

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
Lift Off - Secondary Space Education (1) (2A)

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THE EFFECTS OF SPACE EDUCATION IN "THE PERIOD FOR INTEGRATED STUDIES" ON  
FORMAL EDUCATION - CASES OF TWO SCHOOLS IN SHIMOSUWA TOWN-

**Abstract**

The course of study, stipulated by the Government of Japan, shows that the compulsory education in Japan has "the Period for Integrated Studies (hereafter called "Integrated Studies") to enable students to learn and think on their own and to solve problems better. JAXA Space Education Center (hereafter called "the Center") helps teachers who endeavor to use space materials into their classes for above purpose. This paper reviews two cases which the Center collaborate with. Two junior high schools in Shimosuwa town of Nagano Prefecture in Japan in fiscal 2016 endeavor to nurture the students abilities to think in their own way with space materials. The 1st case is Shimosuwa-Yashiro junior high school. This school is enthusiastic on "Integrated Studies", and this fiscal year, the students participate in either one project; one is to develop how far model car runs as far as possible with 1 liter of gasoline, or the other is to develop how the model of space elevator robot works accurately. The Center gave lectures on the importance of these missions showing example of weight reduction and attitude control system of Hayabusa asteroid explore and evaluate students' proposals. The 2nd case is Shimosuwa junior high school. A teacher has been distressed to make good use of "Integrated Studies". Through the Center's program for teachers to use space materials into their classes, he was enlightened that the mission of "Integrated Studies" is familiar to the Center's and it is important to make students learn "by" space, not "about" space. He actually conducted his space education class with the reference on the Center's past cases. In the class, students learned not only the basic configuration of planets in the solar system, but also the environment of the planets and the characteristics of lives in the Earth through the image what characteristics the creatures have if they were in the planets. While some schools are able to make students think in their own way, many schools still let the students hear their teacher reading textbooks, even in "Integrated Studies". For teachers who have less method to use effectively "Integrated Studies", the Center supplies for some methods through our teachers training program. This program involves more than 1,000 teachers every year all over Japan, and some of them starts to use space materials into their class. We promote to expand space education for more teachers to use space materials .