

CHAPTER I

INTRODUCTION

1.1. Background

Educational problems associated with the low quality of education in Indonesia, particularly in secondary educational level are often discussed in the mass media. Many efforts have been made to improve the quality of education such as providing training to improve the quality of teachers, curriculum improvement periodically, repair facilities and educational infrastructure, and improve the quality of school management (Yusfiani, dkk, 2011). However, indicators of the quality of education have not shown significant improvement (Mulisch, 2007). Improving the quality of education should be carried out continuously and through innovation. Improving the quality of education and efforts to optimize learning should be supported by all elements and stakeholders involved in the learning process in schools. Teachers can participate in optimizing the chemistry learning to improve the quality of education by preparing quality teaching materials (Purwitasari, 2014).

In the process of teaching and learning activities cannot be separated from the importance of teaching material. Although teacher can explain the material with clear and complete, teaching material remain a priority and essential needs. Teaching material must be able to present the material in accordance with the demands of the curriculum, following the development of science and technology, and contains a predetermined competency (Jippes, et all, 2010). With the provision of quality teaching material is expected to create a student-centered

learning. Student-centered learning has several advantages which can optimize instructional time in class that seemed relatively short and may be able to increase students' motivation (Cheang, 2009).

Teaching material as a source of learning is very important to get attention because it can equip, maintain and enrich learning, increase the activity and creativity of learners. Good teaching material, standard and innovative can improve student achievement because students are motivated to use the teaching material during inside of class and outside of class lessons for enrichment and self-regulated learning (Situmorang, 2013).

Educational innovation is a plan or pattern that can be used to build the curriculum, designing teaching material and as a director of learning activities inside or outside the classroom. Innovation in education is often associated with the renewal that comes from creative thinking, findings and modifications which include ideas and methods used to solve educational problems (Riskin, et al, 2006). Learning innovation using text books need to be done to increase student achievement so that the impression longer learning for the students (Tompkins, et all, 2006). In learning innovation, learning objectives is a very important thing to be considered.

In the curriculum 2013, learning process is not only emphasizes on the aspect of knowledge, but also on aspects of skills and attitudes (Maryanto, dkk., 2013). Efforts to develop students' learning attitudes often associated with character education. In accordance with the educational objectives set out in the LawNo. 20 Year 2003 about National Education System in Article 3 states that the purpose of education is formation character of students. The Government

through the Ministry of National Education has tried as much as possible to implement character education to all levels of formal education from elementary to college. However, there was found a few cases of shifting morals and behavior of students: violence among students, fighting between students, cheating, ditching, lying, lack of respect and manners of students to parents and other that show formal education failed to form good characters students.

Development of standard teaching material through chemistry learning innovation by integrating character education is very urgent to be done in preparing good quality teaching material that can improve Indonesia's human resources which has good character. Good quality and standard of chemistry teaching material for senior high school will be able to help students in learning. In addition, the provision of an integrated character education in the teaching material on any sub topic that is appropriate in the chemistry teaching material can grow good character of students (Situmorang, 2013).

Maximum utilization of learning resources can explore science in full compliance in accordance with the level development of learners (Jippes, et all, 2010;. Bentley, et all, 2010). Good teaching material should always follow the development of technology, art and reality of life in an increasingly globalized society (Ho, et all, 2009) In a good textbook can effectively support the achievement of competence and meaningful to the student achievement, textbooks must meet the standards quality (Labov, 2006). Therefore, teaching materials as a resource for student learning must meet national standards that have been set by our government for secondary education (Arlitasari, dkk, 2013).

From the survey result in chemistry textbook for senior high school / Islamic senior high school in several bookstores in North Sumatra province is known that in general chemistry book not follow the curriculum 2013 (Situmorang, 2013; Simatupang, dkk., 2013). The unavailability of a standard textbook in accordance with the demands of the curriculum 2013 are increasingly making it difficult for students to learn chemistry (Situmorang, 2013). Based on the results of analysis from several experts (teachers and lecturers) toward chemistry book publisher Tiga Serangkai, the results showed that this book has not been fully in accordance with the demands of curriculum 2013.

In the chemistry book entitled *Kimia Berbasis Eksperimen* publisher Tiga Serangkai on the topic electrolyte and non electrolyte solution there are still found some weaknesses, such as systematic and lack of utilization of instructional media to increase students' motivation. Utilization of instructional media must meet with the advancement of technology and development of times to maximize student learning outcomes because media can represent what is less capable said by teacher through words or certain phrases.

Based on the background above, researcher interested in conducting research with the title "**The Development of Innovative Chemistry Teaching Material Electrolyte and Non Electrolyte Solution Integrated Character Education**".

1.2. Problem Identification

Based on the background that has been stated above, problem identifications are identified as follows:

1. Chemistry textbook that is present in the market is still not suitable with the demand of curriculum 2013.
2. Chemistry teaching material as one of learning source can not motivate students to learn chemistry.

1.3. Problem Limitation

Based on the problems identified above, problem limitation for this research is:

1. Material was analyzed toward the eligibility of teaching material publisher Tiga Serangkai is electrolyte and non electrolyte solution.
2. Validator toward the eligibility of teaching material that has been developed is chemistry lecturers in State University of Medan with minimum educational level S2, are actively teaching basic chemistry and master the material that is relevant to chemistry material in senior high school as much as 2 people and chemistry teacher grade X in senior high school in Medan who has received training K-13 and has academic eligibility S1 chemical education and have minimum 3 years teaching experience as much as 3 people.
3. Testing about chemistry teaching material that has been developed was conducted in senior high school Dharma Pancasila, senior high school Al-Washliyah 3, and senior high school UISU Medan.

1.4. Problem Formulation

Based on the background and problem limitation above, so problem formulation in this research as the following :

1. Is the innovative chemistry teaching material for senior high school grade X in the second semester suitable with K-13?
2. Is the learning outcome of students who learned using innovative chemistry teaching material higher than learning outcome of students who learned without using innovative chemistry teaching material?

1.5. Research Objectives

In line with the above problem statements, research objectives this research is:

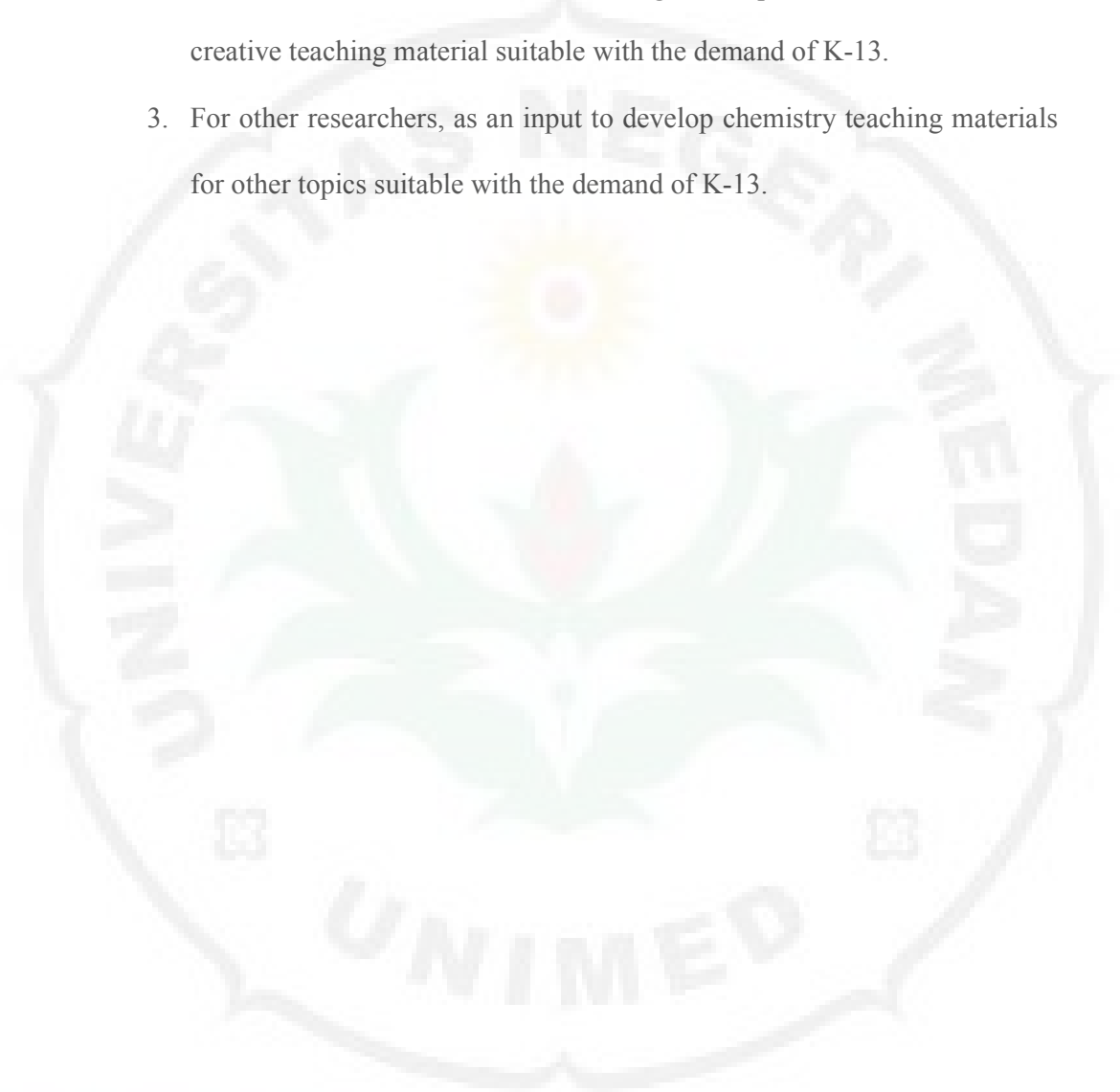
1. To obtain innovative chemistry teaching material for senior high school grade X in the second semester which is suitable and in accordance with K-13.
2. To determine the effect of using innovative chemistry teaching material toward learning outcome of students of senior high school grade X in the second semester.

1.6. The Benefits of Research

After completion of this research are expected to provide the following benefits:

1. For students, are expected that teaching material that has been arranged can made as a student's book in the teaching and learning process.

2. For teacher, as consideration for doing development of innovative and creative teaching material suitable with the demand of K-13.
3. For other researchers, as an input to develop chemistry teaching materials for other topics suitable with the demand of K-13.



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