Google for Education

Future of the Classroom

Emerging Trends in K-12 Education
Australia Edition

Google for Education

Our approach

This report is part of a series on the evolution of K-12 education and maps out current and emerging trends in classroom education. In collaboration with our research partner **Canvas8**, we conducted a global analysis spanning:

- Fourteen expert interviews with global and country-specific thought leaders in education
- Academic literature review focusing on the last two years of peer-reviewed publications
- Desk research and media narrative analysis across the education sector, including policy research and teacher surveys, as well as input from Google for Education representatives across the globe

We acknowledge that some of the areas discussed in this report are ones that overlap with Google-led products and programs. In order to maintain a focus on the research and studies presented, we've intentionally excluded them.

Aussies are investing in the future

Access to education in Australia is widespread, and the country ranks above the OECD average in PISA rankings, the OECD's Programme for International Student Assessment which tests 15-year-old students from all over the world in reading, mathematics, and science. However, these subjects are also on the decline, especially among those from low socioeconomic backgrounds.[1]

In reaction, the country is making efforts to invest in the future workforce – Australia is investing a higher percentage of GDP in its primary and secondary level education (6.0%) than the OECD average.[2] In fact, the country expects to see a 73% growth in teaching jobs by 2030.[3] Technology is seen as a tool that can be harnessed to improve education – 48% of teachers have a strong interest in professional development using digital learning to engage students.[4]

64%

of Australian schools are working towards using mostly online resources.

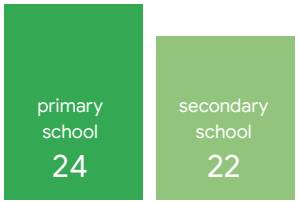
Pearson (2018)[14]

78%

of parents with children in public schools agreed that their child “has all the resources they need for academic success".

Monash University & Australian Scholarship Group (2017)[6]

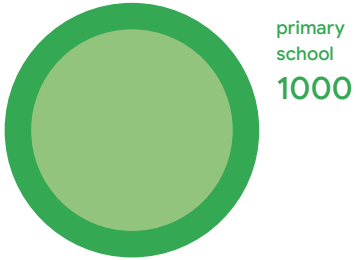
The Australian classroom at a glance



24

students is the average class size for primary public schools. In secondary schools, it's 22.

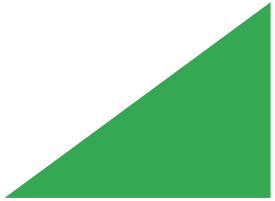
OECD (2016)[2]



1000 hours

on average a year are taught by Australian primary teachers, which is well above the OECD average of 799 hours.

OECD (2018)[7]



87%

of Australian teachers and principals say their work hours have increased over the last five years

University of Sydney (2018)[5]

Key Trends

From our Global Report, we've analyzed three of the most prominent trends in Australia's K-12 classrooms

01 Computational Thinking

Parents and teachers want students to develop problem solving alongside digital skills so they will be better prepared for future jobs.

02 Innovating Pedagogy

Motivated teachers have more engaged classes, and they want to streamline administrative tasks to focus on teaching.

03 Life Skills & Workforce Preparation

People want children to have a more holistic education that goes beyond standardized testing to include social and vocational skills.

"We know from our experience that there are some great schools doing some great things individually. But what we've been calling for is a coordinated national strategy for skills that can support all schools, as well as the tertiary sector to respond to the rapidly changing world of work."

Alex Snow, head of research at Foundation for Young Australians

Computational Thinking

The OECD has also highlighted that students entering schools in 2018 will face future challenges that can't even be predicted today.[8] And it's estimated that by 2030, Australian workers will spend 77% more time using science and mathematics skills.[9] So schools are looking to help them develop a toolkit of computational skills, such as problem-solving, coding and a good understanding of STEM subjects.

Digital Technologies is now a key part of the Australian curriculum. It focuses on two strands - Knowledge and Understanding of the information system components of data and digital systems, and Processes and Production Skills – using digital systems to create ideas and to design, implement and evaluate digital solutions. [10]

64%

of young Australians say that learning about science and technology is exciting.

Australian Government Department of Industry, Innovation and Science (2019)[11]

"I think STEM subjects are utterly vital. STEM skills are even more important than just coding because it's virtually impossible to teach yourself maths, but you can teach yourself coding if you have good math and logic skills."

Rachel Wolf, founding partner at Public First

To give students the best start possible, the Australian government has allocated more than $64 million to support early learning and school STEM initiatives, as part of the Inspiring all Australians in Digital Literacy and STEM measure. Meanwhile, the Digital Technologies in Focus program supports around 160 disadvantaged schools by providing digital technologies expertise to school teachers and school leaders.[12]

And as the technology landscape in Australia grows, students are showing interest in engaging with these subjects – 31% of young Australians who have some certainty about their career are considering STEM-related roles.[13]

"Investing in young people's ideas and talent can then flow into supporting other young people in building up STEM skills and capabilities, particularly for the under-represented, such as young women."

Alex Snow, head of research at Foundation for Young Australians

Innovating Pedagogy

In 2018, 87% of Australian teachers, executives and principals reported an increase in their work hours over the last five years. And much of this isn't spent teaching or lesson planning – 91% say that administrative demands are a hindrance to their core job.[5] And just 35% of secondary school teachers and 28% of primary school teachers saying they have the support they need.[14]

With research from The Varkey Foundation highlighting a direct link between the status of teachers and students' academic outcomes, there is an opportunity to better recognise the important role teachers play in student learning. For example, this could be achieved by reducing the amount of time they must spend on administrative tasks, to focus on professional development and pedagogy.[15]

91%

of Australian teachers say that administrative demands are a hindrance to their core job

University of Sydney (2018)[5]

“I think that technologies can and should be used to free up resources for the teacher to have interactions with students, in particular those who need more support. I do think that it would be important for the technology itself to be adaptive.”

Dr Hanna Dumont, Educational Psychologist and Researcher in International Education

Technology can be harnessed as a tool to streamline the day-to-day so teachers can focus on their classrooms and teaching methods. Yet many aren’t making use of these resources. For example, just 18% of Australian educators are implementing assessments digitally on a regular basis.[14]

With familiarity and access to digital technology being cited as the most significant barriers, there is a desire for teacher training to help them harness these tools to streamline their day and engage classes. It also ensures they feel more comfortable teaching subjects such as Information and Communication Technology (ICT), science and digital citizenship.

“In order to be innovative, it would be important for classroom technology itself to be adaptive. If you use it to provide teachers with feedback on what students are learning, or make collaborative work with students possible, that would be really beneficial.”

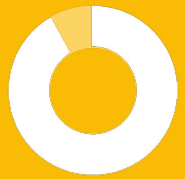
Dr Hanna Dumont, Educational Psychologist and Researcher in International Education

Life Skills & Workforce Preparation

Research by the Foundation for Young Australians (FYA) highlights how 'Enterprise Skills' – transferable skills required in many jobs – are more in demand. In the three years up to 2016, the proportion of jobs demanding critical thinking increased by 158%, creativity by 65%, presentation skills by 25% and team work by 19%.[16]

In reaction, there is a push to alter traditional curriculums to better prepare students for adult life – creating a more holistic education that includes more general life skills, rather than focusing on memorizing and repeating information.

One way this is manifesting is in a focus on soft skills. Research suggests that higher levels of emotional intelligence are linked with better leadership and ability to cope with pressure, so there is a desire to help students develop such abilities.[17] In fact, 69% of parents believe schools should be teaching more social skills.[6]



91%

of CEOs globally say that they need to strengthen their organization's soft skills to sit alongside digital skills.

PwC (2018)[18]

“If we’re in the era of automation, it’s even more important that we prioritize people’s EQ not their IQ, that we make them adaptable.”

Rachel Wolf, Founding Partner of Public First and Founder of the National Schools Network

Future minded students want to be educated in areas that will help them thrive in their career – 50% of students aged 14 to 16 years old say they want to learn more practical on-the-job skills.[19] And there is an opportunity to use technology to give students a better understanding of their skill set. For example, the FYA has launched the New Work Mindset in Action project in South Victoria, which uses big data to map out their current skill set, what job opportunities that can bring, and areas to improve on if they are seeking a specific career.

But student’s also want to be prepared for adult life in general – while 48% want to learn practical financial skills, such as how to budget, 40% are looking to learn practical living skills, such as how to maintain a healthy lifestyle, eat well and create a good exercise regime.[19]

“Learning virtues and values such as empathy and kindness, and developing emotional intelligence are equally as important as the math and science lessons that we teach, in order for children to understand themselves, their connection to others and to the world.”

Nastaran Jafari, Independent International Education Consultant

“Technology will transform the world of work. That presents a significant challenge as well as an opportunity to provide the right learning for young people. Tech can support that process through new learning platforms, and new types of learning content.”

Alex Snow, head of research at Foundation for Young Australians

Read the Future of the Classroom: *Global Edition*
for insights across all 8 emerging trends

Digital Responsibility

Computational Thinking

Collaborative Classrooms

Innovating Pedagogy

Life Skills & Workforce Preparation

Student-led Learning

Connecting Guardians & Schools

Emerging Technologies

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