芝浦工業大學 SHIBAURA INSTITUTE OF TECHNOLOGY

2019yearGlobal PBL (Inbound)Performance report

SIT-ITS Global PBL on Mathematical Sciences

Implementation period	Implementing country	SIT's implementation partner organization	Target students	participant	SIT instructor
2019/11/09 ～2019/11/16	**Japan**	**Institut Teknologi Sepuluh Nopember**	・Department of Mathematical Sciences ・Undergraduate 2nd grade、Undergraduate 3rd grade、Undergraduate 4th grade、Undergraduate 1st grade、Master 1st grade、Master 2nd grade	(SIT) Students 40, TA 4, Professor 12, Staff 1 (Institut Teknologi Sepuluh Nopember) Students 15, Professor 5, Staff 1	ZHAI Guisheng(Department of Mathematical Sciences)、TAKEUCHI Shingo(Department of Mathematical Sciences)、FUKUDA Akiko(Department of Mathematical Sciences)、NAKATSU Tomonori(Department of Mathematical Sciences)

Image1 opening

During November 9 through November 16, 2019, we carried out a global PBL (Project Based Learning) program successfully in Omiya Campus of SIT. The participants are 15 students of Institut Teknologi Sepuluh Nopember (ITS), Indonesia, and 19 students from Department of Mathematical Sciences, SIT, Japan. In addition to four supervising professors and four teaching assistants, 21 student staffs helped to organize several activities and they chaired all the ceremonies and presentations.

There are two group works in this gPBL. The first one is designed for the ITS students to investigate SIT in detail for future possibility to come to study as an exchange or a regular student. With the help of SIT students, they looked around Omiya Campus, interviewed SIT professors and foreign students, and finally presented their viewpoint of SIT from their own angles. The second group work is focused on a mathematical problem: how to design and hand make a container with largest volume from a given cardboard of A4 size. This is an optimization problem with constraints of total area, and it is also aimed at combining theoretical analysis and practical capability. All the students are divided into 5 groups, composed of both ITS and SIT students. Each group discussed the detailed problem formulation, production plan, and made their original container with the cardboard and other tools. At the presentation on November 16, all groups showed their original product and explained their ideas with rigorous mathematical study.

During this gPBL, intercultural exchange activities including Japanese martial arts, Yukata, and Origami were also held, and the ITS students also visited the Math Museum in Tokyo University of Science. It seems that all the participants enjoyed the global communication and group work discussion, and most of them became good friends through this project.

Image2 groupwork

Image3 groupwork

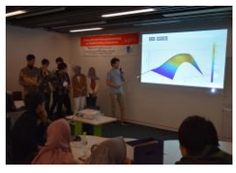

Image4 presentation

Image5 Math museum

Image6 Yukata

Image7 Origami