

The study of Mathematics concepts on grade 4th students of Khon Kaen University Demonstration school by using Open Approach and Cooperative Learning Model

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Abstract: Mathematics learning performance is a common key factor in today's mathematics education. Many mathematics education studies have proposed student-centered learning activities to promote students' learning performance in mathematics. A combination between open approach and cooperative learning is currently recognized as a pedagogical strategy for improving mathematics learning by individual lesson. As such, this paper aims to investigate students' mathematical thinking and the thinking in group after experiencing openness-orientated cooperative learning activities in mathematics class. To reach this aim, 4th grade students has been invited to participate with a mathematics lesson addressed relative volume. The result showed students' mathematical thinking in group that they can understood the logical events and variation among volumes. The finding implied that the approach assisted students to construct themselves mathematical performance on relative variations of volume. In addition, this pedagogy is an opportunity to illuminate students' thinking process which was the source of students' answers.

Keywords: mathematical thinking, group process, participation