CHAPTER I

INTRODUCTION

1.1 Background

Education is a conscious and planned effort to create an atmosphere of learning and learning process so that learners can actively developed their potential to have the power of self-control, personality, intelegence, noble character as well as the skills required by them , society, nation, and state . various efforts have been made to improve the quality of education, including improving the quality of teachers, facilities, and infrastructure, curriculum changes, refinement of assessment system and the use of appropriate models and learning methods

Until now, the quality of education in Indonesia is still low. It was proven by report of PISA (program for International Student Assessment) 2015, Indonesia was ranked 62nd out of 72 countries list and another evidence was the learning results of students in chemistry lessons are still relatively low.

Based on research conducted by Sastradewi (2015), the average student's learning mastery in SMA Negeri 1 Susut (academic year 2014/2015) class x mathematics an natural science was 42 % . it means that level understanding of student's chemistry concept was low. It happened because the teachers had not been able to choose, sort, and apply the books that refer to the learning model that was in accordance with the nature of chemistry. The fact was obtained from the field showed that chemical books was circulated and used in the school didn't integrated learning models. Whereas the development of teaching materials should be adapted to the learning models.

According to observations made by Maysara (2016), the difficulty of studying chemistry relates to the chemistry characteristics itself proposed by Kean and Middle camp (1985) namely (1) most abstract chemistry, (2) sequential and rapidly growing chemicals, (3) materials or chemistry studied very much.

Students think that chemistry is one of the hard lesson, students are afraid of chemistry lessons and feel inadequate in learning it.

To address these conditions it's necessary to develop teaching material, that is developing teaching materials that are integrated with the *problem-based learning* model. According to Sastradewi (2015), chemistry learning device with problem model will be able to generate student response to develop problem solving ability, which later can increase students' understanding of the concept.

Problem Based Learning (PBL) is a student-centered learning model. Students must learn to solve the problems that they find, learn independently and apply the knowledge they gained to solve the problem. In other words, *Problem Based Learning* gives four dimensions to the process of learning such as constructive, self-directed, collaborative and contextual (Mustafa, 2016).

Research conducted by Wahyudi, et al. (2014) showed that students easily understanding chemistry material by using teaching materials based on *Problem Based Learning* model in environmental pollution subject with the average percentage of student learning outcomes from 66.50 to 85.60. The results of Khotim research (2015) show that the development of problem-based chemistry modules on acid-base material effectively improve students' conceptual understanding. This is shown in the improvement of students' concept understanding with the average score of 0.41 with the criteria of moderate increase, the percentage of classical completeness of 92.86%.

According to Silaban, et al. (2014) The development of innovative teaching materials based on *problem based learning* (PBL) model in chemistry formula and equation of reaction can improve student learning outcomes with the achievement of learning targets: average 70,5 and effectiveness of 11 , 76%. The standardization result of the teaching materials feasibility based on the assessment of chemistry teacher of high school grade X that is 3.3 with valid category and doesn't need to be revised. This data proves that the teaching materials that are integrated *problem based learning* model can improve student learning outcomes.

Based on the description above, the researcher is interested to develop teaching materials on the grade X even semester integrated Problem Based

Learning model. Therefore, this research entitled **"The Development of Integrated Teaching Material of Problem Based Learning Model in Chemistry Subject Grade X Even Semester".**

1.2 Problem Identification

Based on the background Explained above, there are some problems are identified to make the research be focused, they are:

1. Student learning outcomes in chemistry lessons are still low.
2. The lack of teachers ability on choosing and applying a teaching materials that refers to the learning model in accordance with the nature of chemistry.
3. Application of problem based learning model not yet found in chemistry teaching material which existing and used at school.

1.3 Scope of The Study

In order for this study not to deviate from the research objectives then the limitation problem as follows:

1. Teaching materials that will be analyzed as much as three pieces.
2. The teaching materials that will be developed is chemistry subject grade X even semester.
3. The development of teaching materials that will be done by integrating problem based learning model.

1.4 Problem Statement

The formulation of the problem in this research are:

1. Is the teaching materials that exist and used at school integrated the problem-based learning model?
2. How is the level of feasibility integrated teaching materials based on problem-based learning model that has been developed based on BSNP standard?

3. What are the students' responses of teaching material integrated problem based learning model on chemistry subject grade X even semester that has been developed?

1.5 Research Aim

Based on the above problem formulation, this study aims:

1. Assess the teaching material that used in school to know it has or not problem based learning model in the teaching material.
2. To know whether the developed teaching material has fulfilled the standard criteria of BSNP.
3. To know the student's responses of chemistry teaching learning integrated problem based learning model on chemistry subject grade X even semester for senior high school which has been developed.
4. To get developed teaching material by integrating problem based learning model.
5. To get the valid book in accordance the provisions of validator expert.

1.6 The Significance of The Study

The expected benefits from the results of this Research are:

1. For the government

   The result of this research can assist in the process of the implementation and application the 2013 curriculum to senior high school students.

2. For Teachers

   The result of this research can be used as a reference in conveying the lesson material that integrated problem based learning model especially on chemistry topic.

3. For students

   The result of this research can make students happy in studying chemistry lessons, especially in chemistry subject grade X even semester, and increase interest in learning and critical thinking.

4. For Researcher

   The results of this research will increase knowledge, faith, devotion, ability and experience in improving the competence as a prospective teacher.

5. For Further Researchers

   The result of research as a material consideration and comparison and also referral in conducting further research.

1.7 Product Specification

The developed product in this research are chemistry teaching learning for students of grade X even semester. The specifications of product in this research are :

1. Teaching materials that are integrated Problem Based Learning model on chemistry grade X even semester contains problems to be solved by student.
2. Teaching materials developed meet the eligibility criteria of content, presentation, language and graphics according to BSNP standard.