

## CHAPTER I INTRODUCTION

### 1.1. Background

Education that can support future developments education that is able to develop the potential of learners. Developing the potential of learners in this period is not easy. Judging from achievement of learners is still low. Through the writer teaching experience (PPL) in SMAN 1Pandan, Central Tapanuli, curiosity and interest in learning the student is still low. The learning process is one of the obstacles faced by learners. Due to the constraints of the learning objectives cannot be achieved.

The process of learning is often be the one case in school. From the teaching and learning process will be obtain a result. To obtain optimal learning results, influenced by the teaching and learning components, such as: how to organize the material, the strategy adopted, the method used, the media used and the others (Silberman, 2007). The development of learning process determined by teacher, students, and individuals have related with the process. But, the students achievement depended by teacher's teaching. How teacher giving the material in learning process. Educational objectives achieved depends a lot on how the learning process experienced by the students as a protege (Slameto, 2003).

The learning process in the classroom is set by the teacher. So the role of the teacher is very important, even though we know not only teachers that affect learners' achievements. Teachers who only wear ordinary strategies and use methods that do not fit the material automatically learning objectives are not achieved. By using the appropriate strategy be established cooperation and protege teachers so that the learning objectives achieved. Strategy learning is a learning activity that must be done by teachers and students so that learning objectives can be achieved effectively and efficiently (Istarani, 2011).

Learning should be done gradually. Learning has the nature of planning or designing an attempt to teach students. That is why in learning, Shiva is not only

interacting with the teacher as a source of learning, but it might interact with the over all learning resources that they use to achieve the desired learning objectives (Istarani, 2011). Also in the process of studying the interaction of learners is very necessary because in addition to exchange ideas to add insight. During this time rarely involve learners in the learning process, students mostly just listening, doing assignments and take exams.

Chemical subjects high school level is one of the lessons that are not much in demand by students. This is because the chemistry lesson impressed difficult and tedious. Through my experience when PPL, subjects must repeat the material to make the students understand the lesson. As a result, many teachers are out of material that will be taught. In addition to the science section loss due to the basic concepts of chemistry is not mastered, students also will have difficulty answering the questions in the exam later. So need innovation in the teaching of chemistry. An innovation in question is a teacher must have a strategy in teaching. In addition to an attractive model fitness model with the material being taught should also be considered. In addition to the above, the teacher who was instrumental in the teaching process must master the subject matter. As already described earlier the teacher plays an important role in the learning process. In the process there are several roles teachers should be optimized by teachers themselves, including teachers as a learning resource, teacher as facilitator, the teacher as a manager, a teacher as demonstrator, teachers as counselors, teachers as a motivator, as well as teachers as evaluators (Sanjaya, 2009)

Chemistry including challenging subject because it has the concept of mathematical calculations and practical implementation. All of these characters support each other in the full mastery on topic of learning in chemistry (Zebua, 2009). Salt hydrolysis is one of chemistry topic in senior high school (SHS) at the second semester class XI in curriculum 2013 year. In this topic, there are 3 characters must be mastered namely (1) master of concepts of salt hydrolysis, (2) calculation of pH of salt solution, (3) experimental of determining salt that hydrolyzed. Problem Based Learning (PBL) is one of model that can be used in

this topic, where in this topic have many discussions and calculation also predict the salt hydrolyzed.

Psychological aspects of learning PBL based as pects cognitive which start from the assumption that learning is a change in behavior thanks to the experience. PBL is away constructing and teaching course using problem as a stimulus and focus on student activity. The student are expected to have motivation in study, not only just listen and remember but also trained to explain the their explorer another and trained to solve the problem when they learn chemistry. In PBL, students are trained in develop their skills include asking the questions, answer and questions, active listening, communicate ideas or opinions, being in the task, and so on (Boud and Felkti, 1991). Thats why the researcher choose PBL model in teaching, specially to salt hydrolysis topic. Where the model can stimulated the students to be active inlearning. The topic of salt hydrolysis consist of some concepts and calculation of salt so the students are stimulated and are active in solving the problem.

Concept in teaching-learning process also determind the effectiveness. How the protege easy to catch the material topic. So one way is concept map. Concept map give the keyword of topic, save keyword is easy to solve the problem. Keyword easy to remember than all the material.

This learning is focused on the prosess of learning and the involvement of the student. By this learning will be created a living class where all the studentactively participante in learning process. Based on the background aboved the writer will make research which its title is: **The Effectiveness of Problem Based Learning Model Using Concept Map on the Teaching Salt Hydrolysis Topic.**

## **1.2.Problem Identification**

Based on the background, the writer identifies the problem that are:

1. The lack of attention to the of teaching-learning process
2. The interaction between students that rarely happens in the teaching-learning process

3. The lack of association of students in the teaching-learning process
4. In learning chemistry student is still found many that pretend to understand  
Also still difficult, in learning of chemistry topic.
5. The problem base learning and teaching is away constructing course the problem using a stimulus and focus on student activity, a model of that is still not applied in teaching of salt hydrolysis.

### **1.3. Research scope**

To focus the problem, the writer identifies the problems and limit only on the using of Problem Based Learning model using concept map on the teaching salt hydrolysis topic in Senior high school grade XI in science program in academic year 2015/2016.

### **1.4. Problem Formulation**

To be able to provide guidance that can be used as a reference the reasearch, made the formulation of the research problem as follows are:

1. Is there the differences in student achievement in chemistry lessons salt hydrolysis topic using PBL model as compared to conventional model?
2. How does the effectiveness of PBL using concept maps media on student achievement in the subject salt hydrolysis ?

### **1.5. Research Objective**

The general objective of this study was to determine the effectiveness of problem based learning using media concept map to teaching students on hydrolysis. While the specific objectives are:

1. To determine differences student's achievement in chemistry lessons delivered hydrolysis using PBL as compared to conventional methods
2. To determine the effectiveness of PBL using concept maps media in student performance on the teaching salt hydrolysis.

### **1.6. Research Benefit**

This study is expected to benefit particularly for chemistry teachers on how to improve learning by using PBL learning model using the concept map media for teaching chemistry at SHS. Result the expected benefit so this research are generally described as follows are:

1. As the alternative of teaching models for teacher to teaching chemistry.
2. As a chemistry teacher input on how to improve the teaching and learning process using a chemical with PBL media concept map.

### **1.7. Operational Definition**

To avoid differences or lack of clarity of meaning, then the operational definition in this research are:

1. Problem Based Learning is a way of constructing and teaching course using problem as a stimulus and focus on student activity. Problem Based Learning is a learning model with a principle that problem can be used as beginning for reacting or for integrating a new knowledge (Boud & Felletti, 1991)
2. Students achievement is an ability that is obtained by students after doing learning activity. Students achievement show by using pre-test and post-test. The students achievement also seen by team work. (Abdurrahman, 1999)
3. Concept map is part of a concept or ideas as a base material that aims to build students' knowledge in a systematic study. Concept map give every meeting at learning step initial. (Istarani, 2011)