

## CHAPTER I

### INTRDUCTION

#### 1.1 Background

The level of prosperity of a nation is not just determined by the abundance of natural resources available, but it takes a human resources qualified so that they can manage those resources properly and to maintain the balance of the ecosystem that are around. Education has a significant role in the process of improving the quality of human resources. In fact the state of human resources that is less competitive because of the quality of our education is still relatively low. Therefore, education should be a very important concern by various stakeholders, especially the teachers and all those involved in the implementation of teaching and learning activities in order to produce a generation of intelligent and qualified in the future.

The Official rationales for formal education state that Education:

- gives people more and better life career opportunities
- helps people make therapeutic use of their leisure time
- develops peoples' knowledge and understanding of themselves and the world
- encourages people to work together in a spirit of tolerance and mutual kindness
- produces more fulfilled, 'rounded', law-abiding people
- gives youngsters a broader perspective on life and the world
- Helps make the nation more competitive and prosperous. (Moore, 2000)

Education is a big issue that needs attention with both governments, employers, to all members of society, including religious institutions and educational institutions themselves. Not only the cognitive aspects of the target, but the full potential of individuals who are constantly evolving to either limit.

In other words, education is seen as the path to human ethos and ethics, even the main plan towards the perfection of life. (Sinamo, 2010)

The quality of education in Indonesia at now very concern. It proved that Indonesia's human development index decline. The quality of education in Indonesia was ranked 12th out of 12 countries in Asia. Indonesia has a low competitiveness, and still according to a survey by the same institution predicated Indonesia as a follower and not just as a technology leader of the 53 countries in the world. (Ganis, 2010).

In an effort to improve the quality of education, the teaching and learning activities has to be planned and executed in such a way optimally. Implementation of the learning activity encompass teachers, students, the learning environment and learning model used become one unit. The relationship between teachers and students when the learning process takes place should occur in both directions, not just centered on the teacher, but the student should also be actively involved, so that students are able to construct their own knowledge, teachers act more as a facilitator, motivator and mediator.

Education must be transformed from the passive, technical, and apolitical orientation that is reflective of most students' school-based experiences to an active, critical, and politicized life-long endeavor that transcends (the boundaries of classrooms and schools).

Physics is a science that is very interesting because it is closely related with facts and phenomena that occur in nature, requiring an understanding of the concept of an integrated and comprehensive for students to avoid misconceptions. But in reality most students still regard physics as a boring lesson. This is because students are not actively involved in the learning process. Most of them are only working on the problems of physics without understanding the concepts of physics itself. So they know physics just a sequence of complicated mathematical formulas with symbols of physics in it. Of course, directly affect student learning outcomes.

Experienced researchers when implementing the Integrated Field Experience Program (IFEP) many students who say that physics is a difficult subject to understand because teachers often use conventional learning models and less actively engage students during the teaching and learning activities as such activities and interactions of students are less well thus causing saturation students during teaching takes place, students can only count but do not understand the concept of real physics and lead to results that are less optimal learning outcomes.

Based on preliminary studies conducted in SMA Negeri 5 Binjai by distributing questionnaires to 22 students, 54.54% said that physics lessons is ordinary, as 40.90% students like physics and 4.54% students stated that they do not like physics. The results of the interviews conducted for teachers of Physics SMA Negeri 5 Binjai obtained information that the physical value of the average of all students in grade XI, as much as 50% of students have not reached the KKM. This is due to the learning of teachers just use the conventional model of learning, where learning is a sequence of conventional lectures, discussion and assignment. The cooperative learning model requires student cooperation and interdependence in its task, goal, and reward structures (Arends, 2012).

In science education in recent years, the increasing awareness of the importance of learner-centre in the teaching–learning situation has generated a lot of attention in relation to understanding how learners learn and how to help them learn about concepts. Concept mapping serves as a strategy to help learners organize their cognitive frameworks into more powerful integrated patterns. The hierarchical attribute of a concept map also makes meaningful learning proceed more easily as new concepts or concept meanings are subsumed under broader, more inclusive concepts.

From the preceding research that has been done with the same learning model, it turns out the learning outcomes of students with cooperative learning models type TGT higher learning outcomes of students taught conventionally. Research conducted by (Butar-Butar, 2011) obtained the average value of student learning outcomes after implementing the cooperative learning type TGT

is 65.13 (on a scale of 10-100), then (Nasution, 2011) her research showed that t-test  $t_{\text{count}} > t_{\text{table}}$  ( $3.70 > 1.67$ ), which mean that  $H_a$  is received and students' activity in experimental class is appropriate with post-test. Also (Batubara, 2011) obtained the average value of student learning outcomes after implementing the cooperative learning type TGT in experiment class is 67.13 which in control class is 60.13. The weakness of they studies did not using concept maps.

Based on the above description of the problem, the authors is interested in doing research entitled: "**The Effect of Cooperative Learning Type TGT using Concept Maps towards Students' Learning Outcomes on Fluid Dynamics Topic Grade XI SMA Negeri 5 Binjai A.Y 2012/2013**".

### **1.2 Problem Identification**

Based on the background of the issues outlined above, it can identify issues relevant to this study are

1. Students think physics is a difficult subject and less attractive.
2. The results of studying physics under the low minimum completeness criteria.
3. Learning that is dominated by the teacher (teacher-center).

### **1.3 Problems Limitation**

Implemented research that can be optimized, then the scope of the material covered is limited,

1. Using Cooperative learning model type TGT using concept maps.
2. Subjects in this study were students grade XI semester SMA Negeri 5 Binjai Academic Year 2012/2013.
3. Topics at grade XI SMA which researched is Fluid Dynamic.

#### 1.4 Problems Formulation

Based on the background of the problem and the extent of the problem above, the research questions in this study were:

1. How about student's learning outcome of physics which use Cooperative Learning Type TGT using Concept Maps on Fluid Dynamic's Topic Grade XI Semester II SMA Negeri 5 Binjai.
2. How about student's learning outcome of physics which use Direct Instruction Learning Models on Fluid Dynamic's Topic Grade XI Semester II SMA Negeri 5 Binjai.
3. Are the different caused the effect of Cooperative Learning Type TGT using Concept Maps towards learning outcome on Fluid Dynamic's Topic Grade XI Semester II SMA Negeri 5 Binjai.

#### 1.5 Research Objectives

Base on the problems formulation, the objectives in this research were to:

1. Knowing the effect of Cooperative learning type TGT using concept maps to the student's learning outcomes on fluid dynamics topic.
2. Knowing the effect of Direct Instruction Learning Models to student's learning outcomes on fluid dynamics topic.
3. Knowing the different caused effect of Cooperative Learning Type TGT using Concept Maps towards learning outcome on Fluid Dynamic's Topic Grade XI Semester II SMA Negeri 5 Binjai.

#### 1.6 Research Benefits

The expected benefits of this research are

1. As information matter that student learning outcomes are effect by cooperative learning type TGT using concept maps.
2. As an alternative information Cooperative learning type TGT using concept maps for the reader or the next researcher who wants to examine the same topic.