

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
In Orbit - Postgraduate Space Education (4)

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ANALOG INQUIRY-BASED-LEARNING PROFESSIONAL DEVELOPMENT AS PART OF  
MARS-ISRAEL EDUCATIONAL PROGRAM

**Abstract**

This proposal describes a special Professional-Development (PD) program, that I had the opportunity to develop and lead during the period June 2021 – March 2022. It was a part of the Mars-Israel educational program that accompanied the Mars Analog Mission in the Negev desert in Israel Amadee20, in cooperation between the Israeli Space Agency (ISA) and the Austrian Space Forum (OWF). The PD program focused on the idea of Analog Missions in an inquiry-based learning approach. It included face to face as well as remote meetings, and one whole day workshop at the location of Amadee20 in the Negev desert of Israel. The participants were 50 in-service teachers from various locations in Israel. The PD was planned as a multidisciplinary and a multi-age program, and teachers from all disciplines were invited, but since they were not familiar with the idea, only 30. During the PD participants learned from experts about several aspects of analog missions, including science, technology, geology, environmental, human and health issues and habitat design. Later, they worked in teams to develop lesson plans for an inquiry process for their students. Each team focused on a chosen topic, with mentors from the relevant discipline guiding them. In my presentation I will describe the PD process, the topics chosen, and teachers' views about the challenges and highlights of the program. I will show some examples for analog-inquiry units that were developed during the PD, as well as descriptions of the experience participants had with their students while teaching the units. Finally, the findings from analyzing teachers' reflections will be presented, and the lessons learned will be described. Preliminary results show that participants appreciated the PD as a unique opportunity and were willing to invest time and effort to bring the knowledge and experience of an analog mission to their students. Some of the challenges were lack of equipment and technical support in schools, and problems related to the Covid19 health instructions. My vision is that the PD participants will continue to teach analog inquiry-based units in their schools in the following years, preparing the next generation of students to the challenges of planning space-manned missions in the future.