

CHAPTER I

INTRODUCTION

1.1 Background

The development of innovative learning material is important to do due to the development of modern science and technology demand students to learn active and independently. Innovative learning material can motive student to learn active in learning process due to inovation presented can be use wherever and whenever they are. They can use innovative learning material thourgh their personal computer and personal handphone.

Education is the main medium to create human resourcess with high quality and competency. Education is human's necessary which always follow the era's challange. Quality of education describe prospect of a certain nation in a future. Education is also one of the key vehicles for intellectual and professional development of our people and plays an increasingly important role in supporting a stronger and more globally competitive Indonesia.

Indonesian's today educational condition face complex and basic challange which can't be avoid such as GATT, WTO, AFTA which influence all aspect of socialization. As a young nation (under a century nation) our future still oriented on international standard where there will be many lack ontologically related to human resourcess and master of technology. The swift of goods, services, knowledge and technology tend to effect disorientation in economic aspect, politic, society, culture and education. Therefore the strengthen contribution of LPTK, sinergy among educational birocration, teacher's quality, and educational reformation are required by homogenity of basic sciences knowledge to increase quality and educational access.

In 120 countries included in the 2012 UNESCO Education For All Global Monitoring Report, which measuress education quality, Indonesia ranked 64th. UNESCO's 2011 Education Development Index (EDI) ranked 69th out of

127 countries. And according to latest Human development Index, reported by UNDP, Indonesia ranked 121st out of 185 countries, with an HDI of .629. the report shows that Indonesia is ranked lower than two of its neighboring ASEAN countries, Malaysia (64th) and Singapore (18th). In order to strengthen basic education for students, the Ministry has committed operational and budgetary resources to implementation of the latest 2013 Curriculum by 2014. The 2013 Curriculum focuses on the acquisition of contextual knowledge in respective areas and environments. The curriculum seeks to develop student's evaluation skill in three areas; attitude (honesty, politeness, and discipline), technical skills (through practical work / school projects), and scientific knowledge.

The development of innovative learning material is one essential and very important step to improve quality of education. Through develop learning material with multimedia can increase student's curiosity that conduct classroom to active learning. The active learning is a model of instruction that focuses the responsibility of learning on learners. In order to have active learning experience, the innovative learning material should use of technology tools and multimedia helps enhance the atmosphere of the classroom. Each student will be actively engaged in learning process. Development of innovative learning material with active learning by using multimedia and web based learning is very interest to be discussed because of learning materials that qualified can improve comprehension, attitude, skill, and scientific knowledge of senior high school student. Therefore, development of learning materials is necessary to consideration accurately where learning materials not only source of learning, but has a particular classification.

Development of learning materials also necessary to fulfill good quality of learning materials. Good learning materials in senior high school will help students to achieve standard competency. The presence qualified learning materials is one best way to improve quality of education (Situmorang, 2013). Good learning materials should capable present the curriculum's requirement, flexible with the development of Science and technology, and become a bridge in learning process to achieve target of standard competency.

According to Hamdani in (Rudyanto, 2009) if it doesn't have ability to develop teaching materials are varied, teachers will be stuck in monotonous learning situations and tend to be boring to students. Good learning materials must be able to present learning materials in accordance with demands of the curriculum, follow any developments in science and technology in order to achieve a predetermined competencies (Jippes, etc., 2010) in (Manihar and Novalina, 2012), therefore preparation of learning materials quality is needed to help students to learn and fulfill needs of students to learn independently.

Generally student in Senior High School tend use book as their media or their learning sources. While the condition of book tend to conduct teacher center learning process. Teacher center learning is not good, therefore we need development of learning media, and through this development we hope there's no teacher center learning process anymore. According to Manihar and Andry (2014), the integration of information technology, integrate multimedia with e-learning and web based learning potentially push learning shift from conventional learning to student active learning, so that learning activity is not depend on teacher only, but development will courage student to be active. E-learning is one process where students use information and Communication Technology (ICT) facilities together as media without consider space and time to learn (Sutanta, 2009). Modern ICT development enable us to combine various media, such as picture, video, animation, virtual laboratory, and website and these make students easier to receive and access lessons, and courage students to active learning process.

In reality, chemistry is learning materials which has wide scope in our daily life. Chemistry is one subject matter for student in natural science group. In implementation of Curriculum 2013, chemistry has 4 lesson hour meeting in each week. Chemistry is also one interest subject matter, because chemistry gives foundation in society life, develop life skill. Chemistry also one of discipline that can answer global challenge. Chemistry belong to difficult subject matter, because mainly chemistry consist of many abstract concept and real example. In presentation, chemistry learning materials lack systematic, less attractive, and tend

to make students feel boring. Therefore in presentation of chemistry learning material, we need creative, and innovative step to courage student to be active and has high curiosity. Therefore we need to develop creative and innovative learning material. And according to Lee (2010) one way to increase quality of education is through present quality learning materials.

Revitalization of learning materials are necessary to enrich learning sources so that able to student's learning activity which follow development information and technology to optimal, and effective for increasing student's achievement in chemistry. Some prerequisite to make learning materials as learning sources are, availability that can reach by students independently, can courage student to learn independently, and facilitate students complete and recent learning materials. Good learning materials must be cover as good as possible, as creative as possible, suitable with main topic, following with picture, illustration, exercise example, contextual problems which support learning activity through adaptation of newest technology is one target of learning materials development.

In senior high school, thermochemistry learned in second year in first semester. Thermochemistry studies Heat and Energy, Enthalpy change (Calorimeter, Hess law, and Bond Energy). Thermochemistry is one difficult topic to understand for students, because this topic has abstract concept. And need high student's imagination. Sometimes, lack of laboratory experiment, and lack of student's interaction with classmates because learning process focus on teacher only.

Based on above description, researcher challenged to creating creative, innovative, systematic chemistry learning materials in form of hardcopy and electronic book to support student's achievement according to standard competency. And this research entitled **“The Development of Innovative Learning Material Thermochemistry With active Learning and Multimedia”**.

1.2 Scope of Problem

Based on background above, the scope of problem in this research is development of innovative learning materials to fulfill standard competency in senior high school.

1.3 Problem Identification

Based on the background above, the following are some problems can be identified in this research:

1. The arrangement of innovative thermochemistry learning material to achieve standard competency in senior high school.
2. Learning media that proper to integrate according to innovative thermochemistry learning material to achieve standard competency in senior high school.
3. Response of lecture and senior high school student to innovative thermochemistry learning materials seen on, proper standard, language, presentation, content and form.
4. Development an innovative thermochemistry learning materials that courage student to active learning.
5. Standardize a development learning materials to meet the standard provided by BSNP.

1.4 Problem Formulation

Based on the background that has been stated previously, then the problem formulation in this research is:

1. How the arrangement of innovative thermochemistry learning material with active learning and multimedia so that suitable according to standard competency in senior high school?
2. How the proper presentation of innovative thermochemistry learning material with active learning and multimedia to achieve standard competency in senior high school?

3. How the response of lecture and senior high school student on innovative thermochemistry learning material with active learning and multimedia, seen on proper standard, language, presentation, content and form.
4. How to develop an innovative thermochemistry learning material with active learning and multimedia to encourage student to active learning?
5. How to standardize a developed learning material to meet the standard provided by BSNP?

1.5 Problem Limitation

To avoid the deviate problem based on the problem formulation, so the problem limitation in this research are:

1. Arrange the innovative thermochemistry learning material with active learning and multimedia suited with standard competency look from standard proper, language, content, and form in senior high school.
2. In arrange innovative thermochemistry learning material with active learning and multimedia will be develop at least 7 chemistry book in senior high school.
3. Learning materials will be revise by expert of curriculum, till we get standar learning materials.
4. There will be integration of various media that usually use by teacher in teaching process.
5. Development of innovative thermochemistry learning material with active learning with multimedia only to standardization of learning materials stage, not up to the implementation stage.

1.6 Research Objective

The objective of this research is to facilitate the understanding of students in study of thermochemistry. The spesific objective have been achieved in this research, are following:

1. To do development of innovative thermochemistry learning materials with active learning and multimedia suitable with standard competency in senior high school.

2. To get the good presentation of innovative thermochemistry learning material with active learning and multimedia to achieve standard competency in senior high school.
3. To know the response of lecture and senior high school student on innovative thermochemistry learning material with active learning and multimedia, seen on proper standard, language, presentation, content and form.
4. To develop an innovative thermochemistry learning material with active learning and multimedia to courage student to active learning.
5. To standardize development thermochemistry learning material with active learning and multimedia to meet the standard provided by BSNP

1.7 Research Benefits

The results of this study is expected to provide benefits for researcher, university students, lectures, and senior high school students. The specific benefit are:

1. To reseacher
As an precious experience have a chance to analyze book and able to arrange and develop innovative learning materials.
2. To Teacher
To give information and advice and potentially help teacher to present the learning materials to student.
3. To Senior high school student
As information to enrich their knowledge.
4. To the next reseacher
As information in the next research to improve quality of teaching process especially in chemistry teaching.