CHAPTER I

INTRODUCTION

1.1 Background

With the rapid and extensive development of science and technology that virtually covered all aspects of human life, currently almost no aspect of human life that is untouched by technological advances that require humans to more progress in life such that education has an important role in following the development of science.

Education is the way to develop the mentality of nation life that appropriate with the fourth paragraph of preamble of *Undang-Undang Dasar 1945*, also to get the goal of national education. *Undang-Undang No. 20 Tahun 2003* about National Education System that give priority to decentralization of education have been give the big chance for education development, include the development of learning media that used. In learning process, media has the important part. Because media can be a bridge between teacher's explanations to the student's comprehension when the subject matter can't be explained only verbally. Complexity of the subject matter to be presented to the students can be simplified by using media.

According to the original observation result that has done by the researcher in Grade VIII SMP Negeri 1 Tebing Tinggi Academic Year 2011 / 2012, there are several Grade VIII mathematics teachers in the school that still teaching by using conventional learning model with white board media as long as the learning process. It can be build the condition where the students assume that mathematics is the bore lesson and difficult to understand. The difficultness to understand the matter causes the learning achievement of student in grade VIII become far form that expected. According to Mr. Saheri, one of teacher who taught mathematics in grade VIII, the mathematics learning achievement of students in grade VIII in 2011 are still very low with average grades for mathematics class is 55-60.

Actually, students will feel attracted to a lesson if it presented with more interactive and full color. This case becomes the one of factors of student's mathematics learning outcome level. This is the concentration of the author in the

study thought; there is the change of learning media that used by the teacher such that learning process is more attractive for the students. It expected can increase the learning outcome of the students.

Actually, there are so many media that can be used in learning process. One of them is *macromedia flash*. Macromedia flash is one of media that has the features that provide the required to create animation and presents the dynamic and communicative animations. By using macromedia flash we can present an animation that can increase the interest and creativity of students in following the learning activity. Besides that, it is expected to facilitate students' comprehension of the concept of a subject matter.

ASSURE Model developed by Sharon Smaldino, Robert Henich, James Russell and Michael Molenda in the book *"Instructional Technology and Media for Learning"*. Learning design model is an abbreviation of the components or steps contained therein, namely:

A: Analyze learner characteristics

S: State performance objective

S: Select methods, media and materials

U: Utilize materials

R: Requires learner participation

E: Evaluation and revision

This learning model is more oriented to the use of media and technology in creating the learning process and the desired activity. Utilization ASSURE instructional design model needs to be done stage by stage (systematic) and comprehensive (holistic) in order to deliver optimal results, namely the creation of successful learning.

This is a procedural instructional design model that is built to create learning programs that are effective, efficient and attractive. In this model the use of media and technology is a must because it is used to assist students in achieving learning objectives. The use of media that goes along with learning method and strategy will be able to engage students in learning activities are intensive.

Information that obtained from interview with Mr. Saheri, also states that the Pythagorean Theorem is still one of the subject which is considered difficult for students and resulted in low yields of their learning. Still a lot of students have difficulty in understanding about Pythagorean Theorem especially about how to determine the hypotenuse of a right triangle such that the students find the difficultness in solving the problems that related to the Pythagorean Theorem. By using ASSURE learning model cooperatively with flash as the media is expected to provide a positive influence on student learning achievement, especially in Pythagorean Theorem.

In the presence of this learning media for the proper subjects of Mathematics is used as research tools. Macromedia flash is expected to assist teachers in explaining the subject matter, so that teachers can implement interactive learning. Such that students will be better understand and appreciate the subject matter given by the teacher. This is what forms the background the author in effort to conduct the research entitled: The Comparison of Student's Achievement Through ASSURE Learning Model By Using Macromedia Flash Individually and in Group on Pythagorean Theorem Topic in Grade VIII SMP Negeri 1 Tebing Tinggi Academic Year 2012/2013.

1.2 Problem Identification

From the background above, the existing problems can be identified as follows:

1. There is a possibility of differences in student learning achievement in the presence of differences between ASSURE teaching model by using flash that learned in group and individually.
2. Lack of student interest in learning math.
3. Less precise learning modes used to teach by math teachers in presenting the subject in particular is likely to affect learning achievement in mathematics.

1.3 Limitation Problem

This research is focused on:

1. Mathematics learning achievement of students in this research was limited on the learning outcome after learning process in Pythagorean Theorem matter.

2. The subject matter is presented trough a presentation slide by using animation with *flash*.

1.4 Problem Formulation

According to background and limitation problem that explained above, then the problem formulation in this research is:

1. Is the student's achievement through ASSURE learning model using flash in group higher than student's achievement through ASSURE learning model using flash individually in grade VIII SMP Negeri 1 Tebing Tinggi on the Phytagorean Theorem subject matter?

1.5 Research Goal

According to background and problem formulation, then the goals of this research is:

1. To determine whether the student's achievement through ASSURE learning model using flash in group is higher than student's achievement through ASSURE learning model using flash individually in grade VIII SMP Negeri 1 Tebing Tinggi on the Phytagorean Theorem subject matter.

1.6 Benefits of Research

1. Theoretically

   It is as the effort to contribute the knowledge in insight development of mathematics teaching media and learning model, especially on the Pythagorean Theorem subject matter. So that it can help the mathematics learning process in school in developing an integrally mathematics comprehension in cognitive, affective and psychomotor.

2. Practically

a. This research is expected to contribute to development of learning mathematics especially in development and utilization of teaching media and learning model.

b. For educators, it is information to effort to improve and increase the knowledge and expertise and creativity in using learning media and learning model effectively and efficiently.

1.7 Operational Definition

To avoid misunderstanding in interpretation of the purpose and the goal of this research and also set of problems that discussed then the author feel necessary to clarify and reaffirm it. In the research with title "The Comparison of Student's Achievement Through ASSURE Learning Model using flash individually and in group on Pythagorean Theorem Topic in Grade VIII SMP Negeri 1 Tebing Tinggi Academic Year 2012/2013" the Author feel necessary to explain the meaning of terms in the research title, i.e.:

1. Student Achievement : Student Achievement is the result of changes in behavior after a group of students doing mathematics teaching and learning activities. To obtain the difference in learning achievement, then used test in this study as a tool to measure the indicators of learning.

2. Learning Model : learning model is a frame of the application of an approach, strategy, methods and techniques of learning.

3. Media : Media literally means an intermediary that transmits information between the source and receiver. While the media is intended in this study is a medium of learning, where the notion of learning media itself is a physical device used to convey the content of teaching materials.

4. *Macromedia Flash* : Macromedia flash is an interactive vector-based animation program that is often used in web design. As an animation program, Flash has the advantage of other animation programs because of the action script facility so that animation could be more interactive.