***International Seminar and the Fourth National Conference on Mathematics Education 2011***

***“*Building the Nation Character through Humanistic Mathematics Education”**

***Department of Mathematics Education, Yogyakarta State University***

***Yogyakarta, July 21‐23,2011* 37**

**P - 5**

**IMPROVING THE MATHEMATICS CRITICAL AND CREATIVE**

**THINKING SKILLS IN GRADE 10TH SMA NEGERI 1 KASIHAN**

**BANTUL ON MATHEMATICS LEARNING THROUGH**

**PROBLEM-BASED LEARNING (PBL)**

**Nurina Happy, S.Pd**

**Endang Listyani, M.Si**

*Universitas Negeri Yogyakarta*

**Abstract**

This research aims to describe: (1) implementation of the PBL that improve the mathematic critical and creative thinking skills and (2) improvement the mathematic critical and creative thinking skills of students with PBL. The research is Classroom Action-Research, which is consisted of two cycles. The research was conducted in SMA Negeri 1 Kasihan Bantul in August until December 2010. The subjects were all of the students in class X D which consist of 33 students.

The data was obtained from observation sheet, field notes, documentation, interviews, and tests of critical and creative thinking skills in mathematics learning. The data validation has done by triangulation. The results shows that the implementation of the PBL which can improve the students’ mathematics critical and creative thinking skills consist of four steps: (1) *engagement*, (2) *inquiry and investigation*, (3) *performance*, and (4)*debriefing*.

Learning activities had reached more than 75% of the plan that had been developed in the second cycle. Student self-learning activities on the second cycle was better than the first cycle. After they learned mathematics with the PBL model, the mathematic critical and creative thinking skills of students has increased. The aspects of critical thinking skill i.e. focus, clarity, and inference. The aspects of creative thinking skill i.e. fluency, originality, and flexibility.

**Keyword**: critical thinking, creative thinking, problem based learning