

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

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THE NATIONAL CANSAT COMPETITION : REFLECTION ON THE COMPULSORY EDUCATION
STRATEGY OF SCIENCE AND TECHNOLOGY IN THAILAND**Abstract**

Rising up to the frontier of space exploration requires tremendous resources, knowledge, and infrastructure. As a consequence, the space education is largely perceived as the process for bootstrapping the progress. Meanwhile, Thailand has been struggling to enhance the advancement of space-related areas in the country, especially in the effective implementation of compulsory educational level. In this paper, we studied the first national CanSat Competition as the emerging practice in creating a low-cost satellite conducted in Thailand to promote the future space exploration. From approximately eighty proposed projects by the high school students from various parts of Thailand, we identified three key findings. 1) The competition fosters the student participants to engage in the space engineering beyond their knowledge from classroom under Thailand limited the economic and social condition. 2) The impact of the competition not only shift the learning style of Thai students from passive to interactive style, but also expose students to the potential space-related careers. On the other hand, 3) The majority of projects are generic and utilitarian-based. We suggest that the next step for the CanSat competition is to integrate scientific challenges with the knowledge of Arts and Humanities to elevate the creativity of the participants and shift from STEM-based learning style to STEAM-based learning style. Particularly, as one of the essential goals of the competition is to establish the necessary skills of the students in handling the transforming world, the competition must encourage the participants to think beyond used-base projects by emphasizing on the futuristic possibilities of space exploration. To multiply the impacts of the competition, the training for the teachers must be integrated simultaneously, so they can become the facilitators of the CanSat project and expand the scale of the space activities into the local areas in the near future.

Keywords: CanSat, Space Education, STEM, STEAM, Space Exploration