

## CHAPTER I

### INTRODUCTION

#### 1.1. Background

Success in an educational institution teaching-learning process can be seen from the result of learning achieved by learners. Learning outcomes are the learning achievement of learners who can be measured from the students after work on the problems given by the teacher at the time of the evaluation carried out. Successful learning in school will come from studying the success of their students. Student success in learning can be influenced by any factor of the individual from outside the individual and inside individual.

Factors that influence learning can provide positive support in learning, but can also hinder the learning process. When the result of student learning is low means the learning process can be said fail. It is a problem in education. This problem happens in SMAN 1 Berastagi especially those of mathematics.

It can be seen from the achievement of the average score of mid semester test in class X SMAN 1 Berastagi Academic Year 2011/2012 is 46.93 with a population of 32 students and the percentage of completeness 22.22% by Minimum Criteria for completeness is 70.

When researcher observation in this school, researcher get there are some the weakness of learning, are: (1) student passive in learning process, (2) student afraid to share student's opinion to teacher, (3) student stop try to solving problem when student get difficult problem.

In fact Mathematics as one subject in school was considered quite an important role in shaping students into qualified, because mathematics is a mean to study something to think logically and systematically.

As expressed by Hamalik(2009:88) that:

"In mathematics lesson we will find the following purposes:

1. Inculcate, nurture, and develop basic mathematics knowledge and practical skills.
2. Inculcate, nurture, and develop logical and critical thinking skills in abstract thinking patterns so as to solve the problems faced in everyday life.

3. Inculcate, nurture, and develop the ability to appreciate the time-saving and intelligent, rational economics.

4. Inculcate, nurture, and develop an attitude of mutual cooperation, honest, and believe in yourself. "

Improving the quality of mathematics education is necessary, in particular an increase in students' mathematics achievement in schools.

The role of mathematics is so important, and student that is the output of education who will face the development of science and technology often criticized from many quarters that lead to students' mathematics learning outcomes are still low.

The number of students who are weak in mathematics is very alarming.

Trianto (2009: 5) states that:

The main problem in learning in formal education (school) today is the low absorptive capacity of student. This is evident from the average of the results of study of students which is still very alarming. This achievement is certainly a result of the current teaching method used and do not touch the realm of conventional dimensions of the learners themselves, namely how to actually learn it. In a sense, that the learning process until today still provide the teacher dominance and does not provide access for student to develop independently through discovery and thinking processes.

Of the above problems, it's required to apply a mathematical learning model that is expected to improve student learning outcomes. Cooperative learning model can be used as an alternative model for such purpose.

Triyanto (2007:49) states: "There are some variance of cooperative learning models, are: STAD, JIGSAW, Team Game Tournament (TGT), and structure approach like Think Pair Share (TPS) and Numbered Head Together (NHT)." In this study research choose one learning type it is cooperative learning type Think Pair Share (TPS).

Think Pair Share is a type of cooperative learning designed to influence the interaction patterns of student and an alternative to class structure as well as greater involvement of student in reviewing the material covered in the lesson.

According Lia Saragih, the research results show that:

There is an increase in student class X SMK N 2 Stabat T. A. 2010/2011 with the implementation of Cooperative Learning Model

Type TPS (Think Pair Share). The average values obtained for the initial test 54,86 to test the final lesson in the cycle I was 61,31. Increase in the average value of student learning outcomes at the cycle I by 40,7%. For the second cycle the average value enhancement of student learning outcomes is 68,4%. After the test with a significant paired t test, the results indicate that significant changes occur in general.

The above research shows that cooperative learning model type TPS can be used as one alternative to improve student mathematics learning outcomes. Therefore, the role of teachers and student in teaching and learning process is essential in order to achieve the expected goals. Gunawan(2010) state that Think Pair Share Learning model would be optimal if the function is combined with learning strategies using Thinking Empowerment by Questions (TEQ).

Learning experimental research result carried out by Corebima(2006) had proven that TEQ in TPS strategy as well as in Jigsaw Strategy having bigger potency to empower student thinking skills then expository strategy. This fact related with the characteristics of TEQ learning strategy all well as cooperative.

This is supported by statement of Vivilia (2006:14) that Thinking Empowerment by Questions Technical is an empowering question pattern of reasoning. Display Thinking Empowerment by Questions Technical cursory look as a kind of Work sheet student is unknown at this time, substantial differences are very striking fact, substantial differences that have to do with characteristics very empowering student reasoning, of this can be seen that the Thinking Empowerment by Questions Technical is one tool that has the potential to develop reasoning student.

In this study, researcher selects cooperative learning model type TPS since these types of cooperative learning is designed to influence student's thinking patterns and alternatives for class structure as well as greater involvement of students in reviewing the material covered in the lesson. Topic chosen is Trigonometric function and equation who taught in cooperative learning model type TPS to improve learning outcomes of student in class X SMAN 1 Berastagi.



The above mentioned leads to the little of this research:

“The difference student mathematics learning outcomes using Think Pair Share (TPS) Learning Model by Using Thinking Empowerment by Questions (TEQ) Technical and conventional learning in First Grade of SMAN 1 Berastagi 2011/2012”

### **1.2. Problems Identification**

1. Student's mathematics learning outcomes is low.

It can be seen only 22,22% student pass in mid semester by criteria minimum competence is 70.

2. Student passive when teacher teaches by conversional model.

It can be seen from the teacher used teacher-centered learning model so students are less involved in the learning process.

3. Student's interest to study mathematics is low.

This is consistent with the expression of one mathematics teacher at SMAN 1 Berastagi who expressed an interest in students learning of mathematics is still lacking.

### **1.3. Scope of Research:**

The scope of this study is to knowing the difference student mathematics learning outcomes using Think Pair Share (TPS) Learning Model by Using Thinking Empowerment by Questions (TEQ) Technical and conventional learning in First Grade of SMAN 1 Berastagi 2011/2012

### **1.4. Problem Formulation**

Based on the scope of the research, then this study can be formulated as follows:

Is there difference student mathematics learning outcomes using Think Pair Share (TPS) Learning Model by Using Thinking Empowerment by Questions (TEQ) Technical and conventional learning in First Grade of SMAN 1 Berastagi 2011/2012?

### 1.5. Research Objectives

In accordance with the formulation of problems and restrictions that have been raised, the purposes of this study are as follows:

To get description the difference of student mathematics learning outcomes using Think Pair Share (TPS) Learning Model by Using Thinking Empowerment by Questions (TEQ) Technical and conventional learning in First Grade of SMAN 1 Berastagi 2011/2012

### 1.6. Benefits of Research

The expected benefitsoft this research is to obtain description about the effect of TPS to student achievement. When applied this research can give benefits like:

#### 1. ForStudents

- Improvestudents'activeroleinteaching and learning activities
- Increaseunderstanding ofstudentsinlearningmathematics, especiallyonthe subject oftrigonometry function and education.
- Increasestudentinterest in learningmathematics
- Improvestudents'mathematicslearning outcomes

#### 2. For teachers

This research can standard an inputfor the teacher tobe able toconsiderbe betterteaching models inmathematicslearning.

#### 3. ForSchools

The results ofthis studycan contributeto bothschools in the improvement ofmathematicsteachinginX RSBI SMAN 1 Berastagi.

#### 4. For other researchers

This research can inputsandcomparabletoother researcherswhowant toexaminethe sameissuesinthe future.

### 1.7 Operational Definition

1. Learning outcomes are scores of mathematics obtained by student through the evaluation after the learning process is completed.

2. Learning model is something of a plan or pattern that is used as a guide in planning the learning in the classroom.
3. Cooperative learning is learning which emphasis on active of student who form a group to achieve common goals.
4. Cooperative learning type Think-Pair-Share (TPS) is a cooperative learning where every student is given a chance to think in advance the answers the problems that have been given, and made in pairs and then share it with others by way of presenting the results of group discussion.
5. TEQ is the media used to achieve learning goals