

## CHAPTER I INTRODUCTION

### 1.1. Background

Learning is not just the transferring of knowledge from the teacher to the learner. It is an understanding process where relatively permanent changes are caused by information and experience. These changes do not solely refer to outcomes of the learner's behaviour that are manifestly observable, but also to attitudes, feelings and intellectual processes that may not be so obvious (Hamachek in Chu, 2008). Teachers with consciously make the learning activities systematically by utilizing for the purpose of teaching. Teacher's expectation that is always demanded of teachers is how instructional subject matter submitted can be mastered by the students completely. Realizing the process of teaching and learning are the most important, include how teachers can stimulate, engage and encourage students in learning to achieve optimal learning outcome, stimulate the brain for thinking and creativity in control behavior is a growth change of the students (Dalyono, 2005).

In fact, the progress of students at the same level (class) is not similar in learning, there are students who are fast, normal and slow. The differences of student need to be understood by teachers for the learning process. Basically every student has its own characteristics, it causes the differences in abilities, such as: intelligence, interests, motivation and healthy, physical and social environment of each student has indicates that students have learning difficulties.

Generality, students' with learning difficulties used widely and without much precision. The term is applied to students whose learning problem in school are not directly related to any specific physical, sensory or intellectual impairment (although in some cases their intelligence may be some what below average). Instead, the learning difficulties may be due to external factors such as from the school, family and learning material (Westwood, 2008). Learning difficulties can

arise in the form of social or vocational adjustment. Which suggests that children with learning difficulties have a learning outcome is far below its potential (ACALD in Abdurrahman, 2009). Student with low learning outcome in the learning process can not be reversed in a single factor, it is influenced by several factors (Abdurrahman, 2009). They are internal factors and external factors. The main cause of students experiencing learning difficulties are internal factors, comes from within of student. External factors come from outside of student, such as: learning strategies, management of learning activities, there is no students' learning motivation.

In Biology, the students get the learning difficulties, it appears that many students perceive plants to be less interesting as organisms than animals, because plant is a passive organism (Hoekstra in Wandersee, 2001). Students in senior high schools should understand that plants have basic needs that include air, water, nutrients, and light. For example, students often believe that plants need "food" in a way that is similar to food that people eat. So, when they hear that plants make their own food, they are often thinking about food in terms of something that the plant ingests or "eats" (Roth in Smith, 1984). Based on Prokkop (2007), science is boring for students, difficult, the plant tissue not relevant to the people's lives, more attractive to boys and less interesting to older students. The student learning difficulties in biology concepts has been investigated (Johnstone in Tekkaya, 2001) reported that water transport in plants were among the most difficult in biology. Approximately 20.4% of the students had learning difficulty in plant tissue concepts in Turkey. Kelly (2013), researchers speculate that students with learning difficulty have trouble keeping up in biology courses because of the subject's rigorous language and specialized vocabulary (Yager, 2010). Therefore, students who struggle with language processing and literacy skills, the language of biology must be addressed (Fisher, 2009). Researches have showed that on measures of science achievement and attitudes toward science begin to differentiate by gender, Although there is no difference in achievement of boys and girls until the middle school years, boys begin to have greater success

that lasts through high school (Catsambis in Hacer, 2006). While males have more experiences with a variety of tools such as batteries, electric toys, fuses, microscopes, and pulleys, females have more experiences with bread-making, knitting, sewing, and planting seeds. More male students showed they were interested in atomic bombs, atoms, cars, computers, xrays, and technology while more females reported interest in plant, animal, communication, healthy eating, and AIDS. Teachers as educators must be analyze the causes of why the girl can get the higher achievement than boys and the learning difficulties in student have to know of teacher where student in learning difficulties.

The students' learning difficulties can be seen from the learning achievement in daily test which doing to know the mastery learning of students, if the student getting under the completeness (KKM) it is mean the students have learning difficulties. Learning difficulties can be defined as a condition in a process of learning that marked the specific obstacles to achieving learning outcomes. Students with obstacle to learning process will get under proper results.

Based on interview with biology teachers' in SMAN 3 Panyabungan at grade XI science senior high schools in Panyabungan Academic Year 2013/2014, it was determine the score of the students did not achieve the completeness KKM (minimal completeness criteria) in the plant tissue topic was about 75. Students have difficulties on plant tissue topic found in transportation of water in plant, student feel confused with the stepping of the process, too less and incompatibility of time that given to the subject matter. Based on the interview with Biology teacher's in SMAN 2 plus in Panyabungan, the students' learning difficulties in plant tissue topic found in tissue culture technique because the explanation of this topic is simple and transportation of water too. There are a lot of latin name in the subject matter as well as low ability students to remember the subject matter that has been taught, the students has not interest to looking for an explanation and pictures of plant tissue topic in another text book, makes the students getting difficult to understand the plant tissue topic. It is important to observe the students' learning difficulties. The learning difficulties will be seen from the

results of the diagnostic test in student learning to know the factors are causes the learning difficulties by analyzing the results of the questionnaire of student. Based on the results of analysis, educators can determine the great solution for students to achieve the learning outcomes as expected. Considering with the background, important to research the students' learning difficulties, then planning to conduct a research titled as: **“Analysis of Students' Learning Difficulties on Plant Tissue Topic in Grade XI Science at Senior High Schools in Kecamatan Panyabungan Academic Year 2013/2014 “**



## **1.2. Problem Identification**

Based on the background description above, researcher identified the research problem as follows:

1. The lower of student learning outcomes in the Plant Tissue Topic
2. The students' Learning difficulties in understanding of the Plant Tissue, among others : Plant Organ, Transport in Plant and Tissue Culture
3. The lower interesting of students to search explanations and pictures of plant tissue in another text book.
4. The lower abilities of students to recall the topic that has been taught.

## **1.3. Problem Limitation**

In order to obtain an appropriate discussion, this research has some limitations as follows:

1. Students' learning difficulties of cognitive learning in bloom's taxonomy from each indicator on Plant Tissue Topic in Grade XI Science at Senior high schools in Kecamatan Panyabungan Academic Year 2013/2014
2. Students' learning difficulties factors of learning on Plant tissue topic in Grade XI Science at Senior high schools in Kecamatan Panyabungan Academic Year 2013/2014
3. Gender differences of students in results of diagnostic tests on Plant Tissue in Grade XI Science at Senior high schools in Kecamatan Panyabungan Academic Year 2013/2014

#### **1.4. Research Question**

1. How are the students' learning difficulties on cognitive learning in bloom's taxonomy from each indicator on Plant Tissue Topic in Grade XI Science at Senior high schools in Kecamatan Panyabungan Academic Year 2013/2014?
2. How are the students' learning difficulties factors of learning on Plant tissue topic in Grade XI Science at Senior high schools in Kecamatan Panyabungan Academic Year 2013/2014?
3. How is the gender differences of students in results of diagnostic test on Plant Tissue Topic in Grade XI Science at Senior high schools in Kecamatan Panyabungan Academic Year 2013/2014?

#### **1.5. Research Objective**

This research is conducted to achieve some objectives as follows;

1. To determine the students' learning difficulties of cognitive learning in bloom's taxonomy from each indicator on Plant Tissue Topic in Grade XI Science at Senior high schools in Kecamatan Panyabungan Academic Year 2013/2014
2. To determine the students' learning difficulties factors of learning on Plant tissue topic in Grade XI Science at Senior high schools in Kecamatan Panyabungan Academic Year 2013/2014
3. To determine the Gender differences of students in results of diagnostic test on Plant Tissue Topic in Grade XI Science at Senior high schools in Kecamatan Panyabungan Academic Year 2013/2014

### 1.6. Research Significance

Considering about the research result and discussion, this research has significant beneficial expected both theoretical and practical. In theoretical, this significant research as follows:

1. Provide information to teachers about student learning difficulties on the Plant Tissue Topic. So that teachers can find the best solution to make students more easily to understand the subject matter of Plant Tissue.
2. Motivating teachers to further enhance the learning process and understand the characteristics of students who have difficulty learning the Plant Tissue Topic
3. As another researcher to develop other reference further research.

Meanwhile, in practical This significant research as follows:

1. As conceptual contribution to the biology teacher, business, Developer and educational institutions in understanding the dynamics of the students' understanding on Plant Tissue Topic.
2. As input to the principals to further improve performance Biology teacher in the learning process
3. As input for Biology teachers to develop meaningful learning activities on Plant Tissue Topic, so that students learning difficulties can be overcome.