

## CHAPTER I

### INTRODUCTION

#### 1.1. Background

Development of teaching materials or modules becomes an urgent need as a consequence of the implementation of the education level curriculum unit (Mulyasa, 2009). The Approach of competencies requires the use of module in the implementation of learning. The main driving force behind the introduction of modules in teaching learning process lies in the fact that they have roles that can help to solve key educational problems, as we know that each pupil as an individual with his own special aptitude and interest, goal of helping each student to think for himself and allowing the individuality to each learner. Learning module can promote the effective learning because it is extremely flexible in implementation. The development of innovative learning modules are needed in improving student's motivation and learning outcomes, especially to make learning more interesting and make the students can be independent in learning.

Teachers often have less stock to enhance learning in the classroom, making learning seem boring. Teaching materials that have been used less attract students to learn. Educational experience that is often encountered in school, many students consider difficult to learn chemistry. This may be caused by a lack of interesting teaching materials, make the students become boring and difficult to understand so that students did not master the chemistry concepts. In addition to presenting the material chemistry, a teacher should also be able to develop learning materials in order to provide an optimum learning outcomes because the teacher know about the student's need. It's long been known that the module is one of the most effective teaching materials used in the learning process. To improve student learning outcomes will require the development of innovative learning modules that can be used to improve students' ability to learn easily and efficiently in the learning process.

Innovation in education is often associated with the renewal that comes from the creative thinking, containing findings and modification ideas and methods used to overcome a problem of education, while the module is the smallest unit of learning programs that can be learned by the students as individuals (self instructional), after participants completed one unit in the module, then the participant can move forward and study the next module unit (Prastowo, 2011). The module is compiled teaching materials that include systematic and interesting content, methods and evaluation. In order for the development of innovative learning modules successfully as expected then a few things to consider: analysis of needs, development of module design, implementation, assessment, evaluation, validation and quality modules assurance.

Actually, in delivery material, teacher often use the conventional method in teaching. Redox reaction is one of the materials in grade X that include development of oxidation reduction concept, oxidation number of elements in compounds or ions, oxidizing and reducing agents, autoredox reaction, nomenclature redox compounds and applications in solving environmental problems. Often educators simply convey concepts that are memorized by using textbooks with the language that is hard to understand. This condition makes the students lazy to read a book or repeat lessons at home so the impact on student learning outcomes are low. To overcome this, the best strategy is needed to improve student learning outcomes. One way is to use the innovated learning module. According to (Hand, L., Knowles, V., Pybus, L., Scivier, J. & Simpson, S. 2000) modules designed to develop students' skills and attributes as independent learners and critical thinkers.

Various studies have been conducted regarding the effectiveness of the use of the module as a teaching material. The results of previous studies states that learning module or modular teaching is more effective as teaching learning process as compared to traditional teaching method (Ali, R.et all 2010). Because in modular teaching the students are provided the opportunities of learning at their own pace, according to their ability level and needs. In addition, research

conducted by Dameita Sumbayak in her research entitled *The Development of Chemistry Learning Module To Increase Student's Achievement On The Teaching and Learning of Oxidation and Reduction Reaction* also prove that the use of learning modules to improve student learning outcomes.

However, as noted above is necessary to develop innovative learning modules. Development of innovative learning modules in this research is to innovated learning modules by combining printed materials and electronic media to help students understand the concepts or chemical competence. Development of innovative learning modules will produce an interesting way of learning to make students easy to learn and can guide students to achieve the competencies expected. With the use of innovative learning modules students can learn to be more independent and not rely entirely on the presence of the teacher (teacher centered), because of the learning modules are self instructional.

Based on this background the researcher is interested in conducting research entitled: **The Development of Innovated Learning Module to increase student's achievement on the Teaching of Redox Reaction For Senior High School Students.**

## **1.2. Problem Identification**

Based on this background, it can be identified the following issues.

1. Teaching and learning materials is important to increase students' achievement and student's motivation on learning chemistry.
2. The learning materials on the teaching of chemistry has to be innovated in an interesting way to make students easy to study and to guide them to achieve their competence
3. Learning materials by the combination of printed and electronic media is needed to improve students' achievement on the teaching of redox reaction
4. It need to study the reason why the students find difficulties on learning chemistry on the subject of redox reaction.

### 1.3. Scope of Study

The problems above are too broad in scope, it is necessary to issue restrictions. The problems are focus of this research is to develop innovative learning modules by the combination of printed materials and electronic media to increase student achievement on the teaching of redox reaction.

### 1.4. Problem formulation

1. How to developed innovated chemistry learning module by integrating of chemistry material, media and method as a package material to increase students' achievement?
2. How to standardized innovated chemistry module to obtain good and standard chemistry module?
3. How is the effectiveness of chemistry learning module to improve students' achievement ?
4. Which is the best strategy between chemistry module with conventional method ?

### 1.5. Research Objectives

The purpose of this research include:

1. To developed innovated chemistry learning module by integrating of chemistry material, media and method as a package material to increase students' achievement
2. To standardized innovated chemistry module to obtain good and standard chemistry module
3. To investigate whether chemistry learning module is effective to improve students' achievement
4. To investigate whether the developed chemistry module is better than conventional method to improve students' achievement on the teaching of redox reaction



### 1.6. Research benefits

The expected benefits of this research in general is:

1. Getting innovated learning modules by the combination of printed materials and electronic media that can be used to increase student's achievement that accordance with KTSP
2. As an input to the chemistry teacher how to make innovated learning module on teaching redox reaction to increase student's achievement
3. Contribute to the teachers to use it as a learning media can enhance students' understanding
4. As a reference for subsequent research.

### 1.7. Operational definition

#### 1. Development

According to Big Indonesian Dictionary (2002), development is defined as a process, method, act develops, becomes more actions, actions create more advanced. The meaning of development in this study is the research and development of learning modules using experimental methods and macromedia flash.

#### 2. Innovation

An innovation is anything new in the knowledge, ideas, or activities by the individual or group that different to the existing one.

#### 3. Module

There is some sense modules delivered by the expert. But in this study module is a book or instructional materials written in order for students to learn independently without or with the help of the teacher.