

Study shows 3D design software makes fast and significant impact on student spatial ability

Spatial ability - "the largest known untapped source of human potential"

22 September 2016, Adelaide Australia – Two Australian teachers recently set out to investigate the impact of 3D printing on 5-7th grade students at Sturt Street Community School.

They used mental rotation, cross-section and projection tests that are commonly used to assess spatial ability and aptitude into STEM degrees as well as by the defence forces.

After 6 months' experience with the Makers Empire 3D Printing Learning Program the results were in –the majority of students demonstrated an improved ability to mentally rotate and manipulate 3D shapes.

"I was excited to see the significant improvement in the mental rotation test results for girls in this project. Apart from applications to everyday life, mental rotation is recognised as a key skill in STEM related areas. Economies of the future need to connect STEM learning with all students including girls for the jobs of the future " Mandi Dimitriadis, Director of Learning Improvement, Makers Empire.

Spatial ability is rapidly gaining educators' attention; David Lubinski a Director of the 'Study of Mathematically Precocious Youth' (45-year longitudinal study into 'genius'), recently singled out 'spatial ability' as an overlooked indicator of future success:

"I think it may be the largest known untapped source of human potential" [1]

Importantly Lubinski noted that students with impressive spatial ability may make exceptional engineers, architects and surgeons despite not excelling in mathematics and verbal ability.

About the Case Study

Graham Gordon and Ruth Cowen conducted the Case Study with a group of 50 students at Sturt Street Community School in 2015. More details: <https://www.makersempire.com/blog/3d-design-printing-spatial-awareness-case-study/>

About Makers Empire

Makers Empire has made the world's first 3D Printing Learning Program for elementary and middle schools. Its ground-breaking curriculum-aligned products help teachers achieve great learning outcomes as well as inspired students in critical areas such as creativity, collaboration and technology.

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