

**THE IMPLEMENTATION OF PROBLEM BASED LEARNING MODEL  
TO IMPROVE THE STUDENTS' MATHEMATICAL PROBLEM  
SOLVING AND MATHEMATICAL COMMUNICATION  
ABILITY OF GRADE VIII SMP NEGERI 30 MEDAN**

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**ABSTRACT**

The purpose of this research was to know that Problem Based Learning model could improve the ability of mathematical problem solving and mathematical communication ability in grade eighth at SMP Negeri 30 Medan. The type of this research is classroom action research (CAR) which was implemented in SMP Negeri 30 Medan. The subject of this research were students' of class VIII-6 of academic year 2016/2017 that consist of 30 students'. The objects of this research is mathematical problem solving and mathematical communication ability.

This study consisted of two cycles. Each cycle has two meetings. Every meeting was given student activity sheet. Students' mathematical problem solving and mathematical communication ability was tested in the end of cycle.

After giving a treatment to students' in the first cycle, the value of problem solving ability, with classical completeness 11 of 30 students (36.66%) has reached a level of mastery classical learning and 19 of 30 students (63.33%) have not yet reached the level of mastery learning problem solving ability, while the value of communication ability, with classical completeness 11 of 30 students' (36.67%) has reached a level of mastery classical learning, a percentage value  $\geq 65\%$ , while 19 of 30 students' (63.33%) has not reached the level of mastery learning communication ability. The average score of observation students' activity is 24.167 and the average score of teacher activity is 3.3 After the revision from the first cycle to the second cycle. the value of problem solving ability, with classical completeness 30 of 27 students' (90.00%) has reached a level of mastery classical learning and 3 students' (10.00%) have not yet reached the level of mastery problem solving ability. While the value of communication ability mastery classical learning, 30 of 26 students' (86.67%) has reached a level of mastery classical learning reached a value of  $\geq 65\%$  and 4 students' (13.33%) have not yet reached the level of mastery learning communication ability, The average score of observation students' activity is 28.133 and the average score of teacher activity is 3.85.

From the result of research, it can be concluded that implementation of problem based learning model is effective to improve students' problem solving and mathematical ability. For teacher are encouraged to be able to implement problem based learning model as an alternative in the learning process that can improve problem solving and communication ability.