

CHAPTER I INTRODUCTION

1.1 Background

"Physics is the king of science". It is an appropriate expression for the Physics. Physics is a branch of nature science that underlies the development of advanced technologies and the concept of harmonious life with nature. Nowadays, the rapid development in the field of information and communication technology is affected by the findings in the field of material physics through the discovery of microelectronic devices that are able to contain a lot of information in very small size. As the study of nature phenomenon, Physics also gives a good lesson for people to live harmoniously under the laws of nature. Management of natural resources and environments as well as reducing the impact of natural disasters will not run optimally without a good understanding of Physics.

At the level of High School, Physics is essential to be taught as a separated subject with some considerations. First, beside providing science supplies to students, Physics is designed as a vehicle to increase students' thinking ability that are useful for solving problems in daily life. Second, Physics must be taught for a more specific purpose in order to equip the students with the knowledge, understanding and a number of capabilities required to enter higher education and develop science and technology. (BSNP: 2006). But, as the matter of fact, it indicates that the Physics is considered as the most difficult subject among the other subjects of nature science by the students.

The researcher has got the results of a preliminary study through the direct observation by interviewing the teacher of Physics and distributing questionnaires to students in High School 5 Binjai. From the test data that given by the physics teacher, researcher found students' learning outcomes in physics subject is low. Based on the data, nearly 60% of students are not able to achieve Achievement Minimum Criteria (EMC). Those results are not satisfactory, remember that school have standards AMC for physics lower than other nature science subjects,

namely 67 for the 1st grade. By distributing the questionnaires, the researcher has known the facts of students' difficulties in learning Physics. 66.7% of the students admitted that they do not interest to study Physics and only 33.3% of the students who admitted they interest to study Physics. After doing interview with one of physics teacher in that school, researcher knows that at that school teacher use conventional models such as lecture and question and answer, to teach physics. So, activity of students along learns physics just sit attention to teacher's explanation, write, and answer teacher's question.

The low outcomes of students in learning Physics are caused by many factors, they are: a intensive curriculum, the material in the textbook deemed too difficult to follow, the lack of media, the inadequate laboratories, the inappropriate use of instructional media chosen by teachers, the less optimal alignment of students themselves, or conventional way, where students are not involved actively in the learning process and the class activity is largely dominated by the teacher (Supardi: 2008).

From the various factors that cause the low students' outcomes in learning Physics, the writer is more to consider that the main factor that cause the low quality of learning are inability of teachers choose appropriate learning model, and make learning media that can interest students to learn physics.

Based on result of questioner in preliminary study about how to make how to make physics more interesting to learn, 43,75% students choose option (d). Physics must be practiced directly, 20.08% students choose option (a). Learning in group and 16.67% students choose option (b). Using instructional media, researcher thinks cooperative learning can solve the problem because in cooperative learning students can transfer knowledge that they get in learning each others.

One type of learning model that directs students to work together in a team is Cooperative type Student Team Achievement Division (STAD). Cooperative type STAD is a cooperative learning model that applied to face the ability of students who heterogeneous by level of achievement, gender, and ethnicity. To get the better result, this model can accompanied with instructional media to make

student more interest to learn physics. In this study, researcher chooses macromedia flash as a media to deliver information in learning. Macromedia Flash is one of FutureSplash animator that allows making animation on the computer screen in displaying images visually and more creatively. The work of this macromedia flash is by presenting animation visually in the form of text, images and so on that can be animated as we desired, based on the concepts being used. Through the application macromedia flash in this learning model, it is expected to facilitate the students in expressing how they look the problem and what the effect problem is.

Based on the background above, the researcher is interested to conduct research entitled " **The Effect of Cooperative Learning Model Type Student Teams Achievement Division (STAD) Aided by Macromedia Flash Media Toward Students' Learning Outcomes In Electrodynamics Topic at 1st Grade Students of SMA 5 Binjai.**"

1.2 Problem Identifications

Based on the background of the issues that have been described, the problem can be identified that are relevant to this study as follows:

1. Students' learning outcomes in physics subject is low.
2. Students not interest to learning physics.
3. Teacher use conventional methods (lecture, asking and answer) in teach physics.
4. Lack of involvement and activity of students in the learning process.
5. Lack of use of instructional media.

1.3 The Scope of the Study

To make it easier to understand the problem as well as conducting research, it is necessary to make problems limitation as following:

1. The topic that will teach is Electrodynamics using Cooperation Learning Model Type Students Teams Achievement Divisions (STAD) aided by macromedia flash as a media.

2. Learning outcomes that will research in cognitive, affective, and psychomotor (activity) aspect.

1.4 Problems Formulation

Based on the background above, problem identification and limitation of study above, so the problem statements in this research are:

1. How the average score of students' learning outcomes using Cooperation Learning Model Type Students Teams Achievement Divisions (STAD) aided by macromedia flash as a media on Electrodynamics topic at the 1st grade students in SMA 5 Binjai?
2. How the average score observation result of students' affective and psychomotor domain in using Cooperation Learning Model Type Students Teams Achievement Divisions (STAD) aided by macromedia flash as a media on Electrodynamics topic at the 1st grade students in SMA 5 Binjai?
3. Is there significant effect on students' learning outcomes Cooperation Learning Model Type Students Teams Achievement Divisions (STAD) aided by macromedia flash as a media on Electrodynamics topic at the 1st grade students in SMA 5 Binjai?

1.5 The Objective of the Study

Based on the problem of study above so the objectives that will be achieved in this research are:

1. To know the average value of students' learning outcomes of using cooperative type STAD aided by macromedia flash as a media in Electrodynamics topic at the 1st grade students in High School 5 Binjai.
2. To know the students' activity of using cooperative type STAD aided by macromedia flash as a media in Electrodynamics topic at the 1st grade students in High School 5 Binjai.
3. To know the significant effect of students' learning outcomes using cooperative type STAD aided by macromedia flash as a media in Electrodynamics topic at the 1st grade students in High School 5 Binjai.

1.6 The Benefit of the Study

- For School : Can give a good contribution in order to improve the learning process and improve the quality of schools by increasing student achievement and teacher professionalism.
- For teacher : As a consideration in selecting media in learning physics.
- For students : Students are more motivated to learn physics, because the abstract concepts of physics can be more real through cooperative type STAD aided by macromedia flash. So that learning process becomes more interesting and more attractive to increase students' understanding.
- For researcher : As a description to implement a more effective learning model and media that can be used as a reference in order to serve in the world of education.