

Educational Program with Agricultural Practice and Sensor Data Analysis for Primary School Students

-Dr. Doroemon Project-

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Abstract We propose an educational program “Dr. Doroemon Project” which includes thinking training through rice cultivation in the buckets by two kinds of method and data analysis for the 5-6th grade primary school students in Tokyo, Japan during the 2011-2013. “Doroemon” named after Doraemon who is one of the most popular characters all over the world. “Doro” means soil in Japanese. These days there are few chances Japanese students can learn soil science in regular curriculum. But it is possible to make an opportunity they can learn soil science in special curriculum, “Integrated Studies.” It exists separately from the regular subjects and the objective is growing up the following abilities, to think on their own, to make decisions and to solve problems. Each school can make an education program on its own flexibly. Fortunately some schools adopt agricultural practice to this subject but the ministry reported that some contents had not worked enough. Therefore we propose a new program which includes agricultural practice and enough opportunities to grow up these abilities through analyzing agricultural data. In this program the students grew the rice by SRI method as compared to conventional method in the bucket. SRI stands for the System of Rice Intensification. According to the SRI Guideline it usually can produce 20-50% more yield with less seeds, water and fertilizers. Rice cultivation in the bucket is popular method in Japanese school because of space-saving. After the harvest they analyzed three kinds of data such as yield data, soil moisture and soil temperature on the worksheet. We analyzed their findings about these three data to make out what they thought and discussed. Also we tried to find relation between how they do cultivation and what they thought and found. As a result this program could provide such opportunities, to compare and correlate multiple elements, express findings in objective and find cause and effect. Also we could find they were interested stronger in the cultivation method they adopted actually than that they didn’t. It suggested how they do cultivation has relation with their findings. In conclusion we would like to propose that “Dr. Doroemon Project” provided enough opportunities to think and discuss through analyzing agricultural data practice. Also agricultural practice has certain impact on their thinking.