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Author: Ms. Rebeca Jiménez
Space Generation Advisory Council (SGAC), Costa Rica

Mr. Marcelo Boldt
Space Generation Advisory Council (SGAC), Germany

Mr. Bryan Quiros
Space Generation Advisory Council (SGAC), Costa Rica

CAMP GALILEO: A FIRST APPROACH TO SPACE EXPLORATION FOR CHILDREN IN DEVELOPING COUNTRIES, LESSONS LEARNED FROM COSTA RICA CASE OF STUDY.

Abstract

Costa Rica faces numerous challenges in the field of STEAM education, insufficient infrastructure and resources, such as laboratories, and technology, interfere with its effective outreach. Children and younger generations may have an interest in these fields but the low access to hands-on engaging lectures, and adequate training for teachers in these fields, limits the exploration of their potential. Ensuring equitable access to STEAM education for all students, regardless of their geographical location or socio-economic background, is a common challenge still to be addressed. In addition, the lack of collaboration agreements and knowledge transfer strategies between schools and Space Industries, combined with the absence of endorsement from professors to pursue these careers, only deepens the gap between the Space Sector and specialized workforce development. A previous analysis of potential solutions to these education challenges were reported in the paper IAC-23, E1, 2, 5X76322, including a proposal of a Space-Bootcamp program focused on astronomy, rocketry, space exploration and programming. Preliminary surveys within the same analysis revealed a strong willingness among students, parents and educators to participate in space immersive activities. This current paper summarized the challenges, results and findings derived from the implementation of the pilot program designed to meet the market needs evidenced by the poll responses. The authors created Camp Galileo, a one-day space camp for children aged 5 to 12, the program aimed to a) test hypotheses developed during previous research, and b) spark the interest of younger generations in the proposed topics. Camp Galileo gathered substantial attention from the academic community, receiving support from a fully equipped astronomy venue located in Poas, Alajuela, Costa Rica, and a New Space start-up from Germany, opening new questions about sponsor attractions strategies to be used, given that the previous analysis showed a lack of interested in funding this initiatives. The support received helped reduce the costs for both organizers and participants, making the program feasible. With the support of new academic and private partners follow-up activities are being developed, including the creation of a Central and South America Space Education Hub; and an expansion of the camp program to high school and at-risk communities. Keywords: STEAM; Primary Education; Astronomy; Challenges; Outreach