Enhancing Students' Mathematical Problem Solving Performance by Using a Cooperative Learning Model

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Abstract

The primary purpose of this study is to investigate the students' mathematical problem solving performance by using a cooperative learning model especially for Student-Team-Achievement-Division (STAD). Students' attitude towards mathematics was also examined. This study was conducted at Basic Education High School No (3) Kyeemyindine in Yangon, Myanmar. Sample of thirty-two Grade 9 students participated in this study. This study used a pre-experimental design to observe the changes in students' problem solving performance and students' attitude towards mathematics. This is a pioneer study which applied the cooperative learning model in Myanmar. Both qualitative and quantitative data were collected and analyzed. Two versions of mathematics performance assessment teacher-made (pre-test and post-test) tests, 14 items mathematics attitude test, 9 items problem solving observation rating scale, 8 items rating scale for students' cooperation, and reflective journals were used to assess the changes after intervention. The results of this study showed a definite increase in improvement both on the pre-test and post-test performance assessment and the attitude towards mathematics. Students earned the mean score of 12.06 on mathematics performance pre-test and that of 33.75 on mathematics performance post-test. Similarly, in the pre-attitude test, scores for 32 students has a mean of 30.62 and standard deviation of 6.40. In the post-attitude test, scores for 32 students has a mean of 32.62 and standard deviation of 4.24. The results showed that cooperative learning model can enhance students' problem-solving performance and students' attitude towards mathematics.

Key words: cooperative learning, scoring rubric, problem solving, reflective journal

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