

## **CHAPTER I**

### **Introduction**

#### 1.1 Background

Education is one of the manifestations of human culture that is dynamic and full development. Therefore, changes or educational development is something that should happen aligned with the changing culture of life. Changes in the sense of improving education at all levels need to be continuously being done in anticipation of future interests.

Education that can support the future development is education that develops the potential of learners, such that he would be able to face and solve life's problems that it faces. Education should touch the conscience of the potential and the potential competence of learners. The educational concept was even more important when a person has to enter the life in the community, because he should be able to apply what is learned in school to deal with problems encountered in daily life today and tomorrow. Education that can support the future development is education that develops the potential of learners, such that he would be able to face and solve life's problems that it faces. Education should touch the conscience of the potential and the potential competence of learners. The educational concept was even more important when a person has to enter the life in the community, because he should be able to apply what is learned in school to deal with problems encountered in daily life today and tomorrow.

Improving the quality of human resources is also one that should be implemented, especially in the moment of globalization era that demands a readiness to compete. The field of education plays a very strategic because it is one vehicle for achieving quality human resources. Therefore, it is supposed to when the construction of the education sector is a top priority that must be done.

The main problem in adult education is still low absorptive capacity of the learners. It appears from the average value of the study of students who always still cause for concern, which is one example of physics. Based on the authors' experience in SMAN 13 Medan, there are some problems found in learning physics. The views of students about the physics lessons were poor and often

becomes a very frightening specter for them, they are mostly found that physics is a very difficult lesson, filled with formulas, and many abstract concepts. By the time work on the problems most students do not know what to wear formula that is in use, so one might think that physics is a difficult subject.

The facts show that learners are less able to relate the lessons that have been obtained from the teacher into everyday life. This is related to the lack of practice over theory learned and laboratory use are not effective in school. Moreover there is no supporting media such as audio-visual learning is used in learning.

There are many factors that lead to student learning outcomes is low, such the habit of students learn only receive information from the teacher without knowing what the meaning of that information so that students feel bored in learning physics, lack of interest in learning physics in which it is seen when students often complain when will learn physics and the submission of the teachers in teaching less attractive where teachers often do a lecture, although sometimes teachers do different methods such as demonstrations and discussion method. This may be due to the teaching of physics served only focuses on knowing the concepts, laws, principles and theories without connecting material learned in everyday life.

Basically, students may not be suitable learning methods so that students are not so able to follow the lessons of physics. The learning method like this makes students saturated and assume that physics is a subject which is very difficult to understand, abstract, boring so the lesson is not much liked by the students, so that the situation and learning conditions are a lot of students are less active and less participation in learning and the effect on the rate student achievement should be less than optimal.

In fact at the time the author conducted a test in SMAN 13 Medan, there are many students that learning outcomes have not reached the value minimal completeness criteria. Minimal completeness criteria is 75, therefore, the use of learning models such as this is one factor should change in the moment learning

system, especially in physics. In this case, the students still think that physics is difficult.

In connection with the above problems, it is an alternative that can be used to overcome this problem is by using a model of inquiry learning. Because in this model the main goal of learning activities are: (1) the maximum student involvement in the process. (2) focused its activities in logical and systematic learning objectives, and (3) develop a confident attitude of students about what was found in the proceedings.

According to Sanjaya states that the inquiry learning takes students to a subject that contains puzzles. The issue presented is a question that challenges students to solve the puzzle. Students are encouraged to look for the right answer. Through this process students will gain valuable experience in an effort to develop mentally through the process of thinking. According to Joyce (2009: 349) students in class where students act as investigators should be able to solve the problem and besides that student have the knowledge and skills. According Trianto acquired knowledge and skills students are expected not from the results given set of facts, but the result of finding themselves. Teachers should always design the program find, whatever the material being taught. According Trianto (2009: 314) learning begins with the problems described teachers, where students can be encouraged to explain why a phenomenon occurs and students can share or exchange data with the completion of another student.

In inquiry-based science education, children become engaged in many of the activities and thinking processes that scientists use to produce new knowledge. Science educators encourage teachers to replace traditional teacher-centered instructional practices, such as emphasis on textbooks, teachers, and scientific facts, with inquiry-oriented approaches that (a) engage student interest in science, (b) provide opportunities for students to use appropriate laboratory techniques to collect evidence, (c) require students to solve problems using logic and evidence, (d) encourage students to conduct further study to develop more elaborate explanations, and (e) emphasize the importance of writing scientific explanations on the basis of evidence. Sandoval & Reiser(2004) pointed out in order to build

the inquiry-based classroom environment must construct a community of practice like the scientists work. In authentic inquiry-based activities, the students take action as scientists did, experiencing the process of knowing and the justification of knowledge. (Abdi Ali ,2004:37)

Inquiry based learning is defined as the process of learners creating meaningful and useful knowledge from knowledge at-hand by asking question, drilling, and analyzing the knowledge. In the learning environments where inquiry based learning take place, students perform the experiments and the activities individually or in groups, and thus it is made sure that knowledge becomes more meaningful and more permanent. In this process, student tries to respond to the problems to be answered or solved with their research which they construct trough active participation. (Bayram 2013:989)

Learning model in accordance with the characteristics of the learning material and the character of the students in the class should provide a greater contribution to the development of student learning. Therefore, the concepts in the learning material a lot of abstract geometry in this case it is realized that there needs to be related to the daily life of students, as well as the situation of students of different cognitive abilities, so in this study used a model of structured inquiry-based learning approach. Inquiry structured approach used in this study is expected to help students improve their understanding of the concept of geometry. In addition, structured inquiry approach is also expected to develop intellectual thinking skills and other skills such as asking questions and finding answers originated skills of their curiosity. Thus they will be familiar such as rigorous science, diligent, objective, respect the opinions of others and creative (Salim 76:2015)

According to this model, “after a period of practice in teacher–structured inquiry session’s student can undertake inquiry in more student–controlled settings. A stimulating event can be set up in the room, and students can inquire on their own or in informal groups, alternating between open-ended inquiry sessions and data gathering with the aid of resource materials.”(Siddiqui 109:2013)

The inquiry phases shifted throughout the students' investigations, but the Consolidating phases of discussion and communication were given less space. The data phase of inquiry seems essential as a driving force for engaging in science learning in consolidating situations. The multiple learning modalities were integrated in all inquiry phases, but to a greater extent in preparation and data. Our results indicate that literacy activities embedded in science (Marianne 275:2013) Inquiry provides support for teaching and learning science; however, the greatest challenge for teachers is to find the time and courage to exploit the discussion and communication phases to consolidate the students' conceptual learning.

Based on the background of the above problems, the authors conducted the study by taking the title **"The Effect Of Inquiry Scientific Learning Model On Student scientific Knowledge Of Static Fluid In Class XI Semester II SMA Academic Year 2015/2016"**

### **1.2 Identification of Problems**

Based on the background of the problems described above, we can identify issues relevant to the research include:

1. Student learning outcomes have not reached the CCM is determined that 7.5
2. Less varied learning methods which result in the student not understand the students' learning.
3. Teachers are not able to optimize the use of media.
4. The teaching materials used are still unfavorable.
5. Lack of knowledge of students about the concept of physics.
6. Students have the opinion that physics is a difficult subject.
7. Learning leads to teacher centered learning process.
8. Activities of students in the class are still lacking.
9. Lack of cooperation and the level of creativity of students in learning physics.
10. Teachers are more stressed the students to focus on the concept and formula and can not applying the lessons in everyday.

### **1.3 Limitation Problem**

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

1. Learning model in use is the inquiry Learning Model
2. The subjects studied are students
3. The subject matter used in the study is a static fluid
4. The device includes learning, teacher books, lesson plans, and grating tests.

### **1.4 Formulation of the problem**

Based on the boundary problem, the problem in this research is:

1. What learning outcomes of students using inquiry learning model.
2. How does the activity of students in the class using scientific inquiry learning model.
3. Is there any effect on student learning outcomes using by scientific inquiry learning model.

### **1.5 Research Objectives**

The purpose of this research was conducted, namely:

1. To determine the learning outcomes of students using inquiry learning model.
2. To determine the learning activities of students in class using inquiry learning model.
3. To determine the effect of inquiry learning model for the creativity of students learning.

### **1.6 Benefits Research**

The expected benefits of this research are:

1. As the information materials for teachers and prospective teachers in selecting a learning model that suits the subject matter.
2. For information materials for teachers and prospective teachers in selecting appropriate learning model to enhance students' creativity.
3. For consideration to conduct further research.