as gardening and cooking. Secondary teachers indicated that they used Learning platforms such as OneNote, Canvas, Compass, SEQTA, elearn and Blackboard Collaborate. Many used a variety of online modes."

Challenges

Apart from the challenges around health, safety and wellbeing, many teachers reported concerns around inequity: “including parental support, access to resources and devices, and reliable internet. Some students were spending all day engaging with remote learning using only a phone.”.

There were also concerns around *material, attendance and feedback*:

“Good instruction is essential, and teachers spent a lot of their time recording videos or sourcing information in a form with which students could engage. This was particularly challenging for teachers who use materials, demonstrations and resources for teaching, such as instruments, experiments and concrete materials. [...] Moving to remote teaching has meant that teachers could not interact with students, see their expressions, or have 1:1 conversations to monitor student progress as they normally would in a classroom setting. This resulted in some teachers identifying that it was difficult to provide differentiation to meet the individual needs of students. Some teachers were confronted with situations where students refused to turn on their cameras or a need to work within the scope of school policies prevented them from doing so. This complicated things further because not only did this prevent them from gauging what students needed help with, but they were unable to track who was in attendance.”

Opportunities

It's not all bad news, though, as the pandemic has led to some opportunities seen by teachers:

“It has been observed that *student engagement has improved* in some instances for students who would normally be disruptive and for those students who would be affected by disruptions in class.

Teaching and learning remotely also allowed for more creative approaches. Teachers reported *that online platforms had been beneficial for differentiating learning and allowed for greater efficiencies in setting and preparing work for students online.* The shift generated an interest and desire to look at flipped learning for students in the future, to rethink what is important in the curriculum and how the use of technologies is equipping students with vital digital literacy skills which will be of benefit in the future.”

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Looking ahead

So what will this mean for the future? [Research by Monash University](#) indicates that there is perceived merit in a hybrid or more flexible approach to schooling.

According to their report “Early in the pandemic, suggestions were already being made that hybrid or blended learning would continue to be a feature of Australian schooling post-pandemic. Parents reported benefits from the shift to remote learning including more family time, more flexibility in children’s schedules, better parental understanding of their children’s learning, a reduction in anxiety and stress, and an increase in children’s confidence in learning. [...] Remote learning could potentially open up new avenues for specialist study for students in the future. However, respondents were cautious to note that while flexible or online learning would not work for all students, flexibility to meet individual needs and circumstances would be a positive approach.”

The report goes on to state that “participants are more cautious about the idea of fully virtual schools in post-COVID-19 times. One-third of our respondents did not support virtual (fully-online) school options for students in a postpandemic Australia. Some participants recognised that virtual schooling would be appropriate for some students, but that it likely would not meet the needs of other students. Participant comments largely focused on the importance of maintaining a sense of belonging and connection for students, and the importance of traditional face-to-face modes of schooling for students’ social and emotional development.”

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8.2 HIGHER EDUCATION

Education was Australia's third largest export. Before the pandemic, international students made up approx. 27% of all enrollments. Tuition fees paid by overseas students represent a major source of funds for universities and other higher education institutions.

The COVID-19 pandemic has had a big impact on the Australian universities sector. When the federal government closed its international borders in March 2020, many international students who were still overseas, were unable to enter Australia to start or continue their education.

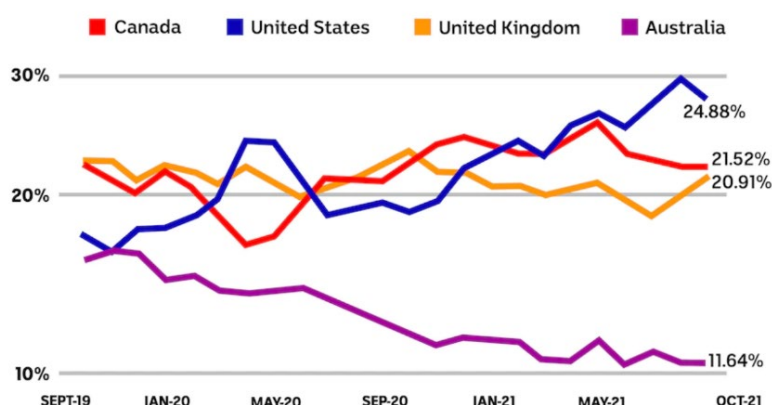
Details from the federal Department of Education, Skills and Employment state that there were 9% less international students in Australia in 2020 and a further 17% less in 2021. This compares with the average annual commencements growth rate of 1% per year over the preceding five years."

Prior to the pandemic, the university sector pulled in about \$37 billion in revenue. According to Universities Australia, that dropped by \$1.8 billion in 2020 and at least 17,300 jobs were lost at that point; a mixture of casual, part time and permanent positions. In 2021, the sector lost \$2 billion in revenue.

Apart from the direct impact of the pandemic on the sector, there are concerns that Australia's standing as an attractive destination for international students has been damaged. Australia's global share of demand as a destination for international students dropped from 17% to 12% over the past two years. In the Indian market, Australia's market share more than halved, from 20% to 9% during the same period.

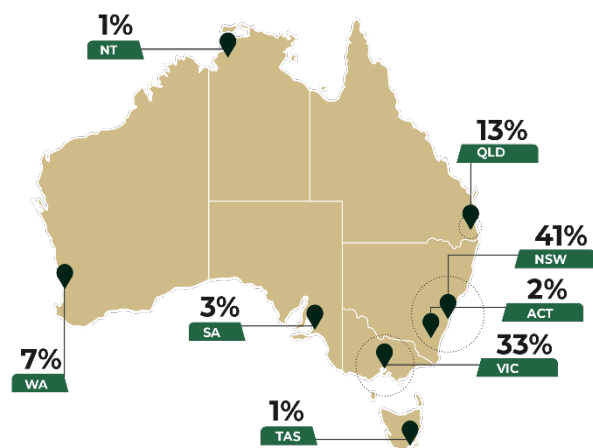
A survey by IDP Connect shows a growing number of international students are choosing Canada, the UK and the US over Australia to study. However, since the re-opening of the border in February 2022 the number of international students has started to increase again.

INTERNATIONAL STUDENTS DESTINATION COUNTRY



9. THE AUSTRALIAN EDUCATION TECHNOLOGY MARKET

9.1 OVERVIEW

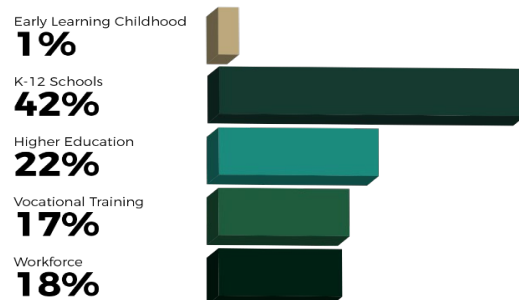


The Australian Trade and Investment Commission and Edugrowth (Australia's education technology and innovation industry hub), estimate that the Australian EdTech sector is worth AUD 2.2 billion in revenue and comprises 600 businesses, employing 13,000 people. The majority of EdTech companies are based in New South Wales (41%) and Victoria (31%)

Only 15% of Australian EdTech companies are established; half are early stage start-ups and 29% are late state start-ups. The remaining 6% are consultants

Deloitte and Edugrowth report that between 2017 and 2019, the sector has matured significantly with more companies focusing on finding more clients, rather than raising capital.

Most Australian EdTech companies focus on K-12 schools, meaning foundation, primary and secondary education. Higher education (university) is the second largest subsector, followed by workforce and vocational training with similar numbers. Deloitte and Edugrowth's 2019 census of the industry indicated that there is an increase in companies focusing on the workforce.



Example K-12: LiteracyPlanet

[LiteracyPlanet](#) (based on the Gold Coast in Queensland) is a comprehensive online literacy resource for students in K-10. The program has thousands of interactive exercises that are aligned to 65 curriculums globally and covers all key areas from phonics, sightwords, spelling, reading, comprehension and grammar. LiteracyPlanet has customers in more than 70 countries and is used as both a core and supplementary program to support the development of English literacy skills in native speaking and English as a Second Language environments.

Example Higher and Vocational Education: Online Education Services (OES)

[QES](#) is an online education enabler which provides end to end solutions for online learning. They design, promote and deliver high-quality programs online on behalf of their university partners, supporting their growth by reaching a new cohort of students who prefer the flexibility of online study.

Example Analytics/Assessment: Brightpath

[Brightpath](#) is based on over a decade of pioneering research at the University of Western Australia. Brightpath is an innovative assessment method that provides standardised test scores from teachers' assessments of typical classroom tasks. The software records the results of assessments and reports a range of formative and summative information to teachers and principals. This provides an informed basis for developing teaching programs targeting the needs of individual students.

9.2 TRENDS

In general, Deloitte and EduGrowth have indicated that in 2020 they saw a large uptake of existing, well-established EdTech, but newer companies found it harder to grow and attract customers. Other trends have been identified by various sources.

The [Australasian Journal of Education Technology](#) highlights the following broad trends for 2021 in education technology in higher education:

- Social: remote work/learning, widening of the digital divide, and mental health issues;
- Technological: widespread adoption of hybrid learning models, increased use of learning technologies and online faculty development;
- Economic: decreasing higher education funding, demand for new/different workforce skills, and uncertainty in economic models;
- Environmental: climate change, reduction in work travel and sustainable development;
- Political: increase in online globalisation, rise of nationalism and public funding for higher education.

The key technologies and practices identified were artificial intelligence, blended and hybrid course models, learning analytics, micro-credentialling, open educational resources (OER) and quality online learning.

Website [Open Colleges](#) reports the following broad trends for 2021:

- **The adoption of digital resources in K-12 education is about to accelerate.** There will be more B2C opportunities in the EdTech space as parents get more involved in their children's learning, looking to supplement remote learning with more content.
- **Localised data privacy** will become a larger issue as more and more student data is collected by Big Tech companies. Teachers will become more involved in supporting the sales processes of EdTech companies, which normally rely on sales technology tools.

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Examples:

- Personalised teaching based on insights drawn from learning data and synergies with digital reality technology
- Automation of administrative tasks
- Predictive analytics for student progression
- Improved efficiencies in research
- Globally standardised curriculums through smart translations.

Blockchain is an evolving technology that enables trust in the distribution of information by holding a shared, immutable record of transactions within a secure and permanent network of ledgers. Like the name suggests, data is transferred in 'blocks' which hold the content of a user's request and identification data for the block and adjacent blocks to form an immutable database known as a 'chain'. The financial services sector tends to lead development in blockchain technology, but notably there is an increase of investment by governments, and in health and education. Blockchain's maturity is rated at being in stage 1: 'Prototyping'

Examples:

- Trusted accreditation
- Secure and immutable storage of student records
- Next-gen payment and reward methods using cryptocurrencies
- Smart contracts to better link peer

Evolution of technology in the future

Ambient experiences

Progressing from digital reality technologies, ambient experiences refers to the technologies that will allow this more natural and seamless experience. Devices will get smaller, more capable and more interconnected, which will further its embedding in everyday life. For EdTechs, this means the potential for even deeper experiential learning, reduced administrative burden or ever-present assistants.

Imagine a student saying, “I want to book the meeting room” to a voice assistant, which triggers an automated booking, organises the room’s computer systems to match the student’s login and locks the doors until the student approaches the room.

Exponential Intelligence

A missing link in AI and analytics technology so far has been the understanding and reciprocation of emotion and the finer nuances of the human mind. Exponential and emotional intelligences are envisioned to crack this code, expanding capability and further bringing technology to life. This opens up many doors for EdTechs which are constrained by today's analytical ability. In the future, technology could tailor feedback to balance student temperament with academic disposition. Virtual teaching assistants could have personality and similarly adjust interactions based on student mood.

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Quantum Computing

For the education sector and beyond, the possible applications are still under debate. The increase in computation power will certainly aid aspects of higher education research, while resulting improvements in machine learning are likely to form the core of EdTech solutions that seek to personalise learning.

Lastly, the **need for robust cybersecurity** will almost certainly rise after [SBS News reported](#) that “Cybercrime is on the rise in Australia, with an incident reported every seven minutes, according to The Australian Cyber Security Centre (ACSC). The ACSC’s Annual Cyber Threat Report has shown the agency received more than 76,000 cybercrime reports in the 2021-22 financial year, an increase of nearly 13% from the previous year. It comes after high-profile data breaches at Optus, Medibank and real estate agency Harcourts.”

11. TRADE SHOWS, CONFERENCES, SEMINARS

Most Trade Fairs in Australia are relatively small and focus on the domestic market. A list of most Trade Fairs is available on www.biztradeshows.com/australia where they are catalogued by date, sector and city.

Please also check the website of EduGrowth for any upcoming [events](#) related to Educational Technology in Australia.

THETA

Location:	Brisbane Convention and Exhibition Centre
Dates:	16-19 April 2023
E-mail:	irene@laevents.com.au
Website:	https://theta.edu.au/
About:	THETA is a biennial conference aimed at advancing higher education by promoting the intelligent use of information technology, and providing an opportunity for professionals in the industry to network and gain value from in-person interactions and experiences.

EduTECH

Location:	Melbourne Convention and Exhibition Centre
Dates:	24-25 August 2023
E-mail:	irene@laeevents.com.au
Website:	https://www.terrapinn.com/exhibition/edutech-australia/
About:	EduTECH is the largest trade show and conference for the entire education lifecycle across Australia. Visitors can reconnect in-person at the meeting place for the brightest and most innovative minds in the education space

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