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

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MODEL MARS: A COLLABORATIVE LEARNING EXPERIENCE FOR THE MARTIANS OF THE FUTURE

Abstract

It's the year 2075 on Mars, and human outposts[JM1] are scattered on the Red Planet. Residents have established functional habitats and infrastructures. With less time required for day-to-day survival,the settlers can spend more time considering ways to augment and improve their Martian lives and communities.As their communities grow, so does the need for governance, education, and sustainability. Inspired by the Model United Nations and the defined UN Sustainable Development Goals (SDGs), Model Mars is a unique STEAM learning platform, providing a way for its participants toexamine ways in which human society on Mars might evolve. Content for Model Mars draws from three areas: (1) a foundation of science and knowledge about current and future plans for human Mars habitation; (2) possible futures as inspired by science fiction literature and media; and (3) a model of collaborative effort to address societal challenges. How does it work? The outposts are diverse and at different stages of evolution, and each resident has a specific role - for example: engineer, medic, horticulturalist, artisan, musician, resource manager. Players are assigned to an outpost settlement and begin a journey[JM2] using a story that introduces characters and a specific problem. Assuming character roles, players work in teams to address a given societal or technical challenge, arrive at a unique solution, and complete the story while developing an "artifact" to represent their journey experience. A prototype version was tested with youth teams (of 12- to 18-year-olds) from six countries of varied cultures, economies, languages, connectivity and access to online information and collaborative technologies. Adult "envoys" with experience in STEAM education shepherded the teams, and regular communications from the platform creators helped align focus with project-relevant outcomes. Ultimately, each team presented its findings – and its artifact – at an all-Mars virtual convening, which included expert guests. Participants reflected on the parallels between their experiences as "future Martians" and essential mandates for survival and growth of a Martian human society of the future as well as the UN SDGs here on Earth.[JM3] Initial success with the prototype deployment demonstrated ways in which the Model Mars platform can inspire young people worldwide and engage youth with diverse interests, backgrounds, and experiences, in space-relevant play and collaborative learning. Model Mars continues to evolve iteratively as a global youth learning platform and two new cohort launches are in development for Q2 and Q4 of 2023.