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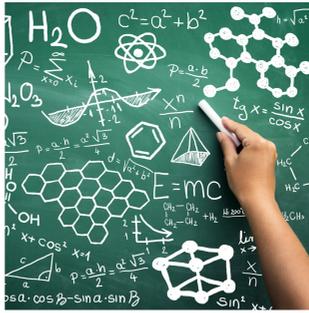
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Tech start-ups making learning easy

Schools continue to roll out a range of technologies to the classrooms. So why are students' marks continuing to drop?



There are more complex ways of learning maths and science through online platforms and apps.

Nina Hendy
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Schools scrambled to roll out online learning options as the pandemic began last year, giving the nation's growing collective of education technology innovators a major shot in the arm.

These start-ups targeting the education sector are brimming with smart ideas that promise to revolutionise our schools and learning processes.

Known as edtech, the local sector of companies targeting kinder to year 12 has doubled to 240 in the past year, with 600 companies sharing in a whopping \$2.2 billion in revenue. With names like Buzzy Games, Quitch and Literacy Planet, edtech players employ more than 13,000 people.

Aside from providing technology directly connected to the learning experience, these start-ups are delivering tech solutions to manage back-office functions such as enrolments, finance and fundraising and student management systems.

These founders have the opportunity to make their fortune in the edtech space, with around 9,400 kinder to year 12 schools in Australia, split among government (71 per cent), Catholic (18 per cent) and independent (11 per cent). Australia is often seen as a launching pad to global reach, with 68 per cent of our edtech players selling overseas and 97 per cent planning to sell overseas in the next three years.

Our students achieve, on average, 1.24 years of growth in a year, compared to a prior average of 0.57 years.

—Richard Wilson, Maths Pathway

Melburnian Richard Wilson gave up teaching to launch a tech start-up that delivers maths online to students. Maths Pathway delivers lessons to students through an online platform.

It's up to the schools to decide if the tech is the most appropriate maths teaching tool to meet national curriculum requirements. In the eight years since it launched, Maths Pathway has been adopted by 335 schools. "We are aiming to add another 80 to 100 schools by 2022," Wilson says.

"On average, Maths Pathway schools achieve more than double the learning outcomes of traditional maths programs. Our students achieve, on average, 1.24 years of growth in a year, compared to a prior average of 0.57 years of growth in a year," Wilson says.

Fellow tech start-up Vivi has also had strong success, rolling out its wireless screen sharing and student engagement platform to 750 Australian schools, who pay a fixed subscription.



CEO Natalie Mactier describes Vivi as "the invisible communication backbone of a school or university", claiming the product can improve teacher productivity by up to 10 per cent by un tethering them from the classroom monitor so they can interact directly with students.

A couple of years ago, Vivi responded to growing concerns about student wellbeing and its link to academic performance by launching a new tool that encourages emoji use in the classroom.

But some question whether the tech being rolled out in classrooms around the country is in fact proven to be the best approach for students. Or whether or not it's simply lining the pockets of the founders.

Technology has delivered a range of innovative tools that offer new opportunities to learn and track student participation and engagement, more than other countries. And yet their marks are dropping.

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Education Minister Alan Tudge admits that as a nation, we're not living up to the country's aspiration of a world class education system.

"In fact, based on international benchmarks, we have moved further away from it over the last 20 years," he says.

In the early 2000s, we ranked 4th internationally in reading, 8th in science and 11th in maths. By 2018, we had fallen to 16th in reading and 17th in science. We are now 29th in maths, which is the equivalent of 14 months of schooling. This decline has been consistent across different groups of students, he says.

"Our top students are less likely to score in the highest achievement bands, and our lower performing students are more likely to have fallen below the proficient standard. The problem is not a growing divide in student results, it is a decline in performance across the board," he said recently.

His office confirms that while there's no silver bullet, that a review of the national curriculum is currently under way, with a view to de-clutter and improve content, to be relaunched early next year.

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Tudge says there's no consensus as to why our performance has declined over the last 20 years.

"It is certainly not because of a decline in funding," he says. "As outlined, our funding has gone up considerably in real per capita terms, while at the same time our standards have declined.

No one is taking the lead at a government level to speed up the roll-out of these tech programs.

—Paul Chapman, school principal

"Nor is it class sizes, which have steadily declined over the past few decades and are now considerably smaller than other countries that significantly outperform us. Moreover, many of our schools are now brand new, with facilities that older generations look at with envy."

But private school principal Paul Chapman believes technology is a game changer. The principal of Central Coast Sports College in NSW rolled out Math Pathway almost three years ago, totally changing the game. It also uses Star Reading for literacy support.

Maths Pathway enables individualised learning that effectively encourages them to essentially "choose their own adventure" by learning at their own pace. Children can't move onto the next level until they have complete knowledge of each unit, Chapman says.

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"Technology provides diagnostics so we can group kids based on their need, rather than their age. Without that tool, there's no way we could meet the individual needs of the kids," he says.

While rolling out technology isn't an easy journey, Chapman, who has a background in IT, persevered. He adds: "There's probably 50 other schools I know of that would like to do the same, but no one is taking the lead at a government level to speed up the roll-out of these tech programs."

He admits that the downside to tech is that teachers can become lazy, hiding behind the technology when their first port of call should be providing more individualised support to students not hitting targets.

However, some say students are too screen dependent. Australian students already spend more time online than the OECD average, and the usage is only growing. Screen time comes with potential risks for young people, and yet primary-aged students are being expected to bring their own laptop to school in some settings.

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