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## Adaptation of Lesson Study and Open Approach for Sustainable Development of Students' Mathematical Learning Process

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### ABSTRACT

This research was aimed to analyze and develop Small-group Mathematical Communication (SMC) as Mathematical Learning Process (MLP) of the seventh grade students in Ban-beung-neam-beung-krai-noon school for the school year 2008-2010 by adapting the Lesson Study and Open Approach which were innovations from Japan in order to be a context as well as guidelines for practice enhancing the students' MLP. The teaching experiment (Steffe & Thomson, 2000) as a research methodology was used in designing the lesson plan, and studying students' MLP. The data were collected by using the video-audio recordings in classroom activities, video-stimulated interviewing the students, and interviewing the teacher. Data were also analyzed utilizing a video and protocol analysis. The research findings found that the students had SMC in mathematics classroom adapting Lesson Study and Open Approach. The students learned mathematics more meaningfully by themselves based on sharing mathematical ideas in order to create the shared meaning and leading to shared goal. They participated in SMC regularly. As a result, they developed a "habit of mind" which was led to a sustainable Mathematical Learning Process.

### KEYWORDS

Lesson Study; Open Approach; Mathematical Learning Process; Small-group Mathematical Communication; Triad Feedback

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