

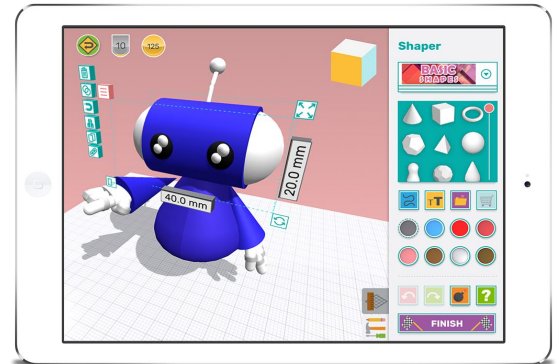
# Case study

# Ministry of Education

## Background

In 2018, the Design & Technology Curriculum team from a world leading **Ministry of Education** ('MoE') sought to embed **Design Thinking** and **3D Design** concepts in their Primary Design & Technology Curriculum.

A **STEM approach** to student learning and engagement was the main criteria to help create a more innovative, adaptable and resilient future workforce.



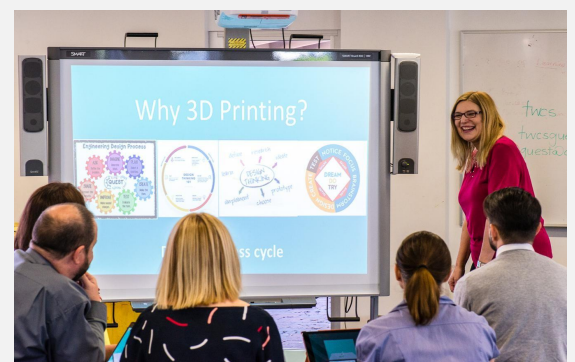
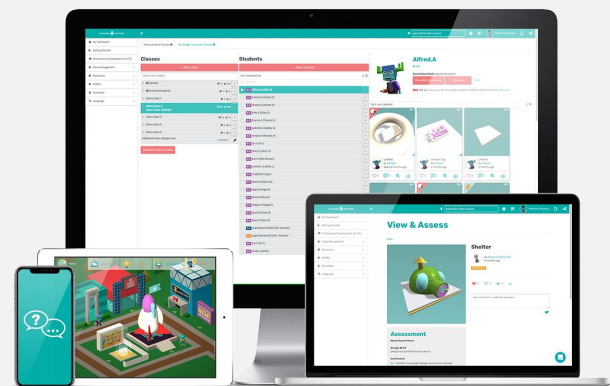
## Makers Empire selected as the solution

Makers Empire was the **only platform available world-wide** that is centered on **design thinking** and **STEM based** interactive learning through **3D design** and problem solving.

- Hundreds of K-8 **Curriculum-aligned lesson plans** (American Common Core Standards, Australian Curriculum, ISTE, Next Generation Science Standards, UK National Curriculum)
- Built-in **Classroom management, assessment and teacher / student feedback**.
- Built-in online **professional development** to support teachers to teach design thinking, implement maker pedagogy and use 3D technologies as intentional teaching tools for 21st Century skills.

Makers Empire had expertise and experience in **large scale deployment**:

- 250 schools with the South Australian Department for Education.
- 600 schools in 30 countries with GE Additive Education Program.



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## Scope

- Provide high levels of student engagement.
- Provide students with tools that can work online or offline without internet access.
- Provide teachers with immediate and ongoing feedback on student performance and assessment outcomes.
- Provide tracking and reporting for teachers and MoE executives and managers.



## Customised solution

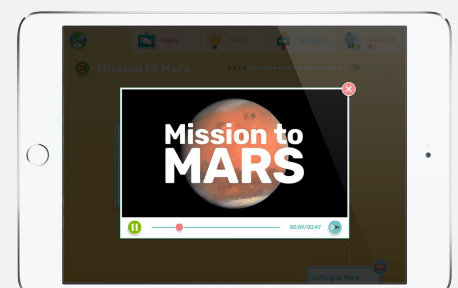
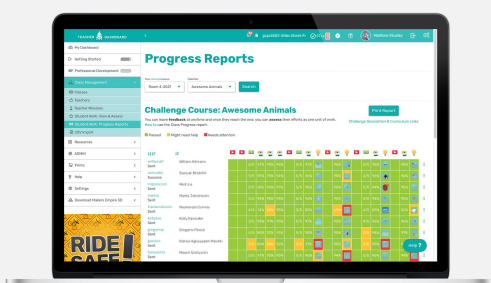
- Student challenge courses, design activities and competitions were customised and **aligned to MoE** needs.
- **Makers Empire 3D**, our fun and easy to use 3D design software was customised to allow students to **work offline** without internet.
- **Makers Empire Teacher Dashboard** was customised so teachers could provide **feedback to students, assess their work, view reports and track student progress**.
- Customised **online reporting** was developed to enable MOE executives and managers to view statistics.

## Deployment support

- **Curriculum review** and advice on student workbook and teacher guides.
- Train-the trainer **professional development**.
- **Knowledge transfer** on large-scale implementation.

## Value-added support

- Development of **new content** for MOE e.g. 'mission to mars' challenge course.
- **Integration with MOE systems** – teacher and student single sign on.



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## Outcome

### Engagement of students was high:

- Approximately 235 schools and 40,000 Grade 7 students created 600,000+ designs and completed 400,000+ challenges in the first year of the program in the 2018/19 academic year.
- Many students used the platform to do personal projects and activities **outside of school hours.**
- Students were inspired to use design thinking, 3D concepts and 3D technologies to explore their ideas and solve authentic problems, **maximising their creativity.**

**Tracking and reporting for teachers and MOE Managers and Executives** allowed immediate and ongoing feedback on student performance and assessment outcomes.

After the success with Grade 7 students in 2018/19, MoE deployed Makers Empire to all students in Grades 5 and Grades 3 in 2019/20 and 2020/21.



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