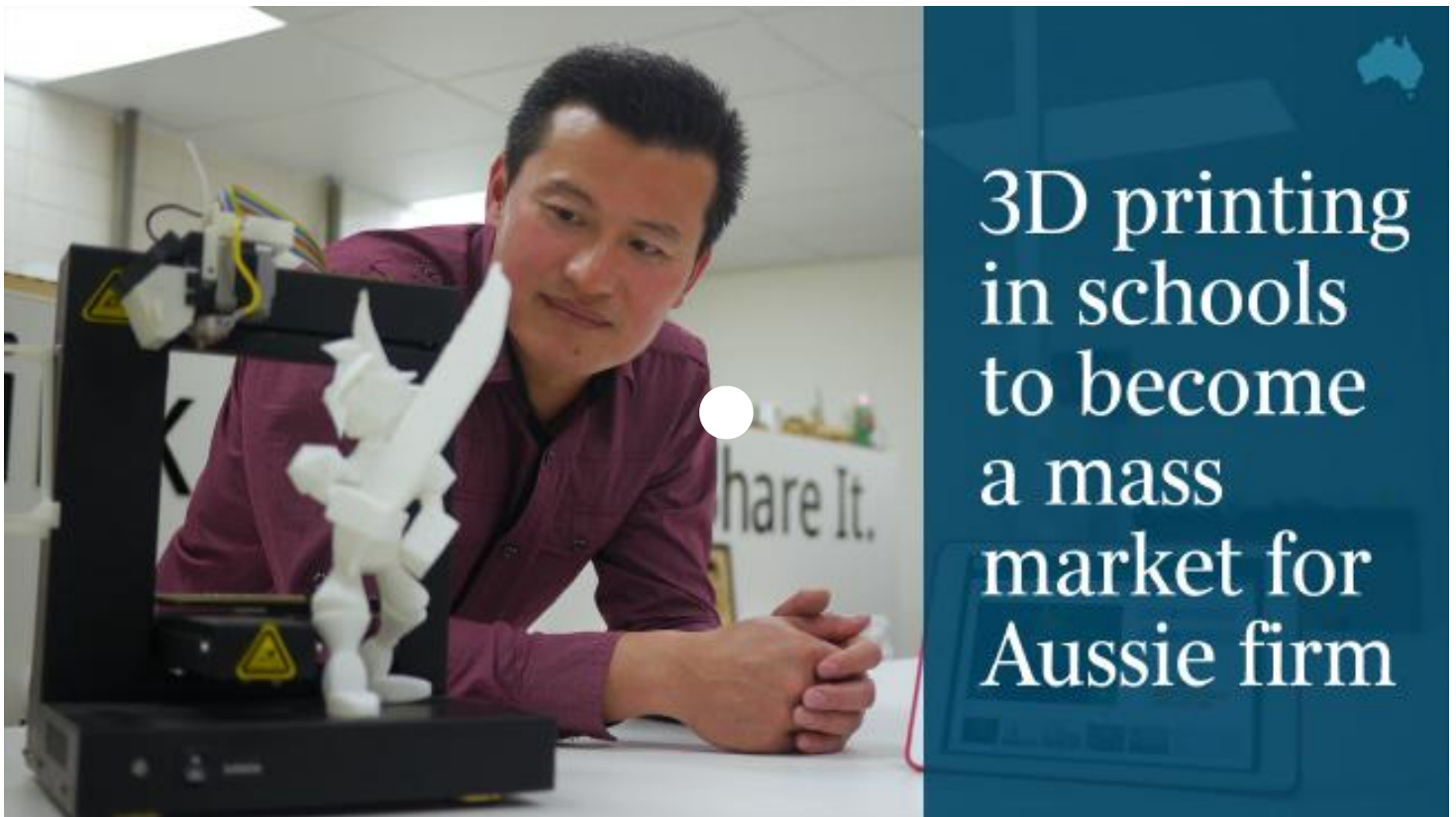


THE AUSTRALIAN

Empires strikes: teaching another dimension

JACKSON HEWETT THE AUSTRALIAN FEBRUARY 1, 2016 12:00AM



When students at 28 South Australian primary schools start term this week, the three Rs will support a new addition to the - curriculum: 3D.

They will be part of a pilot program designed to equip students with an understanding of 3D printing technology, and, in the process, learn design thinking — a skill considered critical for the next generation.

Using tablet computers students will create and print fantastic creatures and shapes, while seeing real-world applications for spatial maths, such as geometry. It is hoped that it will be the first step towards encouraging more students to embrace science, technology, engineering, and mathematics (STEM) subjects.

If the trial is successful, it is expected to be further rolled out in South Australian schools, and for Adelaide-based Maker's Empire, provide a launch pad for a global business.

Founded by three friends in 2014, Maker's Empire initially thought it would ride the wave of a 3D printing boom where backyard enthusiasts would become masters of design. The reality of 3D printing at a consumer level, however, has failed to meet the hype. Despite the price falling from tens of thousands of dollars to as little as \$500 a printer, the majority of output has amounted to little more than plastic trinkets.

Maker's co-founder Anthony Chhoy says they quickly realised that if 3D printing was to “revolutionise the world”, it would first have to become a movement.

So the team decided the best option would be to work on the next generation — schoolkids.

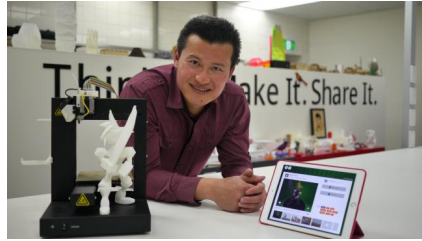
They focused their energy on building the kind of software that could help students create their own designs, but during testing discovered it was just as important to make it easy for teachers.

“The hardware or software should be in the background,” says Mr Chhoy. “If we can save a teacher five minutes in a 45-minute class, then they'll use it.”

Aside from its core function of translating designs to 3D printers, Marker's Empire also provides lesson plans aligned to the Australian curriculum, as well as tracking students' progress.

“The ultimate gratification for a student is a 3D printed spider, but the journey begins with researching and writing a report (about spiders) to encourage literacy, it requires them to think about how they have evolved for biology, then to design a spider using shapes, integrating a maths component. It ticks so many areas of the curriculum,” says Mr Chhoy.

Mr Chhoy hopes the pilot program with 28 South Australian schools will help Maker’s Empire win over other states. At \$2000 per school subscription, and lesson plans regularly created and shared by teachers, that would allow the business to scale quickly at a relatively low cost.



Maker's Empire co-founder Anthony Chhoy and the results of 3D printing. Picture: James Tindale