

## CHAPTER I INTRODUCTION

### 1.1. Background

In school, especially in science, chemistry is the obligation topic that must be learned by the student. Generally, students always think that chemistry is a difficult subject, they are already giving up even though they do not learn it yet. Due to this thinking, teachers have responsibility to change the student's thinking, teachers have to have the good method related to the topic in the teaching process, so that students will be interested in the learning process. Distributing lessons in the teaching process with the best way believed can affect the student's achievement. According to Hamalik (2003), effective learning is learning that provides opportunities to learn themselves or their own activities, students learn by doing, by working they acquire the knowledge, understanding and behavioral aspects of the other.

There are some factors believed to increase student achievement as cognitive aspect and affective aspect, the factors including the implementation of the newest curriculum that is 'Curriculum 2013' that is used now is an effort to increase the student's achievement. In this newest curriculum, there is not just an increase in the cognitive aspect, but also to build the character of the student, and to support this aspect, need to use suitable media, and the media used can be like interactive module learning, internet, macromedia flash, power point and others. So that's why the researcher tries to combine the newest curriculum with a suitable method by using interactive learning module. In this interactive learning module, besides increasing student cognitive, it's also can build the character, the character here is student independence.

Based on the results of the initial survey which has been conducted at some senior high school, the results of the survey through interviews indicate that students generally assume that chemistry is a difficult subject to understand, and some even hated chemistry. They do not understand how exactly the concept of learning, they only focus on memorizing, without understanding what they

actually learn. Students also often find it difficult to understand the content of a given text book, that is why it is often laziness arise when studying either at home or at school studying. Teacher learning method is also one of the causes of low student willingness to learn. Still often found that the teachers use methods that are tedious, so make students feel bored and there is no sense of attraction want to have better understand what it is chemical. Therefore the researcher tried to create a new innovation by using the media and methods associated with the topic to be studied and thus is expected to increase student achievement and willingness to learn chemistry, so there is no longer found learners who hated chemistry lesson.

Research conducted is about The Development of interactive learning module by PBL (Problem Based Learning). The Development of interactive learning module are very interesting to discuss because by using the suitable ways believed can increase student achievement in teaching chemistry, especially in the salt hydrolysis topic. The salt hydrolysis topic categorized as difficult topic. So the students will have bad comprehension if it is just told by conventional method. Therefore by this interactive learning module hope can increase student achievement in learning salt hydrolysis topic. Because in this method student just not receive lesson from their teacher, but they demand to search it, find it by their self, and this condition that will be make student more active in the learning process so that they will have deep comprehension about the concept and can develop their knowledge and also their ability.

Good learning conditions, requires a teacher to be able to master the material to be taught and to make careful planning so as to motivate students to learn actively. Teacher capability is supported by a variety of factors, one of which is the selection and application of various teaching method or strategies in accordance with the characteristics of the material and the expected goals, Zainal (2000: 94), and in this case experiment is the correct way that give opportunity to developed their self.

Media is a tool to interfere in and reconcile the two parties. Media showed the function or role of organizing an effective relationship between the two main parties in the process of student learning and content learning. The existence of learning media can help student in study. Use of media learning will greatly assist the effectiveness of the learning process and delivery of messages and content, according to the demands of the curriculum. The media that are used as a learning source in this research is module. Module is a strategi for student to be active in the learning process. According to Arsyad (2009) module is a learning material that can be used by student to learn independently. A good selection of modules will be able to help student to understand the topic. By using module, student can be learn independently and try not just to be a listener but they should be a searcher, thus student will be more understood about what they are learn actually. In her research, Ika.I (2013) with entitled The Implementation of Cooperative Learning Module Student Team Achievement Division (STAD) Type by Using Learning Module to Increase student Achievement in Salt Hydrolysis Topic proved that learning module is an effective teaching. The result of her research in experimental class are 68% increasing after teaching treatment conducted, while in the control class it just 48% increasing after teaching treatment conducted. It means that learning module are effective to increase the student achievement. Moreover in her research, Ferawaty.M (2013) with entitled The influence of Problem Based Learning Model With Worksheet Toward Student Achievement To improvement on Topic Buffer solution are shown that the problem based learning is the effective model to make student motivated in learning. Its proved by the result of her research in the experimental class, the achievement is increase 77,93%, while in control class the achievement increase is just 63,85%, so can conclude that by using PBL method can make student motivated in learning so that can influence their achievement.

Learning Module is the innovation expected can solve the problem faced by student. By this learning method the teaching process is not focussed to the

teacher anymore, but it focussed to the student it self. Student are required to active, creative, and find everything by their self, while teacher here is just a mentors who guide the students in their ability to optimize. Further, interactive learning module is a process of learning about a given subject unit systematically arranged, and directed operations for use by students, along with guidelines for the use of teachers. Concerning to the problem above, writer interest to conducting a research with the title is **“The Development of Interactive Learning Module Using Problem Based Learning To Increase Student Achievement and Independence in Salt Hydrolysis Topic”**.

### **1.2. Identification Problem**

Based on the background above so the identification problem that can stated as following:

1. Less understanding about concept of learning process that influence the desire of student to learn.
2. Less varied media used by teachers. There so many teacher that like to teaching in the conventional method.
3. Less of the suitable text book using in Curriculum 2013 as a learning media

### **1.3. Formulation Problem**

Based on the identification problem above, the formulation problem in this research is

1. How the teacher perception on the salt hydrolysis as the subject matter on the textbooks that used?
2. How to get the interactive learning module that are related to the topic of salt hydrolysis?
3. How the development of interactive learning module on teaching of salt hydrolysis to increasing student achievement?
4. How the development of interactive learning modules on the teaching of salt hydrolysis in increasing student independence?

5. Is there any relationship between student cognitive and affective aspects on the teaching of salt hydrolysis topic?

#### **1.4. The Scope of Study**

Based on the formulation problem describe above, found that there are so many problem arise in this research. Therefore, need to make a scope of the study that focused as the following issues.

1. This research are focussed to senior high school in class X on the subject matter salt hydrolysis topic
2. To know the increasing of student achievement with interactive learning module by PBL (Problem Based Learning) in both of cognitive and affective aspect
3. The topic of Salt Hydrolysis : Definition of salt hydrolysis, salt from strong acid and strong base, salt from weak acid and strong base, salt from strong acid and weak base, salt from weak acid and weak base, pH of salt solution.

#### **1.5. Research Objectives**

The research objective is to investigate the best method in teaching salt hydrolysis topic. The specific objectives of the study are:

1. To investigate teacher perception on salt hydrolysis topic on the textbooks that is used.
2. To get the interactive learning module that are related to the topic of salt hydrolysis.
3. To investigate the development of interactive learning module to increase student achievement as cognitive aspect on the teaching of salt hydrolysis topic
4. To investigate the development of interactive learning modules on the teaching of salt hydrolysis in increasing student's independence as affective aspect
5. To investigate the relationship between student's cognitive and affective aspects on the teaching of salt hydrolysis topic

## **1.6. Significance of Study**

1. For student, as an addition model in learning process so can increasing student desire in the learning process
2. For teacher, as an addition method and teaching model to make learning process become attractive, effective and interactive so that can increase student achievement in both of cognitive and affective aspect in the teaching of salt hydrolysis
3. For researcher, as the comparison materi to the other researcher that want observe the same case in other place

## **1.7 Operational Defenition**

- Module is a learning material that can be used by student to learn independently. The student become center point of teaching and learning process. (Andi Prastowo, 2011)

- Problem-based learning (PBL) is a student-centered pedagogy in which students learn about a subject through the experience of problem solving. Students learn to be active, communicative, proceesing the data and finally make a conclusion. (Wina Sanjaya, 2009)

- Character as a way of thinking and behaving that characterizes each individual to live and work together, both within the family, community, nation, and state. (Suyanto, 2009)

- Learning outcomes is the result if person has studied will happen new bahavior to the person, example from don't know to be know and don't understand to be understand. (Oemar Hamalik, 2008)