

CHAPTER I INTRODUCTION

1.1. Background

Efforts to improve the quality of human resources (HR) are now being promoted by the government. The most important step is done, is by education. Because of education is one of the objectives of the development program in Indonesia that must be taken by all levels of society. In the 1945 law stated that “each citizen is having an authority for teaching”. Education is an integral part of development and progress of a nation. Launching of the nine-year compulsory education is one of the government's efforts to promote the Indonesian nation is far behind the other nations. In Regulation of Constitution No. 20 year 2003 on National Education System, which read is: “Educations is a conscious and deliberate effort to create an atmosphere of learning and the learning process so that learners are actively developing the potential for him to have the spiritual strength of religious, self-control, personality, intelligence, noble character, and skills needed him, society, nation and state”. (Diknas, 2003: 1)

Physics is a universal science that underlie the development of modern technology as well as having an important role in a variety of disciplines and advance the human intellect. Physics is a subjects not only the theories and formulas to memorize, but physics is the understanding and the understanding of the concept of emphasis on the creation of knowledge through a process of discovery and presentation of the data. Physics education emphases to “understand” and “do” thus can help the student to mastery the physics concept and then effecting to student’s learning outcomes.

Problems often occur in learning physics is the weak learning process in class. In general, students tend to be passive so as to make students less thinking develop skills and abilities, and student’s learning outcomes still low. Based on the learning theory proposed by Gagne in Nasution (2003:136), that

the high level of intellectual skill competencies can be developed through problem solving. Problem solving is the highest type of the eight types of learning, ie learning signal, stimulus-response learning, chaining, verbal association, discrimination learning, concept learning, rule learning and problem solving. Based on this, it is necessary to develop an appropriate model of physics learning with the learning needs of students and the view on the curriculum, the learning model of Creative Problem Solving (CPS). Creative Problem Solving (CPS) is a model of learning which is centered on problem-solving competency, followed by creativity reinforcement (Pepkin, 2004: 1). The student will facing the situation of questions at the moment, then student should be perform problem-solving competency to select and develop a response competency. Not only by rote without a second thought, the ability of the problem extend students' thinking processes. By using creativity stages to solve the problem, students are expected not only to become a better problem solver, but also will mastery the other skills than students who are directed to perform the exercises alone.

Interaction patterns in one direction from the teacher to the learners results in low student activity and creativity in solving problems in the weak learners. Low mastery of lesson delivery method poses difficulties learners in understanding mathematics instruction so that the resulting reluctance to learn physics (Hudoyo, 1990: 7). The paradigm shift is needed to improve the learning process is to change the pattern of *Teacher-Centered Approach* to *Student-Centered Approach* (Turmudi, 2008: 7) by providing ample opportunities for learners to learn independently and engage learners optimally participation in learning.

The low of student's learning outcomes in problem solving is requiring attention of teachers in choosing learning model. According to the Isasken, et al (2005:2-4) the *Creative Problem Solving (CPS)* learning model is a model to help solve the problems and manage change creatively comprising the steps of understanding the problem, generate ideas and prepare action. *Creative Problem Solving (CPS)* model can be selected to increase the student's

learning outcomes in problem solving. The steps in Creative Problem Solving (CPS) allow teachers studying learners to think creatively and encourage learner's competency to present and explain their ideas. Students involvement in active learning as well the external motivation is expect the teacher's creativity in problem solving can be increased. By using *Creative Problem Solving (CPS)* model in the management of physics learning to give attention to the affective side of the learner is expected to increase the cognitive side and student competency is student learning achievement.

In teaching and learning activities there is interaction or reciprocal relationship between students and teachers, where students receive material taught by teachers. Teachers teach to stimulate, guide the students and directing student, studying teaching materials in accordance with the objectives. The purpose of teaching in general is that the learning materials are delivered fully mastered by all students. In case, mastery of learning outcomes or student learning achievement is obtained. The goal of learning is whether it is strongly influenced by the teaching methods employed by teachers. Teachers as educators should always choose the rigorous of learning method, which is considered more effective than other methods so that the skills and knowledge provided by the teacher that really belong to the students. Appropriate method is expected to more effective the expected achievement of learning objectives. According Hudoyo (1990:1) learning is an activity for everyone. Knowledge skills, habits, and attitudes a person penchant formed, modified and evolved due to learning. Because of person is learning, if it can be assumed in others it becomes a process of events that result in a change in behavior. Activities and efforts to achieve the behavioral changes is moderate learning process itself changes behavior is the result of learning.

The human being can not be separated from the process of learning until whenever and wherever they are learning as well as being a growing need from year to year in accordance with the development of science and technology. Therefore, we need the provision of science and knowledge in the field of Physics with various abilities to obtain, analyze and process

information carefully and accurately as well as the ability to solve problems. According to the Suyitno (2001:31) solving the problem is a type of learning that the highest level and complex. In solving the problems is unusual in the life of every human being and everyday ten and twenty times he solved the problem. According to Nasution (2008:139) requires problem solving and connecting ideas using a variety of rules that we have known in different combinations. In solving a problem is often often go through various steps such as knowing every element in the problem, look for the rules relating to the issue and in every step he needed to think. In learning process is often encountered the tendencies of students who do not want to ask though actually do not understand the material being taught by the teacher. Beside that, the student are not involved in problem solving activity during teaching and learning process. The strategy is must be used by teachers to enable students that engage students to active during teaching and learning process. In choosing learning strategies required some consideration, among others, is a state student, the state school, learning environment that supports the advancement of science and technology and social progress in the community, as well as the learning objectives to be achieved.

Experienced researchers when implementing the Integrated Field Experience Program (PPLT) 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 observations of physics when Integrated Field Experience Program (PPLT) by distributing questionnaires to 32 students, 54.54% said that it was normal physics lessons, like physics 40.90% 4.54% said they did not like physics. The results of the interviews conducted for teachers of Physics in field experience obtained information that the physical value of the

average of all students in grade X, as much as 50% of students has not reached the KKM. This is due to the learning of teachers only know the conventional model of learning, where learning is a sequence of conventional lectures, discussion and assignment and Problem Solving engages students in self-selected investigation that enable them to solving and explain real-world phenomena and to construct their own understanding about these phenomena.

In the process of learning involves a variety of activities to do, especially if you want optimal results. One way that can be used in order to obtain optimal results as desired is to put pressure in the learning process. This can be done by choosing one learning model appropriate for the selection of appropriate learning model is essentially an effort to optimize student learning outcomes. One of learning models that allow students to improve thinking skills in solving physics problems instructional model is *Creative Problem Solving* (CPS), which is an effort to foster creativity and thinking ability of students in solving physics problems.

What has been explained above, it is reasonable if researchers interested in conducting research with the title **"Effect of Creative Problem Solving (CPS) Learning Model to Increase the Student's Learning Outcomes on the Static Fluid Topic of Class X SMA Negeri 3 Medan Academic Year 2015/2016."**

1.2. Problem Identification

Based on the above background, some problems can be identified as follows:

1. Students do not like physics.
2. Students think physics is a difficult subject and less attractive.
3. Student is not fully involve in learning.
4. There are many students that can not solve problems appropriately in learning physics.
5. Low of student's learning outcomes in learning physics.
6. Student are not involved in problem solving activity during teaching and learning process.
7. Physics student learning outcomes are unsatisfactory.
8. The results of studying physics under the low minimum completeness criteria.

1.3. Limitation Problems

Based on the background and the identification of problems, so that needs to be given the limitation of the problem so that it becomes more focused research as the following:

1. Students that observe are high school students grade X in SMA Negeri 3 Medan Academic Year 2015/2016.
2. Using Creative Problem Solving (CPS) learning model in the experimental class and conventional learning in the control class on Static Fluid Topic of Class X SMAN 3 Medan Academic Year 2015/2016.
3. Conducted to determine the effect of Creative Problem Solving (CPS) learning model on student's learning outcomes.

1.4. Problem Formulation

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

1. How the student's learning outcomes after taught by Creative Problem Solving (CPS) learning model?
2. How the student's learning outcomes after taught by Conventional Learning?
3. How does the effect of Creative Problem Solving (CPS) learning model to the student's learning outcomes on Static Fluid Topic of Class X SMAN 3 Medan Academic Year 2015/2016.

1.5. Research Objectives

This study aims to:

1. To know the student's learning outcomes after taught by Creative Problem Solving (CPS) learning model.
2. To know the student's learning outcomes after taught by Conventional Learning.
3. To know the effect of Creative Problem Solving (CPS) learning model to the student's learning outcomes on Static Fluid Topic of Class X SMAN 3 Medan Academic Year 2015/2016.

1.6. Research Benefits

1. For Schools
 - Contribute positively to the school in order to improve teaching program.
 - For information to motivate academic staff to adopt creative and innovative methods in the learning process.
2. For Teachers
 - As a motivation to improve teaching skills in a variety of learning systems so as to provide the best service for students.

- Getting appropriate learning strategies while delivering the material being taught.
3. For Students
- Facilitate students in understanding and solving physics problems.
 - Improving students' ability to process and link the information to express their ideas in a rational way.
 - Improving students' ability to think critically and creatively in problem solving.
 - Helping students to be more active in the learning activities.
4. For Researchers
- Getting hands-on experience in the implementation of learning *Creative Problem Solving (CPS)*.
 - Can know the effect of *Creative Problem Solving (CPS)* learning model to the student's learning outcomes in physics.