CHAPTER I
INTRODUCTION

1.1. Background

The main aim of the science and technology curriculum is to educate all students as scientifically and technologically. The science and technology literacy is a combination of several skills, attitudes and knowledge related to science and technology as well to the other scientific disciplines such as physics, chemistry and biology (Bahar & Polar, 2007).

Learning activity is one thing that must be concerned by the teacher that not all student capable in understanding the old and new knowledge that they gained, and it will cause missunderstanding on a topic. This missunderstanding will further cause a problem to the student and make them difficult to learn (Ameruddin, 2013). Students classified have learning difficulties in heterogeneous group and have a wide variety of characteristics, ranging from academic difficulties to cognitive and social-emotional problems (Austin & Janelle 2008).

Process of learning activities always found the existence of students who have experience difficulty in mastery learning about materials. In particular, learning difficulties occurs if students were not mastered basic competencies of the subject matter. One barrier in learning mastery is still prevalent because of the learning approach was dominated by the role of teacher (teacher centered). Based on interview with teacher, teacher centered approach always do in learning activity in the class. Teacher take the students as an object and not as a subject students (Anitarera, 2009).

According to Bahar&Polar (2007), why are some science topics difficult to learn? Three answers were developed for this question in the literature. The first one is students expresses some factors such as attitude, skill, and knowledge, physical state and it will be affecting learning process (White, 1993). The second one is that the difficulty in science may be related to the problems of perception and thinking of students. When students realize that the concept is difficult, they would perceived complexity in their mind and cause overloading of working

memory capacity (Johnstone's, 1991). The last one is unfamiliar vocabulary in different context, using negative expressions in exam questions or during teaching can affect learning Students' difficulties in learning biology have been studied by various researchers among the world (Johnstone & Slepeng, 2001).

Bahar and Polat (2007) was concluded research at primary 6-8 classes, that from Forty topics that perceived as the most difficult by the students, one of them is tissues in plants and in animals with percentage about 28,18%. Teachers also found students difficulty from Forty topics that teachers thought as difficult for students Tissues in plants and in animals about 41,17%. Interestingly, there is only 57, 5% overlap between the students' list and teacher list. In other words 23 topics out of 40 commonly perceived as difficult both by teachers and students.

There are many reasons why students have difficulties in learning biological concepts. The teaching methods is the reasons of difficulties in learning science, while the biological level of organization and the abstract of concepts make learning biology difficult. Overloaded biology curricula, the abstract and interdisciplinary nature of biological concepts, and difficulties with the textbooks are the factors that prevent students to learn (Cimer, 2012).

According to Lake (1999), peer tutoring method is effective to learn the concept of depth, besides improve the academic achievement both for tutor and tutee, helpful to solve the problem, develop creativity, experimentation and problem-solving skills. Peer tutoring method is suitable in the heterogeneous classroom where there are find variety of ability students in learning. The ability of different students will help teachers. The tutor can help for constructing the tutee in learning difficulties. One tutor is monitoring maximum fives tutees.

Peers are believed to provide more effective learning because they have experienced the same kind of learning problems previously which may lead them to be more sensitive and responsive to the tutees target needs. Basically, peer-tutoring is a process of having peer tutors to help their tutees in any specific fields that the tutees are lacking in. The tutors do not need to be experts in the field that they are going to tutor but they at least must possess better proficiency than their tutees. (Alima & Fong, 2012).

While according to the initial observation that done in SMA Negeri 2 Kisaran, that are 30% of XI grade students in each class that have low score in structure and function of plant tissue subject matter that can be seen from the the test score. The percentage of students difficulties above are got by the interview with the biology teacher.

Learning peer tutoring is not widely done in senior high school, especially in the subject of biology. Some subject did used peer tutoring applicable use numbers processing such as physics, chemistry, and mathematic. In fact, the subject matter and contained biology concept related to the chemistry and mathematics (Setiawati, 2007).

This research used peer tutoring method in the structure and function of plant tissues in grade XI of Science SMA Negeri 2 Kisaran haven't done before so the percentage of learning difficulties in each year are not detected well. To know the effectiveness of peer tutoring in student difficulties in learning topic is important to do the research with the title. "**The Effectiveness of Peer Tutoring Method to Resolve Student Learning Difficulties in Structure and Function of Plant Tissue Topic on Students Grade XI of Science SMA Negeri 2 Kisaran Academic Year 2015/2016".**

1.2. The Identification of Problem

1. Learning process is dominated by teacher centre.
2. Students learning outcome in structure and function of plant tissues topic task and test in grade XI SMA Negeri 2 kisaran still in a low level.
3. Peer tutoring method haven't done before in teaching biology.

1.3. The Scope of Problem

As the scope of the problem in this research are the subject matter of structure and function of plant tissue by using peer tutoring method on Grade XI of Science SMA Negeri 2 Kisaran.

1.4. Research Question

The formulation of the problem in this study:

1. Is the peer tutoring method effective to resolve learning difficulties in structure and function of plant tissues topic on Grade XI of Science SMA Negeri 2 Kisaran?

1.5. The Objective of Research

The aim of this research is as follows:

1. To get the data about the effectiveness of peer tutoring method to resolve learning difficulties in structure and function of plant tissues topic on Grade XI of Science SMA Negeri 2 Kisaran Academic Year 2015/2016

1.6. The Significance of Research

The results of this research expect to contribute in both theoretical and practical, namely:

Theoritical Benefits

Result of this study is to provide information about how the effect of peer tutoring method to resolve student learning difficulties in structure and function of plant tissues topic.

Practical Benefits

For the teachers, this research can help to increase management class in student grouping to make learning more active and easy to student get mastery of concept in subject matter. as input to decrease students learning difficulties on topic structure and function of plant tissues. As an addition to information and literature in education, especially regarding learning with peer tutoring method