

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
Lift Off - Secondary Space Education (2)

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USING GAMIFICATION TO PERSUADE MORE WOMEN AND MINORITIES INTO STEM

**Abstract**

This report looks at several educational design techniques used by Intergalactic Education LLC over the last three years to motivate more students into pursuing a STEM career, more specifically: underrepresented demographics, ages 11-14. The software platform tested during this study utilizes a compelling storyline, machine learning, and friendly competition to promote science, technology, engineering, and math within secondary school systems.

This report contains lessons learned from the pilot programs conducted by Intergalactic Education within the Charles County Maryland School District. During this period, three classes of 8th-grade honors algebra students were allowed access to a simulation game called Space World™. One of the teachers involved in the program was chosen by the Space Foundation to become a part of their selective Teacher Liaison Program cohort.

This analysis also identified a number of shortcomings in existing education technology solutions. The research indicates that most digital instructional products do not have the high-fidelity graphics and animations that millennials have come to expect from applications they download on their handheld computers. Additionally, teachers and school administrators are not effectively leveraging big data collection that should be integrated into existing curriculum.