

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Interactive Presentations - IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (IP)

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A NEW APPROACH TO BASIC EDUCATION USING SPACE TECHNOLOGIES FOR BRAZILIAN
ADOLESCENT STUDENTS.

Abstract

This article aims to show the results observed after carrying out a bootcamp (Spacecamp) in a school in which a new STEAM courses teaching model, created by IdeaSpace, a Brazilian education startup that uses outer space as a motivator of interest and fascination in young people for areas and disciplines of science, STEAM courses and human sciences. The pedagogical model proposed by the startup was described at this very IAC in its 2021 edition and consists, briefly, in partially modifying the current teaching methods in the Brazilian educational system, where the teacher still is the only active transmitter of knowledge present in the classroom, changing the focus to the students instead who, guided by facilitators (tutors) that are in the classroom with them, would promote their own pioneering in search for new knowledge and solutions to real-life problems through projects carried out in groups. The final project of the course consists of the proposal and development by the students of a simulation of a space mission where a fictitious cubesat model must be launched in orbit. For this, students learn the typical stages of a space mission: concept, design, construction, launch and application; as well as the typical electronic components present in a real satellite: OBDH, EPS, TTC, AODCS and Payload. The bootcamp observations that shall be presented in this article were acquired in a of four four-hour classes (a sixteen hours course in total) with three students, two from high school (sophomores) and one from elementary school (9th-grade), who which had no previous appreciation for areas of the STEAM courses, that were presented to. The course was held on the premises of a tutoring company in Brasília, Brazil. The observation obtained after the completion of the Spacecamp by the metrics that will be presented in this article was an increase in integration and participation among students and mainly loss of prejudice with certain subjects taught in the classroom, mainly physics and mathematics.