CHAPTER I
INTRODUCTION

1.1 Research Background

Education plays an important role in efforts to increase human resources in the future. In an effort to improve the quality of education, today needs to be in sync with the improvement of teaching and learning process. Learning is also a complex activity and involves various aspects that are related to each other. Teaching is not solely for the meaning of the creation of submission, but also the meaning of creating a conducive environment. A conducive environment is a learning environment that allows students with teachers to interact fully to find meaningful and meaningful learning.

Sri Milfayety et al (2015: 10) says that "learning process is defined as the ongoing activity of information through senses that results in cognitive and behavioral renewal. The learning process or learning activity is defined as the experience of interaction between individual and educator and gives impact to the acquisition something new through sensory devices on cognition and behavior. " One of the factors that play an important role in learning activities is teachers. The role of teachers in the learning process of learners include planning, preparing, conducting and evaluating learning outcomes. Based on the teacher's role, the teacher's role must be improved to improve the quality of learning.

In improving the quality of physics learning, many things done by teachers, including: the selection of strategies, approaches, and learning models relevant to the condition of students and more empower their potential. Therefore, learning should be student-centered.

MoNE, (2006: 377) suggests that "science education is a vehicle for learners to learn about themselves and the environment and apply them in everyday life." Physics is a part of Natural Science, where the study of physics must show or show the form of science product the process of science and the attitude of science. On the basis of three subjects of Science or Natural Science, especially physics, students should be given the opportunity to prove the truth of existing

theories and provide an opportunity to discover something new. Physicist lecturers not only convey the concept of physical matter, but also emphasize the process and to foster the attitude of science. The objective of this requirement is to make the students understand the concepts and laws of physics they encounter in everyday life. Students are also expected to apply the concept of physics in everyday life and use the thinking and work of science to solve problems in everyday life.

Achievement of understanding in finding the concept of learning can be accessed through direct connection to SMA Negeri 5 Medan. The observations were interviewing teachers and randomly questionnaires to students. The first is that I interviewed the teacher Mrs. Imelda M Sitohang's with some questions. The questions are in the following sections: student interest, teaching and learning activities, learning models / methods, and school facilities.

The next questions is about student interest, Imelda's mother answered, students' interest in physics 50% interest in physics and 50% uninterest. Likewise with active 50% active students and 50% unactive. As for the execution of schoolwork or homework, students diligently do it. And for the results of learning Mrs. Imelda's explained that there are good and some less good.

The next questions on teaching and learning activities, from preparing lesson Plan, implementing lesson plan, material explanation by linking examples of daily life, asking questions and expressing ideas or opinions by students during the lesson, questioning by Mrs. Imelda when in need of learning, giving LKS to students and draw conclusions together with the students, Mrs. Imelda's answered "yes" with the meaning of doing it all.

The obstacles while teaching physics in class, Mrs. Imelda's replied that unpreparedness students receive learning if the hours of certain learning and textbooks are less adequate. For the assessment applied by Imelda's mother, Mr.s Imelda applied various judgments, namely from attitude, knowledge, skill and the three assessments can be numbers and letters. The minimal mastery criteria applied in physic learning is 70. And the average score that the students receive is

75 and the percentage of completeness is 60% -70% aided by the material of physics that Mrs. Imelda taught.

The next question about the model/methods of learning used or applied in class, Mr.s Imelda uses direct learning and experiments, the obstacles that Imelda's mother faces when applying the model/learning method are incomplete aids and acceptance from the teacher and school sometimes less respond well. For the students 'responses to the model/method being taught is good and influences the learning outcomes effectively in fostering students' interest and curiosity. Imelda's method applied in the learning process is the method of demonstration and experiment method, and the response from the students was good.

The infrastructure needed by Mrs. Imelda in doing the learning, the existence of physics laboratory used by students to do experiment, but in laboratory not yet complete the tools so that become obstacle when doing experimnet. Mrs. Imelda does not always use the tools in teaching physics lessons, depending on the material being taught. As a result of the limitations of the tool, not all students can use the tool so that the form of a group of experiment to help minimize the ignorance of students will practice tools. Damaged lab tools are also an obstacle facing Mrs. Imelda's during her practicum. And the most important is, the differences in student learning outcomes by using tools or media with no use of tools / media at all.

The division of questionnaires for students who randomly given to 11 students obtained: (1) those who like physics learning there are 36.36% of students who like physics, 36.36% of students who think that physics is a matter of course and 9.09% of students do not like the fiscal lessons; (2) book ownership:45.45% of students who have only 1 book, 27.27% of students have 2 books, and 27.27% of students have more than two physics books; (3) how teachers are opening the lesson, students 9.09% answered teachers provide an early test, 18.18% of students answering teachers' motivation fish members beforehand, 9.09% students answer teacher ask tasks, and 63.63% of students answer the teacher directly the material being taught; (4)

how many teachers teach in the classroom, 9.09% of students answered the teacher noted and gave the problem, while 90.9% of the other students left the teacher experimenting; (5) how way for teacher learning close: 63.63% of people answered the teacher concludes result of the learning and 36.36% of students answer the teacher gives the task; (6) learning physics is boring: 9.09% of students answer physics lessons boring, 27.27% of students answered the normal course and 63.63% of students answered exciting. (7) To understand the physics learning described by the teacher, 82.82% of students answered understand and 27.27% of students answered less understood. (8) students' learning: 27.27% of students answered practicum and demonstration, 54.54% of students answered many who worked on group questions and discussions, and 27.26% of students answered playing and learning; (9) For what is physics learning difficulty?, 18.18% of students answered very difficult, and 72.72% of students answered difficult and 9.09% of students answered easily; (10) What makes the students do not understand physics are: 27.27% of students answer the subject of physics, 36.36% of students answer the way the teacher delivered the material, 27.27% of students answered less interest to learn and 9.09% of students who answered the classroom situation which does not support.

The result of the questions asked by the researcher to Mrs. Imelda and the questionnaire given to the students , it can be concluded that Imelda's has not used the cooperative learning model of Student The Achievement Division type. So there is no comparison of cooperative learning or the view that cooperative learning is well used to improve student learning outcomes.

Based on such conditions, the selection of learning models and suitability with the media is expected to overcome the problems arising from the students' lack of understanding of the meaning of learning itself. So one effort to improve learning outcomes is to use cooperative learning model. A cooperative model is a model that emphasizes group cooperation. Arends (2008) says that, "students in a cooperative situation are encouraged or required to work on the same task together and they must coordinate their efforts to resolve the issue". The cooperative model used is a model of cooperative learning type Student Teams

Achievement Divisions (STAD). This learning model is a cooperative model that emphasizes group responsibility. Each student in the group should help each other in solving the problem. Furthermore Slavin in Rusman (2011) explained that, "The main idea behind STAD is to encourage students to encourage and encourage each other to master the skills teachers teach."

This is supported by the research of Endang P and Sri M (2013) in the journal entitled Descriptive Application of STAD Type Learning Model on the Essential Matter of Impulse, Momentum and Collision in Class XI SMA WAHID H a syim IV Waru Sidoarjo said that based on research results in get a very satisfactory management of teaching and learning process with on all aspects well.

Another reseach from Micheal M van Wyk (2012) in Journal entotled The Effects of the STAD-Coopertative Learning Method on Student Achievement, Attittude and Motivation in Economics Education said f pretest scores prior to instruction is not significantly different ($t66 = -0.078$, $p<0.05$). The results of post-achievement test indicate that the mean of post-test scores for participants in the experimental group that studied STAD as a cooperative learning technique are statistically different from the control group that learned via direct instruction ($t66= -5.231$, $p<0.05$). The findings from the experimental group, however, showed that STAD cooperatively, which took place in the experimental group, is statistically effective on the attitude toward economics education ($t168 = -4.018$, $p<0.05$).

Another reseach from Monchai Tiantonh and Sanit Teemuangsai (2013) in journal entitled Student Team Achievement Division (STAD) Technique through the Moodle to Enhance Learning Achievement said, the efficiency value of the lesson was found to meet the determined value of 80/80. It can be concluded that the lesson was efficient at the value of 83.05/80.40 according to the E1/E2 formula, which was higher than the determined value.

So as to improve the quality of educational output and create pleasant learning atmosphere, can be used cooperative learning model. Cooperative learning makes students work in teams in solving problems they encounter during the learning process. In this research, applied learning model

Student Team Achievement Division (STAD) which emphasizes on activities and interactions among students to motivate and help each other in mastering the subject matter in order to achieve maximum achievement.

There are some things that cause student learning outcomes are low, among others: (1) Students are still less active in doing the exercises in the learning process; (2) Students rarely ask questions even though teachers often ask students to ask questions. (3) lack of media usage in learning; These three things cause monotonous learning to focus solely on experimentation and tend to be one-way.

Bringle, Hatcher, & Williams in Donald L. Rubin and Paul H. Matthews. (2013, no 2: 71) An examination of Extant research on student learning outcomes assessment in study abroad and international service learning highlights the challenges of effective evaluation and shows a need for additional, high quality research in this area, especially studies that are quantitative and those investigating more than a single program.

The use of media in the present time should not be a new thing anymore, but also has become an integral part of learning. According Djamarah (2010), "Media can represent what the less able teachers to say through certain words or sentences. Even material abundance can be concretized by the media presence.

Media suitable for one of them is the media card problem. The question card is a card in which there is a problem / problem to be solved by the student who got the card. To work on or solve the problems or problems in the card the student can use experiments in the learning process later, and answers obtained from the experiment can be written on the card provided.

The use of test cards also helps to improve students' learning outcomes, this is supported by Dian P, et al (2013) in a journal entitled Comparative Study of Teams Games Tournament (TGT) Learning Methods with Problem Cards and Wheels on Student Achievement on Hydrocarbon Materials Class X SMU Negeri 7 Surakarta Lesson Year 2012/2013, indicates that the use of problem cards in the achievement of students is higher than the use of the wheel of dreams

Measurements are the subject matter that is studied in X class of SMA Semester 1. The measurement material is an important material in studying the

Physics lesson. In the measurement material contains a lot of complex concepts and theories that should really understand the students to get the correct measurement. For that required media and learning model that can create a fun atmosphere so that students can create a fun atmosphere so that students can better understand the lesson of Measurement. Using the cooperative model of card-assisted media on the subject matter of the measurement is expected to provide variations on the use of learning models that can create a fun atmosphere and not boring so that chemistry lessons are easily understood by students.

From previous observations or previous research and the importance of learning model of learning result make writer interested to do research with title **Effect of Using Cooperative Learning Model STAD (Students Teams Achievement Division) Type Assisted Card Test To Student Result On Measurement Class X SMA Negeri 5 Medan Academic Year 2018/2019.**

1.2 Problem Identification

Based on the description of the background issues mentioned above, then the identification of research problems are:

1. Students argue that physics learning is a difficult learning because it uses formulas.
2. The teaching and learning process is teacher-centered only
3. Lack of student learning outcomes.

1.3 Scope of problem

From the above identification, the limitations of the problem in this study are limited to:

1. The study of physics learning only uses the cooperative model of Student Teams Achievement Division (STAD) type assisted of media card test.
2. The use of STAD type cooperative learning model only on the subject of Measurement for class X MIPA semester 1.
3. Learning outcomes obtained from the students of class X MIPA SMA Negeri 5 Medan

1.4 Problem Formulatin

The formulation of problem in this research are:

1. How are student learning outcomes taught using cooperative learning model STAD type assisted card test?
2. Is there any effect of cooperative learning model STAD type assisted card toward student learning outcomes of class X SMA Negeri 5 Medan?

1.5 Research Objective

The research objectives in this research are:

1. Knowing the learning outcomes of learners who are taught using cooperative model STAD type assisted card test
2. Knowing the effect of learning outcomes studing using model STAD type assisted card toward the student class X in SMA Negeri 5 Medan.

1.6 Benefits of Research

The expected benefits in this study are:

1. For students, to facilitate in understanding the lessons and improve learning outcomes
2. For teachers, as a learning input materials in improving student learning outcomes.
3. For the researcher, give experience teaching material using cooperative model type STAD assisted card problem.
4. For schools and other institutions, can be used as information and study of physics learning development.

1.7 Definition of Research

1. STAD type cooperative learning model is one of the cooperative learning that emphasizes on group learning activities, where students are actively conducting discussions, cooperation, mutual help, and all group members have a role and responsibility to influence the pattern of student interaction and have a goal to increase the mastery subject matter

2. Learning outcomes are the abilities that students gain after the interaction between students and teachers through learning activities that can be measured and assessed.
3. Card Test is a question card containing the matter of measurement matter, students will be given blank paper to solve the problem or problem in the card of the problem