

CHAPTER I INTRODUCTION

1.1. Background

Mathematics education cannot be regardless of mathematics itself. Therefore, for the learning of mathematics in developing the character of the students would be better if it first revealed the characteristics of an abstract mathematical object, namely, the empty symbols of meaning, and the agreement axiomatic deductive reasoning, and contradiction. Purpose of mathematics education must consider, (1) the formal goals, namely arrangements of reason and formation of the child's personality, (2) the purpose of that is material the application of mathematics and mathematical skills.

Mathematical is a subject that students learn formal education levels started from elementary through high school and even in Higher Education not be separated from mathematics. This indicated mathematics have important role in human resource development.

According to Jeremy (2002:10) suggests mathematical finesse:

Mathematical proficiency involves five intertwined strands: (1) understanding mathematics; (2) computing fluently; (3) applying concepts to solve problems; (4) reasoning logically; and (5) engaging with mathematics, seeing it as sensible, useful, and doable.

However are still there students who feel mathematics as a difficult subject? They think of mathematics as a difficult subject and feared. It is appropriate with Abdurrahman (2009:252) says: "from the various fields of study that has been taught in school, mathematics is a study of the most difficult lesson to students are not better learning disabilities and learning difficulties."

A factor can influence assessment of learning mathematics. Assessment of performance is requiring students to demonstrate the performance, not chose to answer a series of possible answers from the answer is already available. With a group learning method expected that students understand the formula concept. To

know understand the formula concept through patterns arranged itself, so that if one day forgets, students can rearrange the patterns will obtain the required formulas concepts. Group learning method combined with the model student teams achievement division based on the theory that students will more easily find understand difficult concepts when using this learning model. The research is descriptive describes explains events.

Problem solving is an effort made to resolve the problems found. Solving problems high-level aspects of thinking as a process of accepting the problem try to resolve the problem. Problem solving is an intellectual activity to find a solution to the problems encountered with use of sufficient knowledge of owned. The lower ability of solving the problem is students have difficulty in learning mathematics, lack of interest in learning teaching mathematics considers difficult to understand because students become lazy to learn mathematics. To acquire the ability to problem-solving students have a many experience in solving the problem. Students who have a many training to a higher value than students are less practiced.

Views about problem solving as a goal in mathematics curriculum means more emphasis in mathematics learning process students worked problems than the results obtained so that students ability learn problem-solving must be owned by the students in learning mathematics.

Addition to causing a failure in mathematics education for low ability students problems solving including inaccurate teachers select the instructional model that is used to deliver learning materials.

In the conventional teaching is more often performed by teachers because it is very simple. Teachers teach students in classrooms that have a one abilities minimum requirement. Activities of teachers in learning activities more stands out so learn centered dependent on teacher. For the learning of mathematics at the Junior High School (SMP) is less press understanding of the concept. Teachers generally select the easy and practical way to it but not how to make the

students to learn. When their exercise is given only able to work on the problems similar to those given by the teacher.

Based on the description , it is said that improving the quality of mathematics education in school , not be separated from classroom learning process that involves the interaction of students and teachers, so that increasing students' problem solving abilities have a concept design to achieve specified learning objectives.

System Linier Equation Two Variable is one of the classrooms learning materials mathematics in SMP. This is new material for the students because it has been studied in primary schools. However, many students have difficulties in learning understanding the System Linier Equation Two Variable.

Sometimes students assume the material System Linier Equation Two Variable is a difficult lesson to learn. This is supported by a test given at the time of observation the researcher class VIII SMP Negeri 11 Medan with questions that test understanding of students' mathematical problem solving. One of the questions used:

Sani age 7 years older than Ari. While the number of their ages is 43 years. What is the age of each ...

Based on the test results and the answer given most students only focused search for the answer without making strides in solving the problem. And to resolve the problem solving, there are four steps that must be done, namely:

- a. Understanding the problem
- b. Creating lesson plans
- c. perform calculations
- d. checking back

Of the 40 students who take the test, obtain the average score 68.78. Retrieved level overview of students' mathematical problem solving ability as follows: there is a level of 33.05% of students who are very good problem-solving skills, 15.75% of students are good problem-solving ability level, 8.69%

of students whose level of problem solving ability is quite good, 11.3% of students are low-level problem-solving ability. Of these cases can be concluded that the level of problem solving ability of students likely to subject matter or System Linier Equation Two Variable.

Of these data shows that students are less able to understand the problem, is due to the low level of students' ability in solving mathematical problems. Required math teacher is able to make students understand the matter to enhance the problem solving in mathematics.

Related to the above description, it is necessary to think about strategies or ways of presenting mathematical material so as to make students active and meaningful learning. One way to develop teaching and learning strategies to students as well as to improve its teaching mathematics is to use a learning model students teams achievement division (STAD).

Problem solving is a process that requires the ability and skills of students in activities. So in order to obtain meaningful learning objectives that will increase problem solving skills, new concepts and new information must be linked to the concepts that already exist or that have been known to students in the cognitive structure.

Based on the above background, the writer is interested in doing research on: **“The Difference of Mathematical Problems Solving Ability by Using Students Teams Achievement Division (STAD) and Direct Instruction (DI) on System Linear Equation Two Variable in Grade VIII SMP Negeri 11 Medan.”**

1.2. Problem Identification

Based on the background identification of problems:

1. The low ability problem solving in mathematics
2. The learning process used by teachers can not improve problem solving abilities
3. Learning outcomes of students still low
4. Many students are difficult to get the problem solving in completing the case by applying concept

1.3. Problem Limitations

From the problem above, so authors focus on difference on student mathematical problem solving ability by using Students Teams Achievement Division (STAD) and Direct instruction (DI) on system linear equation two variable in grade VIII SMPN 11 Medan.

1.4. Problem Formulations

Research question in this study is:

1. Is a mathematical problem solving ability by using Students Teams Achievement Division (STAD) higher than mathematical problems solving ability by using Direct instruction (DI) on system linear equation two variable in grade VIII SMPN 11 Medan?
2. How learning outcomes of student by using Students Teams Achievement Division (STAD) and learning outcomes of student by using direct instruction (DI) on system linear equation two variables in grade VIII SMPN 11 Medan?

1.5. Research Objectives

1. To know is the difference of mathematical problems solving ability by using Students Teams Achievement Division (STAD) and Direct Instruction in grade VIII at SMPN 11 Medan ?

2. To know how student learning outcomes using Students Teams Achievement Division (STAD) ?

1.6. Benefits of Research

1. For teachers, it can extend the learning by using STAD to help students.
2. As an input for the students that work in groups can completed solution
3. As input consideration for other researchers.

