

CHAPTER I

INTRODUCTION

A. Background of the Research

Education is an overall effort to transform science, knowledge, ideas, norms, laws and values to others in some ways, either structurally formal or informal or non-formal as well as in a national education system. Education products have a culture that is defined as a civilized society, have the freedom of creativity that reflects the dynamics comprehensive towards a prosperous life governed by the rule of law is strong, as aspirated of the whole community and the nation. (Syaiful Sagala, 2009: 10)

Education becomes one of the benchmarks of a nation whether the nation can be said to be advanced or not. The better of the nation education, the better of the people quality. That is the general assumption of a nation's education programs. Factually formal education or school is described as group activities such as teacher and student. The activity occurs during the learning process either inside or outside the classroom.

The learning process in the classroom is an important factor to provide optimal results of learning itself. The optimal learning outcomes not only seen from the learning process, but also be seen from the results after the learning as well as in daily life. Each learning process is given in the classroom should be reflected in the character and personality of the students either at home, school

and community. In essence, the learning process should be accompanied with character education.

Referring to PERMENDIKNAS No. 22 of 2006 on Graduate Competency Standards (SKL), that is: "The group of subjects in science and technology intended to obtain basic competence in science and technology and develop scientific thinking critically, creatively and independently". From the statement it is clear that every learning process in the classroom should be able to develop the competence of each student optimally.

Reality on the field shows that the majority of learning in the classroom is only oriented to student achievement (achievement oriented), without regard of the character planting to the students. This is certainly contrary to one of the contents of the Graduate Competence Standard (SKL), which have been mentioned above.

One of the characters that must be built is the attitude of independence. This is due to the lack of independent attitude of students in learning. Some indications of the lack of independent attitude of students are: 1) not confident, 2) do not dare to express ideas, 3) lack of sense of responsibility, 4) always depends on others, 5) do not have the motivation to excel.

Based on the observations that have been conducted by researcher in SMP Al-Islam I of Surakarta grade VIIIA by the number of students is 31 students, finds many variety of learning problems. Through observations during the learning process, the researcher finds some fundamental issues related to the independence of students in learning, that is: 1) the student's courage in

expressing opinions/questions (22.59%), 2) the student's ability to solve the problems independently in a group (32.26%), 3) the student's ability to work in group by teamwork (38.71%), 4) the student's confidence in solving individual problems (48.39%). Meanwhile, for the first conditions of student achievement, the student ability to achieve test scores based on KKM standardized increases 38.71%. It shows the attitude of independence and student achievement in learning need to be improved.

Mathematics as a science are subjects that require high mental to learn. High mental is aimed to enable students to think critically, creatively, innovatively and independently. Regular mathematics study, organized structure, mathematical concepts hierarchically organized, structured and systematic, start from the simplest concepts to the most complex are. Through learning mathematics, it is expected to build and to grow student's independence attitude.

Developing the attitude of independence through mathematics is not easy in practice. To develop that attitude, it must be supported by a variety of factors that can run optimally. One of the factors is the teacher as a facilitator. Teachers play a major role in determining the method or strategy of content delivery. This will have an impact on the enthusiasm of students in the learning process.

Many different models, methods, strategies and teaching approaches can be used to develop student independence attitude. To develop the attitude of the student independence, we can use learning model Problem Based

Instruction (PBI). Problem Based Instruction (PBI) learning models is a learning model based on the existing problems. In this case, students are required to learn through problem given by the teacher.

According to Dewey (in Sudjana 2001:19) problem based learning is the interaction between the stimulus to response, a relationship between two direction of learning and the environment. Environment gives suggestion to students in the form of help and the problems, while the brain nervous system functions to interpret that help effectively so that the problems encountered can be investigated, assessed, analyzed and searched with good solutions.

According to Arends (2008), problem based teaching is a learning approach where students work on authentic problems in order to construct their own knowledge, develop inquiry and thinking skills, develop independence and confidence.

From the background and explanation, researcher tries to develop a learning model of Problem Based Instruction (PBI) to improve the attitude of independence and student achievement through the teaching of mathematics. The title of the research to be carried out is "Improving students Independence and Learning Achievement in Mathematics Teaching through Problem Based Instruction (PBI) on the Topic of Circle".

B. Problem Statment

Based on the above research, the focus of this research is formulated as follows:

- a. Whether the learning process of mathematics through learning model of Problem Based Instruction (PBI) can improve the independence attitude of the student?
- b. Whether the learning process of mathematics through learning model of Problem Based Instruction (PBI) can improve the learning achievement of student?

C. Research Objective

Based on the formulation of the problems outlined above, this research aims to:

- a. Improve student attitude independence in learning mathematics through learning model of Problem Based Instruction (PBI).
- b. Improve student learning achievement in mathematics learning through learning model of Problem Based Instruction (PBI).

D. The Benefit of Research

1. Theoretical benefit

Theoretically, the results of this research are expected to provide a solution to the problem of learning mathematics in particular and other

subject in general. The focus is improving the independence attitude and student learning achievement in solving a problem related to mathematics.

2. Practical benefit

Practically, this research provides feedback or suggestions to teachers that can be used to improve the learning of mathematics through learning model of Problem Based Instruction (PBI) to increase the independence and student learning achievement.