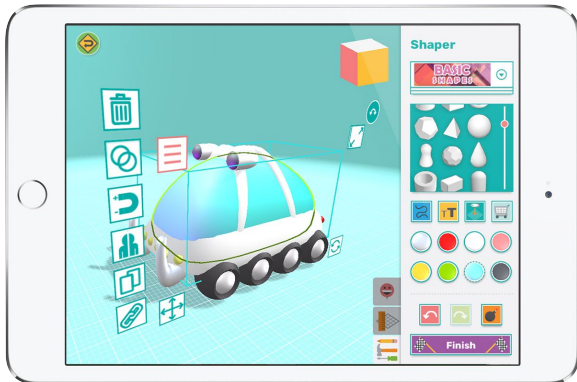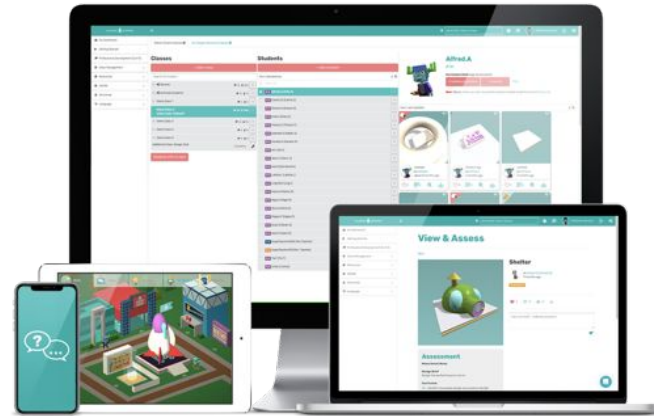# Makers Empire

Improving STEM capabilities for 3+ million users in 50 countries

What is Makers Empire?

Launched in 2014, Makers Empire is a fun and easy-to-use 3D design app that allows students to design, share and play in a safe, online community of 3+ million users in 50 countries.

Makers Empire has been proven to develop students' spatial reasoning and design thinking skills, improving STEM learning outcomes and increasing students' chances of future STEM success.

What problem does it solve?

Makers Empire significantly improves STEM learning outcomes for students, as well as students' attitudes towards STEM, which are both vital for economic prosperity and innovation.

Aligned to Australian and international curricula, Makers Empire helps empower students to become creators, innovators and problem-solvers, so they can make their world better.

How do we know it works?

Research has shown that a person's spatial reasoning skill is the number one indicator of their future STEM success. We know that spatial reasoning skills in children can be improved but, until recently, we have had no way to measure it.

Now, recent Australian research, using a new spatial reasoning instrument, reveals that Makers Empire helps primary students significantly improve their spatial reasoning skills, STEM learning outcomes, and attitudes towards STEM.
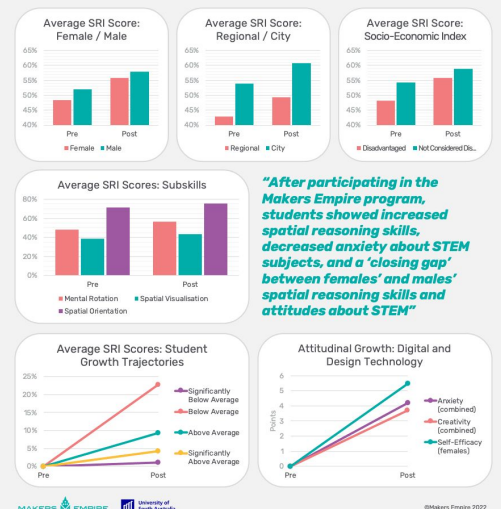
Makers Empire X UniSA Catalyst

Spatial Reasoning Study

In 2022 Makers Empire and UniSA Catalyst partnered to study trends in spatial reasoning skills and attitudes about STEM from Year 5-7 students who have participated in the Makers Empire program.

Research suggests that spatial reasoning skills are an early indicator of future success in STEM subjects and positive outcomes later in life.
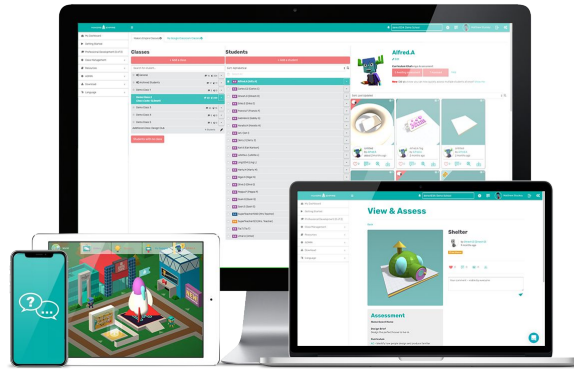
During this study all cohorts displayed growth, with the most statistically significant gains in SRI scores being made by female students, students in regional schools and those from schools considered disadvantaged on the socio-economic index.

When considering attitudes towards Digital & Design Technology, females also displayed the greatest improvement (in self-efficacy) while both males and females reported feeling less anxious and more creative after this project.

"After participating in the Makers Empire program, students showed increased spatial reasoning skills, decreased anxiety about STEM subjects, and a 'closing gap' between females' and males' spatial reasoning skills and attitudes about STEM"

Makers Empire
Learning by Design Program

Makers Empire 3D Design App
– the world's most fun and easy-to-use 3D design software. Works on all devices and computers. Used by 3 millions students in 50+ countries.

Makers Empire Teacher Dashboard
– access effective class management tools, 150+ lesson plans, challenge courses, built-in assessment and feedback tools and on-demand professional development.

Learning by Design Course
- engaging and fun face-to-face professional development using evidence-based maker pedagogies.

Research Backed

UniSA

MACQUARIE University
SYDNEY·AUSTRALIA

Multi Award Winner

Selected for **hundrED** 2022

2018 **Top Pick for Learning**
common sense education

Accredited & Assessed

Education Alliance Finland 2019
CERTIFIED PEDAGOGICAL QUALITY

Safer Technologies 4 Schools
ASSESSED 2021

Enterprise Partners

Government of South Australia
Department for Education

NSW GOVERNMENT | Education

Queensland Government
Department of Education and Training

NORTHERN TERRITORY GOVERNMENT

Sydney Catholic Schools

CATHOLIC EDUCATION
WESTERN AUSTRALIA

catholic education
south australia

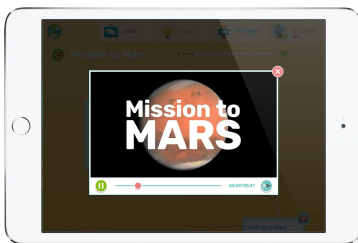Queensland Manufacturing Institute

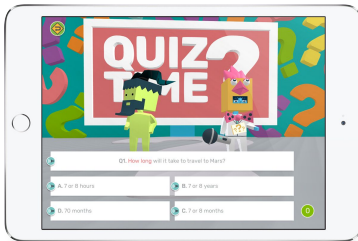# Makers Empire
In-App Challenge Courses

Makers Empire's themed **Challenge Courses** deliver a customised education program that introduces students to the Design Thinking process and builds their STEM capabilities and problem-solving skills. **Challenge Courses** are aligned to the Australian Curriculum and deliver a fun and engaging learning experience focused on a specific topic or theme.

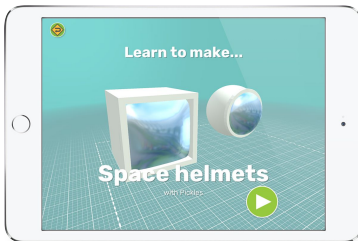Each themed Challenge Courses is comprised of 4 activities.

Educational Videos
Help students understand the context and parameters of a design problem, and build empathy.
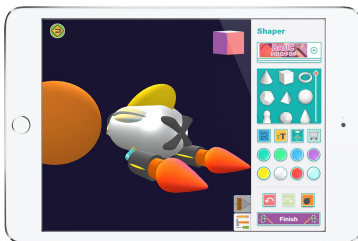

Quizzes
Ensure all students have attained a good understanding of a topic before progressing.

Pro-Training Tutorials
Develop and reinforce students' skills using more complex 3D design tools and techniques.

Design Challenges
Students combine all they've learned to respond to a topical design problem.

Teachers can easily monitor their students' progress via the Makers Empire Teacher Dashboard. Our **intuitive progress reports** make it instantly clear to teachers which students are excelling and which need extra attention.