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SPACE EDUCATIONAL PROJECTS AND THEIR IMPACT IN THE NORTHEAST REGION OF
BRAZIL

Abstract

This research evaluates the main results from the outreach project Bringing Space to Community (Levando o Espaço à Comunidade - LEC) operation. This project was developed through the Federal University of Rio Grande do Norte (UFRN) and with financial support from FUNCATE, organized by the academic rocket team, Potiguar Rocket Design (PRD) and Habitat Marte space analog station, both initiatives in operation in Rio Grande do Norte State, Northeastern Brazil. The event integrates the astronomical and aerospace developing rocket launch mission with safety and immersivity in the educational STEAM scenario. This project can be a small contribution to overcoming some educational problems commonly found in emerging countries. The missions served as training for members for construction, management and logistics of rocket operations for UFRN undergraduate students during the pandemic period. Even more because it was a difficult time to develop the technologies, so doing these missions was the important fuel to continue the team's motivation. In addition, students from rural and urban public schools were involved when they were invited to follow the mission operation and rocket science in public schools in the project's city. LEC's target audience was public school students at Rio Grande do Norte with 14 to 18 years old who were studying technology. There were 3 pre-missions to structure the LEC event, divided into reconnaissance, structuring with rocket engine testing and event simulation. The event included lectures, training and demonstration of the Habitat Marte analog habitat. The activity happened on June 25, 2022 with national and international speakers from the space area, hands-on activities with PET bottle rockets and finally, the demonstration of the launch of the PRD training rocket, with an apogee of 300m. Participants were trained in the space sector, through this immersion based on sustainability, innovation, agriculture, STEAM, mission operations and management. The objective was to reach the public school student community, so 5 federal institutes were selected and invited, however, only 3 could attend, totaling 69 people. The event was successfully held, resulting in a video report with reports from the organizing students, as well as teachers and students participating in the event. For future activities, there is a way to carry out a similar mission with participants divided into crews, spacesuits and with practical activities to make the event more interactive and on a national scale with longer duration and more content, producing a space camp in the northeast of Brazil.