SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
LIFT OFF - PRIMARY AND SECONDARY SPACE EDUCATION (1)

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DESIGNING TRANSFORMATIONS: SCHOOLS OF EXCELLENCE

Abstract

During the past 50 years, including some form of Space education in school curriculum has become an established approach for inspiring young minds to study the sciences and pursue science-based careers. Space camps and schools are active all around the globe, and typically attract the 'best and the brightest' young minds. But the context of Space is broad, the future is now, and all young minds need the confidence and ability to make choices that will best serve them in the world of work.

Can the context of 'Space' serve as an inclusive educational engagement model and career skills tool to achieve "Schools of Excellence"? This paper presents a case study for democratizing space education within Scotland; Schools of Excellence, which uses design methodology to convey an educational experience. Methodologies discussed, include design research to gather information, influences, and elicit insights and design visualization to present the findings. The use of design thinking will be presented as central to generate ideas, to inform the underlying framework, to build relationships with partners, and as the bridge between expressive arts and technology. Design interventions will be presented, such as the use of low fidelity human space- simulators as a means for engaging young students (ages 10-13) in STEM subjects (Science Tech Engg and Math) and as an ideal platform for widening the scope of the interrelated disciplines.

The paper will demonstrate how the Designing Transformations model proposes the context of Space to dovetail with Scotland's Curriculum for Excellence (CfE), with particular relevance to CfE series 4 (Skills for Learning Life and Work), which sets new standards and aspirations to build skills and foster career agility to equip individuals for the new and changing demands of the workplace.

Scotland has a history of innovation and exploration, both on land and beyond. With the likes of Arthur C Clark, a member of the Paisley Rocketeers (regarded as the world's first amateur rocketry group) and Brian Binnie, who in 2004 pioneered the first privately-manned raft to reach space, to name but a few, the Scottish odyssey is posed to continue through Schools of Excellence. The paper will conclude with observations and lessons learned from the "Schools of Excellence" pilot activity involving Higher Education, Schools (Secondary and Primary/Associated School Group) and Iconic partners.

Footnotes: 1. Curriculum for Excellence (CfE) is a new approach to the curriculum, with its emphasis on outcomes rather than inputs.