

# CHAPTER I

## INTRODUCTION

### 1.1. Background

Education is an effort to develop potential, abilities, character values and culture of humankind especially young generation. Education has a very important role in human life. The Purpose of National Education in Law No. 20, 2003 mention that National education functions to develop capabilities and shape the nation's character and civilization with dignity in the context of educating the life of the nation, aiming at developing the potential of students to become human beings who believe in and fear God Almighty, have noble, healthy, knowledgeable, capable, creative, independent, and be a democratic and responsible citizen. Other than that, according to UNESCO there are 4 pillars of educational purposes namely : 1) learning to know, 2) learning to do 3) learning to be and 4) learning to live together where the four pillars combining IQ, EQ and SQ goals.

Natural science is an important subject which has important role in education. The subject contributes vital development of global knowledge. In natural science, students are encouraged to find the materials themselves and to be able to deliver those materials in a complex way. Johnson suggested that one reason science was difficult for students, was that it involved what he termed „multilevel thought“. That is, in science subjects, students are commonly presented with explanations that involved being asked to think about very different types of things at once. In learning science, Students should be supported to construct knowledge in their mind, to be motivated to solve problems, to find things for themselves, and to do many things based on their ideas (Kemendikbud, 2013).

Chemistry is one of the knowledge that studies about structure, characteristics, material changes and energy changes. Research from several countries shows that science lessons, especially chemistry and physics, are one of the lessons that are less attractive to students. One reason is that

science, especially chemistry, learns many abstract things so that it is difficult for students to understand. According to Gabel (1999), this is what causes chemistry to be a complex lesson that causes students difficulties in understanding chemical material. In addition, the learning of chemistry carried out in schools is less associated in daily life and the lack of explanation regarding the benefits of studying the chemical material so that students tend to memorize. One of the chemicals that is difficult for students to learn is the rate of reaction.

The cause of the lack of student learning interest and the difficulty of students in understanding chemical material is not only from the strategies or learning methods used. but also caused by sources or learning materials. One of the sources of learning is in the form of learning materials. Learning materials affect the success of the learning process. Learning materials present material systematically that can be learned and easily understood by students with or without teachers. On the other hand, learning material is one of important source of learning to attract students attention because it can maintain, enrich and increase student's activity and creativity (Silaban, et al., 2016: 408-409).

Teachers are required to develop or innovate learning materials because by using learning materials, learning will be easier to implement and students will be helped and find it easy to understand chemistry material. Good and appropriate learning materials to convey abstract concepts are learning materials that present material by linking abstract things with concrete things, so that abstract concepts are more easily understood by students. In addition, connecting subject matter with daily life will have a positive impact on the environment and society and can directly provide meaningful learning. Meaningful learning is learning that can connect chemistry material with technology, science, environment and society so that it is not only able to improve learning outcomes but also can broaden horizons, develop critical thinking skills, problem solving skills and be able to think globally. One approach that can be used in this learning material is the SETS approach.

The SETS approach is an approach that integrates learning involving elements or components of science, technology, environment and society. Through this approach, student awareness will increase regarding the linkages between the SETS components. This approach, in accordance with the 2013 curriculum, suggests the use of a learning approach that can guide students to be active in the learning process. On the other hand, the learning process must also have a value that must be applied in the school to reach the core competence one, namely living and practicing the teachings that it adheres to. The learning process that applies aspects of character values, can be used as a way to overcome the crisis of values and morals that exist in society today.

Learning activities that have value, of course, are very important to do in schools, in order to achieve the National Education Goals and to overcome the various crises of values and morals of today's society. In addition, the development of standard learning materials through innovative chemistry learning materials integrated with character education is very urgent because it can improve human resources who have good character (Silaban, Septiani & Hutabarat, 2015: 78-79). Therefore, this learning materials not only uses the SETS approach but is also combined with Islamic values so that students not only excel in cognitive terms but also excel in affective terms because the development of Islamic values applied to the learning materials can improve students' character. Presenting spiritual aspects in learning material giving student and understanding that discoveries of science that have been found are predetermined destiny of God about what happened (Darmana et al., 2020: 2-6).

The implementation enriched students' ability in chemistry learning and the response was positive (Darmana et al., 2013: 38-41). There were an enhance in students' spiritual and a relation between spiritual value to students' learning outcome enhancement (Okmarisa et al., 2016). Along as the study, the integration of Islamic values in learning material were clearly delivered, relevant, and enhanced students' knowledge in chemistry and religion (Mohamed et al., 2017). Therefore, the development of learning

material that apply Islamic values is needed to improve competence in chemistry learning and student character.

Based on the background above, the authors are interested in do research with the title **“The Innovation of Learning Material Based on SETS (*Science, Environment, Technology, Society*) Approach Integrated Islamic Values on Reaction Rate Topic.”**

### **1.2. Problems Identification**

Based on the background above, the problems identification as follows:

1. The lack of teachers ability to compile learning material that are integrated with Islamic values.
2. The learning of chemistry carried out in schools is less associated in daily life and the lack of explanation regarding the benefit of studying chemistry.
3. The lack of student motivation in learning chemistry.
4. The learning process more focus on cognitive aspect than affective aspects.
5. The implementation of character and spiritual values was rarely to find in learning process.

### **1.3. Problem Limitation**

Based on the problem identification above, the problem will be studied is focused on the efforts to improve learning outcomes and student character by using SETS learning material integrated with Islamic values on reaction rate topic based on BSNP (Badan Standar Nasional Pendidikan) criteria.

### **1.4. Problems Formulation**

1. Does the innovation of SETS learning material integrated with Islamic values feasible based on BSNP criteria?

2. Does the innovation of SETS learning material integrated with Islamic values can improve the learning outcomes?
3. Does the innovation of SETS learning material integrated with Islamic values can improve the student character?
4. Does has the difference between students learning outcome by using SETS learning material integrated Islamic values with learning material in school?
5. Does has correlation between learning outcomes and student character in using SETS learning material integrated Islamic values?

### **1.5. Problems Formulation**

1. Knowing the feasibility of SETS learning materials integrated Islamic values based on BSNP criteria.
2. Knowing the effectiveness of SETS learning materials integrated Islamic values to improve the learning outcomes.
3. Knowing the differences of learning outcomes between using SETS learning materials integrated Islamic values with learning materials in school.
4. Knowing the effectiveness of SETS learning materials integrated Islamic values to improve the students character.
5. Knowing the correlation between learning outcomes and students character in using SETS learning materials integrated Islamic values in the learning process.

### **1.6. Benefit of Research**

The benefits of this research are as follows:

1. For students as learning material in understanding and adding insight into the reaction rate material, can develop a sense of curiosity and a sense of awareness of the connection between science, environment, technology and society and can improve the character of students including knowing the greatness of God honest, grateful, please-help through Islamic values contained in learning material.

2. For teachers as a source or material for companion learning that is expected to be used and helped in the learning process.
3. For researchers as information on how to develop learning material and for further research.



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