

## CHAPTER I

### INTRODUCTION

#### 1.1. Background

In achieving learning outcomes that expected, it is necessarily to consider factors that affect the learning process. One of them is the strategy of teachers in choosing a model of learning, so that the appropriate teaching and learning strategies will provide a satisfactory student learning outcomes. As expressed by Ramadhan, (2008), "Physics lesson taught with the aim to prepare students to be able to apply the concepts of physics in daily life by practicing, doing the observations, doing the experiments, discussing, and drawing the conclusions from the activities". So that the students discover, prove, realize and apply the concept in daily life. Thus it doesn't emphasize the physics lesson result only, but the process to get the results preferred.

Based on the experience of teaching at SMA Negeri 1 Perbaungan when implementing *PPL* (teaching training) it appears that in physics learning in class XII-Science, students tend to be passive to the teaching provided by teachers, it make the student have low interest in studying physics.

From the results of observation done to the mark of student's MAN 3 Medan, it show that the general test results achieved by students in physics as an indicator of cognitive competence achievement is quite disappointing the teacher. The physics average mark obtained by the students didn't reach the Complete Minimal Criteria (CMC) as known as *KKM*.

Based on the results of interviewing the teachers of physics at MAN 3 Medan, Jauharah Cut Ali, S.Pd, M.Si, she revealed that the difficulty in learning is difficult to motivate and encourage the students' interest to do the exercises of physics. Then, the students are less motivated and less active in asking questions and issuing their arguments during the process of learning physics. The students aren't motivated to learn in groups, they felt it was difficult to solve the problems of physics, and students more often memorizing mathematical formulas of physics than trying to understand the concepts and principles of physics. There are many

students argue that the physics is not attractive and it is the most difficult . These factors influence student learning outcomes become low.

The conditions that occur in the classroom that researcher obtained when observing one of the classes, the learning process is still teacher center (teacher-oriented) that teachers act as a major subject in the teaching learning material by conventional and lecturing method, and the students just receive what's given by the teacher. This is why the learning outcomes are not in line of expectations, since students only get theoretical knowledge and act passively, while teachers are active in providing information.

One of part that plays an important role in the resolution of this problem is the teacher. The teacher as a facilitator role in providing services to facilitate students in learning activities. It is very urgent for teachers to understand the characteristics of the subject matter, learners or students, and learning methodologies in the learning process, especially about the selection of a modern learning models (Trianto, 2010)

One of alternative that can be developed by teachers to improve students' physics learning outcome is using teacher's approaching in choosing the way of learning that able to give motivation to increase the students interest of physics to be more active and creative in learning. The teacher must continue to be able to direct a more precise, efficient and effective way of teaching.

For that aim, it is necessary to use a model of learning in hopes of student learning outcomes can be improved, especially in the teaching of dynamic fluid,. There is a possibility of less precise application of learning models as a factor in the lack of the ability of students to solve problems of dynamic fluid. If the learning model is not appropriate, then it will have a negative impact on learning outcomes. So that it is necessary to use a suitable model of learning in hopes of student learning outcomes can be improved, especially in solving problems of dynamic fluid, and one of the many valuable learning model is effective in improving student learning outcomes is a model of Cooperative Learning.

Cooperative Learning Model is a model of learning is done in groups to achieve shared learning, where students are actively communicating it in the form

of group and discussed jointly with another group. Research conducted in Solihatin (2007: 13), found that "Applying the model of cooperative learning, it develops students' attitudes and behavior towards democratic atmosphere in the classroom". In addition, the use of small groups of students to encourage students more excited and motivated to learn science.

Solihatin's Research (2007: 13), found that "the use of cooperative learning models are very encouraging 20% increase in student achievement and can enhance students' ability to learn independently".

The results of the above research shows that cooperative learning models have a very high effectiveness for the acquisition of student learning outcomes, in terms of its influence on the mastery of the subject matter as well as training and developing of attitudes and social skills that are beneficial to students in his community life.

Sanjaya (2006) said that the cooperative learning model can be used by teachers when:

- a. She stressed the importance of a collective effort on the side of individual effort in learning
- b. If the teacher requires all students (not just smart students only) to get success in learning.
- c. If teachers want instilling that students can learn from other friends, and learn from other people's assistance.
- d. If the teacher wants to develop communication skills as part of the curriculum content
- e. If the teacher wants to increase motivation of students and increase their level of participation
- f. If the teacher requires the development of students' ability to solve problems and find solutions solving.

The success of learning according to the model of learning is not just determined by the ability of the individual as a whole, but rather the acquisition of learning it will get better when done together in small learning groups are structured properly. Through learning from peer friends and under teacher supervising, then the process of acceptance and understanding of the students will be more easily and quickly to the material being studied.

The rapidly development of information and technology now, able to apply as media that support in creating the helping device in learning process. Using of software that developed with interactive animation program that is visualized can make the students able to understand the real physics concept (Ramadhan, 2008)

The combination of Cooperative Learning Type GI that use the game tournament with animation media will make physics learning more attractive and it can take students' interest and become love physics as science so that they learn physics enthusiastic and enjoy it as funny learning and at last it increase their achievement and physics learning outcomes than use conventional learning.

Based on the background above, the researcher are interested in doing research with the title, The Effect of Cooperative Learning Model through Group Investigation (GI) Type Using Animation Media in Increasing Physics Learning Outcomes of Students MAN 3 Medan.

## **1.2. Identification of Problem**

Based on the background above, we can identify the problems that are relevant to this research are:

1. The learning process still dominated by the teacher (teacher center)
2. The students are less active in asking questions and arguing the argument during the physics learning process in the classroom
3. Students argue that the physics is not attractive and it is the most difficult lesson.
4. The physics average mark obtained by the students didn't reach the Complete Minimal Criteria (CMC) it means the students learning outcome is low.

## **1.3. Limitation of Problem**

Because the extent of the problem and lack of expertise, time and cost, the researcher needs to make the boundary problem in this study. As the limitation of this study is:

1. Effect of physics students' learning outcomes seen in the presence of a significant effect of learning cooperative learning model through GI Type using animation media.
2. The physics learning outcomes of student are the cognitive scores that represent the conceptual knowledge obtained from the research instrument test with the topic is the dynamic fluid and for psychomotor is the inquiry skills
3. This research will be conduct to students of class XI MAN 3 Medan in Even Semester Academic Year 2014/2015

#### **1.4. Formulation of Problem**

To clarify the research problem, the boundary problem in this research are:

1. How the physics learning outcomes of the student which was taught using Cooperative learning model through GI type using animation media in material Fluid Dynamic?
2. How the physics learning outcomes of student which was taught using conventional learning in the material Fluid Dynamic?
3. Is there the significant effect of Cooperative learning model through GI type using animation media in Increasing Physics Learning Outcomes of Students MAN 3 Medan?

#### **1.5. Objectives of Research**

The objective of this study are as follows:

1. To know the physics learning outcomes of the student which was taught using Cooperative learning model through GI type using animation media in material Fluid Dynamic.
2. To know the physics learning outcomes of student which was taught using conventional learning in the material Fluid Dynamic
3. To know the significant effect in physics learning outcomes of the students that was taught using Cooperative learning model through GI type using animation media in Dynamic Fluid material.

## 1.6. Benefits of Research

The expected benefits of this research are:

1. For the students

Instilling the ability to cooperate in resolving the problem, create a pleasant atmosphere in the learning of physics and encourage the students' interest to learn the physics so that increase student physics learning outcomes.

2. For the teacher

As the reference to choose the learning model that suitable to the subject matter.

3. For University Students

As a matter of information for students who are conducting research using cooperative learning model of learning in improving the quality of the learning process in education world.

4. For Researcher

This study became a valuable experience to improve the implementation and knowledge of learning about physics by the Cooperative learning model through GI type using animation media in the classroom.