

CHAPTER I

INTRODUCTION

1.1. Background of the Study

God has created every man according to His image (Genesis 1: 27). The students are the image of God so they should reflect God's characteristics. As an image of God, the man is representatives of God on the earth. God has given a cultural mandate for the man. God said that man should be fruitful and multiply, fill the earth and subdue it (Genesis 1:28). God gives talents for every man so that the man has the ability to rule other creation and subdue it. God said that every man has a responsibility to develop his or her talents through the parable of the talents (Mathew 25: 14-30). The falling of man into sin did not eliminate cultural mandate, although sin still continues to undermine human effort until Christ returned (Van Brummelen, 2008, p. 60). Therefore, Christian teachers should invite the students to manage their talents that have given by God.

Every student has a unique talent that was given by God. There were students who have talent in mathematics and others who have talent in the different aspects. Some students considered mathematics as a really difficult subject so they were afraid of being asked to solve mathematics problems. While other students really liked to learn mathematics and they did not have any difficulty in solving mathematics problems. Some students got good scores while others got bad scores. Some students could solve the exercise in a short time but others needed more time to solve the exercise. The students who were afraid of mathematics, needed longer time to solve the exercise, and got bad scores usually called as the lower students in mathematics. Most of the lower students in

mathematics did not realize their mistakes in solving problem so they often did not pass the minimum standard grade. These were a few problems in grade V students that the researcher saw during observation.

The researcher observed that some grade V students had difficulty in passing minimum standard grade in mathematics. Some grade V students got bad scores in daily test 1 and mid-test (see Appendix E-1). The lower students in grade V got a bad score in mathematics because either they did not understand the material or they did not do the arithmetic operations correctly. Even though the lower students did not like mathematics, they had to learn mathematics. They should achieve the minimum standard grade in mathematics too so they could be promoted to the next level. Most of grade V lower students did not realize that they needed to work harder in mathematics. The teaching strategy might cause this problem. The grade V lower students needed help them in order to increase their mathematics score.

Teachers have an important role in learning activity at school. They are the dominant determinant in education since learning activities is the core of the educational process as a whole (Rusman, 2012, p. 58). The teacher may help the lower students using effective teaching strategy for increasing cognitive achievement. A strategy is “a plan of operation achieving something” (Sanjaya, 2006, p. 125). A strategy must be arranged according to a specific purpose because a strategy for one thing is sometime different from that of others (Sanjaya, 2006, p. 129). The teacher should know effective teaching strategy to help the students get a good cognitive achievement. By using a right teaching

strategy, the teacher may help the lower students in mathematics to understand the material easier and pass the standard minimum grade.

There are many teaching strategies that the teacher can use to achieve the goal in cognitive aspect, for examples drill strategy and cooperative teaching. “Drill strategy is a strategy in which a piece of knowledge or skill is practiced until mastery is achieved” (Barry & King, 2006, p. 186). One of the strengths of drill strategy is the students acquire mental skills such as multiplication, addition, subtraction, symbols, etc. (Djamarah & Zain, 2006, p. 96). Because of that, mathematics teachers often use drill strategy to teach mathematics in the classroom. The students should become an individual learner in drill strategy. On the other hand, the teacher can also use cooperative teaching strategy to teach mathematics in the classroom. There are many kinds of cooperative learning models, for examples STAD, jigsaw, group investigation (GI), and structural approach. In cooperative teaching strategy, the students will learn cooperatively in a team. Therefore, cooperative teaching strategy and drill strategy has different procedures and characteristics.

Drill strategy is strategy with a teacher-centered approach because the teacher explains the material and guides the students in practicing directly. Tom V. Savage, Marsha K. Savage, & David G. Armstrong (2006, p. 233) found that direct instruction, a strategy that uses teacher-centered approach, has improved cognitive skills of the students dramatically through Project Follow Through, completed in the 1970s, involved 79,000 students in 80 communities. In the other hands, “Marzano and Associates, in their summary of various meta-analyses of nearly a thousand research studies, found dramatic increases in achievement to the

extent teachers used cooperative learning” (Kagan & Kagan, 2009, p. 1.4). This opens up question to discuss which one is better on increasing students’ cognitive achievement, cooperative learning or drill strategy. The researcher decided to implement Student Teams-Achievement Divisions, one of the methods of cooperative teaching, because STAD is the simplest method of cooperative learning so the beginner teachers can implement STAD easily (Ismail et al., 2008, p. 3.23). Thus, the researcher wants to compare STAD and drill strategy on grade V students’ cognitive achievement.

1.2. Statements of the Problem

According to background of the study, the statements of the problem in this research are:

- 1) Does the grade V students’ cognitive achievement increase after studying mathematics using STAD?
- 2) Does the grade V students’ cognitive achievement increase after studying mathematics using drill strategy?
- 3) Is there a difference between STAD and drill strategy in increasing grade V students’ cognitive achievement?

1.3. Purposes of Research

According to statement of the problems, the purposes of this research are:

- 1) To know whether STAD can increase the grade V students’ cognitive achievement in studying mathematics or not.
- 2) To know whether drill strategy can increase the grade V students’ cognitive achievement in studying mathematics or not.

- 3) To know whether there is a difference between STAD and drill strategy in increasing grade V students' cognitive achievement or not.

1.4. Benefits of Research

Based on the result of this research, the benefits of this research are:

- 1) The result of this research can be used as the reference for the next research about the influence of STAD and drill strategy in others aspect, such as the motivation and the activeness of students.
- 2) The result of this research is to suggest mathematics teachers to choose STAD or drill strategy in order to increase students' cognitive achievement on ratio.
- 3) The research can help the grade V students to experience different teaching methods, which are STAD and drill, so they will be more enthusiastic about learning mathematics and get good scores.

1.5. Definition of Terms

1.5.1 Student Teams-Achievement Divisions (STAD)

Student Teams-Achievement Divisions (STAD) is one of cooperative teaching methods that places the students in a heterogeneous team that contains the students from difference academic performance, gender, and tribe (Slavin, 2005, p. 144).

1.5.2 Drill Strategy

“Drill strategy is a strategy in which a piece of knowledge or skill is practiced until mastery is achieved” (Barry & King, 2006, p. 186).

1.5.3 Cognitive Achievement

“Cognitive achievement is the student's ability to master a set of skills or to acquire basic information enabling him or her to thoroughly grasp the subject being studied” (Galyean, 1979, p. 122).

