

CHAPTER I INTRODUCTION

1.1 Background

Progress of a nation is determined by the quality of human resources. The quality of human resources is dependent on the quality of education. Education plays an important role in the development of the nation because of education as a way to educate the nation. The success of development in the field of education will greatly influence the development in other areas. Therefore, the development in the field of education implemented. Human resource potential is needed to be able to educate education such as the development of science and technology. One of knowledge that must be possessed to anticipate the development of science and technology is the science of physics. Therefore, physics is placed as one of the subjects that are important because one of the requirements mastery of science and technology related to natural science which includes physics. Physics is part of the natural sciences, which is essentially the search for understanding of natural phenomena and phenomena that occur in it. More simply it can be said to be closely related to the physics of everyday life.

Based on field work conducted in SMAN 1 Tebing Tinggi, found that many students who misunderstood the physical sciences. Teachers teach physics to form calculations without using concepts, so students often assume that physics is only filled with formula's that elusive cause of student participation in learning physics is low. At the time of observation, researchers looked at the list of student scores list last year that the results of class X student of the subjects of physics approximately 70% of the 40 students worth 65 down in 2011/2012, this means the average value of the KKM not meet the 65 . When asked the teacher of physics, the value of the result is remedial. From this it is clear that the student wishes to follow the teaching of physics is still low.

Based on interviews with one of teacher of physics class X SMA Negeri 1 Tebing Tinggi , found that low student learning outcomes in the study of physics due to impress learning center teacher to make the atmosphere of learning to be monotonous. The learning process is still centered teachers tend to make classroom learning environment becomes rigid because the communication that exists only in one direction only. One of them is the cause of his lack of instructional media that teachers so that teachers are less variable in explaining. The learning process which is always centered on the teachers make learning becomes passive, sleepy, unpleasant, boring and even sometimes students want a quick lesson ends. During the teachers still teach physics with a lecture and only emphasize the formula it will create interest and motivation of students to learn the lesson will be low, so that the study results will be low as well.

Based on the results of preliminary studies conducted in SMAN 1 Tebing Tinggi class X by distributing questionnaires to students, data showed that of the 38 students, 40% said that physics is difficult and less attractive, 60% said that physics is mediocre, while the activities teaching and learning physics, 50% want to learn while playing and 35% want the lab and demonstration. The reason students say this because during this study only explain the physics of matter and formulas, students record and then work on the problems, which makes students less enjoys physics lesson. One of the government's efforts to improve Indonesian education is to establish educational unit level curriculum. Curriculum development unit level needs to be supported by a conducive learning environment for the creation of an atmosphere that is safe, comfortable and orderly, so that the learning process can take place with fun (enjoyable learning). A climate will lead to more emphasis on the learning process of learning to know, learning at work (learning to do), a self-learning (learning to be), and learn to live together. The atmosphere will accumulate independence and less dependency among the school community, are adatif, and proactive and have an entrepreneurial spirit high (resilient, innovative, and risk-taking),, not only for students, but also teachers and leaders (Mulyasa 2006 : 33).

In line with these problems, in the process of learning physics required an innovative learning model that can encourage student learning, which makes the atmosphere of learning becomes fun. One alternative that can be used to improve student learning outcomes in the study of physics is to engage students in learning. Teachers should be able to create or deploy an enjoyable learning model. The model is a model that should be used to attract the attention of students to have high motivation to study physics. One alternative learning models that can engage students in learning activities is Advance Organizer. Advance organizer is a cognitive structure that is able to help students recall what they have learned and transfer knowledge to new material. Ausubel perceya that cognitive structures that exist within a major factor that determines whether the new material will be useful or not and how this new knowledge can be obtained and maintained properly, so that learning becomes meaningful. Advance organizer purpose learning model is to give students the information needed to learn a lesson or help in remembering and applying existing knowledge. Advance organizer learning model is used as the concept of a bridge between the new material and the material that has been owned by the student. Creativity as the ability to create something new as the ability to create something new, as the ability to deliver new ideas that can be applied in problem solving, or as the ability to see the new relationships between the elements of preexisting (Munandar, 1999: 25).

In the implementation, advance organizer teaching model also assisted with mind maps or mind map. Map of mind is a thinking system that works in accordance with the natural workings of the human brain and is able to bamboozle the entire potential capacity, and the ability of the human brain in order to ensure the level of creativity and higher thinking skills to use (Windura, 2008: 3).

Result of research of sitorus(2007),siregar(2006), Tumanggor(2007)show that the learning model Advance Organizer makes it more fun and able to provoke students to be more active during learning activities. Advance Organizer learning model using a mind map is more powerful than conventional learning to improve student learning outcomes.

Based on the results of research previous , the researchers felt compelled to re-examine the efforts made to overcome the weaknesses in previous research. Researchers will further optimize the allocation of time for each stage of learning, so that the allocation of time for each stage of learning that have been defined in the plan of implementation of efficient learning. In addition, researchers will also use mind maps as a learning tool to help students in capturing explanations, ideas and more easily recall the lessons so as to maximize the learning process.

Based on the above description, the authors are interested in conducting a study entitled "**The Effect of Mind Map Based Advance Organizer Learning Model On Student Achiment Of Heat Topic in Class X SMA N 1 Tebing Tinggi Academic Year 2014/2015 ."**

1.2. Identification of Problems

Based on the background of the problems that have been described, it can be identified issues that are relevant to the research include:

1. The results of a low learning so that students assume physics is a difficult subject, many formulas and boring.
2. Teachers teach physics to form the calculations without using the concept in advance so that students have difficulty in understanding the physics.
3. The desire of students to follow the learning of physics is still low so that the result is not optimal student learning and still low.
4. The media is very minimal learning makes learning models that teachers use less varied.

1.3. Scope of Problem

Based on the extent of the problem it is necessary to limitations in this study as follows:

1. Student learning outcomes are examined using model-based advanced organizer Mind map.
2. Learning media used in the learning process in N 1 Tebing Tinggi School.

1.4. Formulation Of The Problem

Based on the problem definition, the formulation of the problem in this study is expressed as follows:

1. Is there an increase in the activity of students using learning model Advance Organizer by using Mind Maps to the learning outcomes of students in the subject matter in the heat of class X Semester II SMA Negeri 1 Tebing Tinggi Academic Year 2014/2015 ?
2. Is there a difference between learning outcomes of students who were taught by Advance Organizer learning model using Mind Maps to Advance Organizer learning model without a Mind Map to the learning outcomes of students in the subject matter in the heat of class X Semester II SMA Negeri 1 Tebing Tinggi Academic Year 2014/2015 ?

1.5. Research Purposes

The objectives to be achieved in this study are:

1. To know the results of student learning using model-based Advance organizer Mind Map to the learning outcomes of students in the subject matter in the heat of the semester II class X SMA N 1 Tebing Tinggi Academic Year 2014/2015.
2. To determine the effect of learning models Advance organizer bebasis Mind Map to the learning outcomes of students in the subject matter in the heat of Semester II Class X SMA N 1 Tebing Tinggi Academic Year 2014/2015.
3. To determine the activity of students during the learning by using model-based Advance Organizer Mind Map on the subject matter in the heat of Semester II Class X SMA N 1 Tebing Tinggi Academic Year 2014/2015.

1.6. Benefits Of Research

The benefits of research are expected to be useful for:

1. As a comparison for future researchers who will examine the same learning model.
2. As a matter of information for teachers to choose the model that better learning and appropriate to the learning process.
3. In addition to insights for researchers in physics teaching in the future so that students become interested in physics.
4. The reference material that can be used to conduct further research to researchers.

