

CHAPTER I

INTRODUCTION

1.1 Background

“Learning is an interactive, continuous, organizing, and reorganizing process that leads to relatively permanent change in thinking and acting” (McCullough, 2013, p. 25). Learning is a broader concept than education because education brings people towards specific goals, which brings to the conclusion that education has a goal or aim to be achieved (Knight, 2006). Christian education has an aim to guide and direct students to be followers of Christ, and not just followers but responsible followers of Christ (Van Brummelen, 1998). Teachers, taking part as the educator in the education system, should realize that human has fallen into sin, which separated human with God. However, teachers also should see students as children of God, to whom Christ has died for.

More specifically, Van Brummelen (1998, p. 12) states that “Christian learning and teaching aims to discover God’s laws and apply them in obedient response to God.” Students are very complex because they consist of many different aspects. In the education system, students are assessed through cognitive, affective, and psychomotor aspects. All of the aspects are important and connected. God has blessed humans with the ability to think or cognitive skill to explore and manage His creations, this cognitive skill given by God is not just for humans’ satisfaction, but to bring glory to God’s name. Students’ cognitive skill is the most common skill used and assessed in Mathematics class, which requires students to develop their cognitive skill continuously.

One of the signs of learning is a change of attitude, it could be a change in cognitive, affective, or psychomotor (Siregar & Nara, 2010). Siregar & Nara (2010) also stated that one of the learning aspects is the application of knowledge. To measure students' ability to apply knowledge and concept learned in class, usually the teacher gives written tests to the students. The standard indicator to measure students' ability to apply knowledge is the passing grade which has been determined by the school. Through the researcher's observation from July 23rd in class 7A, the researcher found that there were less than 50% of students who could achieve the passing grade on formative and summative assessment. Through this fact the researcher saw a gap between the ideal condition and reality, in this case the ideal condition is a condition whereas most of the students could achieve the passing grade on tests, and the reality is most of the students did not achieve the passing grade on the test. Through the observation and discussion with teacher mentor the researcher also found that students did not fully understand the material when the teacher delivered the material in class, which brought the researcher to think that the problem occurred in grade 7 was conceptual understanding.

Before the researcher decided that the problem that occurred in grade 7 was conceptual understanding, the researcher had found various problems which occurred in that class. On the first meeting, the researcher found that the problem that occurred in the class is in affective area, however this problem was solved because the students were getting used to be taught by the researcher. On the next meetings, the problems that occurred in the class was in cognitive area, which involved students' conceptual understanding towards the material. In order to solve the problem, the researcher tried to implement Think Pair Share (TPS) method and

used teaching aids in learning activity, but the implementation of TPS and the usage of teaching aids did not work to improve students' cognitive ability. The complete description of the issue identification can be seen on Appendix 1. Through the process of issue identification, the researcher decided that the problem that occurred in grade 7 was conceptual understanding.

To confirm the problem, the researcher did a test to measure students' conceptual understanding in Mathematics. From 23 students, there were only 8 students (35%) who passed the passing grade, which is 72. After the problem was identified, the researcher decided to use Student Team Achievement Division (STAD) method to overcome the problem.

The implementation of STAD encourages students to support and help each other in order to master the concept taught by the teacher (Slavin, 2010). In STAD method, students are divided into groups of 4-5 students which consists of various ability, gender, and ethnics (Slavin, 2010). The researcher chose to implement STAD because unlike other methods, in the implementation of STAD every member of the group has the same opportunity to contribute in group from their individual improvement point, not their test result (Slavin, 2010). The researcher also chose to implement STAD because according to Slavin (2010), STAD is the simplest method of cooperative learning, and recommended for teachers who are still new in implementing cooperative learning. Through realizing that they have the same chance to contribute, students will realize that they need each other, and they will make sure that every member of the group has mastered the material. Overall, the researcher chose to implement STAD method in the class to improve students' conceptual understanding.

1.2 Research Question

Through the background of research, the researcher identified the problem found in class 7A and formulated the research questions. The questions in this research are:

1. Does the implementation of STAD method improve students' conceptual understanding in Mathematics?
2. How does the implementation of STAD method improve students' conceptual understanding in Mathematics?

1.3 Research Purposes

Through research questions stated above, the purposes of this research are:

1. To know whether the implementation of STAD can improve students' conceptual learning in Mathematics.
2. To know how the implementation STAD can improve students' conceptual learning in Mathematics.

1.4 Research Benefits

The benefits of this research are:

1.4.1. For School

The benefit of this research for the school where the research took place is to give an input to improve the quality of education in the school, especially in Mathematics department.

1.4.2. For Mathematics Teachers

For Mathematics teachers, this research can be used as a reference to apply an appropriate method to improve students' conceptual understanding in teaching "Set" chapter in grade 7.

1.4.3. For Researcher

The benefits of this research for the researcher are:

1. To improve researcher's ability as a teacher who identifies problems in the class and improves students' learning.
2. To develop researcher's ability to teach using cooperative learning in class.
3. To know the strength and weaknesses of applying STAD method in learning activity.

1.5 Explanation of Terms

1.5.1. Conceptual Understanding

“Conceptual understanding is merging and generalizing concepts, explaining concepts not only by memorizing but also applying those concepts in problem solving” (Murizal, Yarman & Yerizon, as cited in Tipa, Izaak & Appulembang, 2016, p. 95). The indicators of students' conceptual understanding those are used in this research are:

1. Give examples and non-examples.
2. Present concepts in different forms of mathematics representation.
3. Apply concepts logically.

1.5.2. Student Team Achievement Division (STAD)

According to Slavin (2010), STAD is a learning model that motivate the students to support and help each other to master the material given by the teacher. The indicators of STAD are the steps, which are: class presentation, group discussion, individual quiz, individual score improvement, and team recognition.