

# PROMOTING TEACHING AND LEARNING MATHEMATICAL PROBLEMS FOR DEVELOPING HIGH ORDER THINKING FOR PRIMARY SCHOOL STUDENT

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## A. Background

Mathematics is one of study that has very strategic position. Undeniable that mathematics is useful and subsidize various discipline science other. Even some people recognize that “mathematics is the queen of science”. On the other hand, unfortunately, student’s achievement of mathematics, especially in primary school level, has not made us glad yet.

One of “the power of mathematics” is mathematics as problem solving. It means that teaching and learning mathematics should make student not only enjoying mathematics but also they can solve mathematical problems. Even as side impact, in their activities they are able to solve daily life problems, and to realize this intention is needed someone who has high order thinking capacity.

Based on some researches, mathematics teaching approach in Indonesia currently tends to be in a linear fashion. In many cases, many teachers are just teaching mathematics to students without understanding of the essence of the mathematical concepts and without problem solving approach as well. The teacher just refers and follows what the curriculum guideline document stated; gives explanation to students which is suited to the objectives previously stated; asks students to repeat and recall what teacher did; gives chance to students to ask question, whether they understand or not. Even, when the student keep silence or no respond what teacher did, the teacher assumes that students understood. On the other hand, most students could not solve the problem when the teacher gives them some problems. In some primary schools in Indonesia, very few teacher who aware this matter and try to change their “teaching style”. It seems there are problems with teacher’s competence. They obviously need to know that teaching is not just delivering an instruction.

Primary education is an important stage that must get serious attention from everybody, because primary education is the base for education development in stages after it. Primary education students are not “a group of small adults”. They need to learn many things happily and meaningful, by using their thinking, by using their world, by using their capability, by using their interest as well as their fashion. Teacher should take student

competencies as starting points for their planning and their moment-by-moment decision making. Existing competencies, including language, reading and listening skills, ability to cope with complexity, and mathematical reasoning, become resources to build upon (Anthony, p. 11) . The attention should be not only with reference to physical development, but also how to make students are able to develop the intellectual ability in an optimal fashion. It is more important than another factors of teaching and learning aspects ... (etc)

### *References*

Glenda, A.; Walshaw, M. 2009. Effective pedagogy in mathematics. *Educational practices series – 19*, pp. 9-16.

Henningsen, M.; Stein, M. 1997. Mathematical tasks and student cognition: Classroom-based factors and inhibit high-level mathematical thinking and reasoning. *Journal for Research in Mathematics Education*, vol 28, no. 5, pp. 524-549.

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