

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)

Ignition - Primary Space Education (1)

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BIG SCIENTISTS LITTLE SCIENTISTS AND THE COLONISATION OF MARS

Abstract

The launch of the King David School's CanSat program in 2010 marked a significant shift in how Science, Technology and Engineering were perceived by the school community. Students that were previously disconnected from their studies found a new sense of purpose with the implementation of authentic space-based science projects that extended well beyond the virtual boundaries imposed by the school curriculum, and how that curriculum was implemented within the school system. However, this initial program was targeted at high school students, and thus did not address any disengagement of students that commenced much earlier in the educational lives of students, specifically primary schools. There is much evidence to suggest that schools should be making a more concerted effort to rectify the level of student engagement in science and technology in the formative years. Discussions held with students in the upper primary levels suggested that a significant number of students already held a neutral view of the opportunities afforded by studying science while in the primary education system. While there are numerous factors at play, a lack of experiential learning was considered a significant contributing factor to the prevailing view held by primary school students of a lack of excitement in the science programs being offered. This paper will present The King David School's approach to engaging students in the primary system through its 'Big Picture Space Science' theme that has students embarking on designing and prototyping modular systems that ultimately establishes a colony on Mars, and makes use of inexpensive microcontrollers and sensors that are programmed by the students. The primary students are supported in their endeavours by the school's senior students, who act as mentors and ensure that the project's outcomes are not beyond the ability of the primary students. The use of mentors in a partnership known as 'Big Scientist Little Scientist' resulted in the formation of positive relationships between the two cohorts: the primary students (or 'little scientists') and their mentors (or 'big scientists'); in addition to the primary goal of engaging the younger cohort with space.