

CHAPTER I

INTRODUCTION

1.1 Research Background

Education has a very important role in building a nation that is creating high-quality human resources, skilled and able to compete in the era of globalization. Therefore, the education sector should get more attention to get intellectual generation.

Qualified students in the learning process is able to understand the concept, application of the concept, and being able to associate one concept with another concept not just recite. Other than in schools, according to Slavin (2009) learned can also be from interaction between students with their environment either intentional or unintentional. So before following the formal learning in schools the students already have one initial conception in mind each about a thing or event.

The conception belonging to students sometimes do not comply conception of the experts or scientists conception. This is called misconception that is a different conception with the conception of the expert or the wrong concept. The misconception that occurs on students can be derived from the results of his experience, from the elderly, the environment, technology-themed films, events that are aired on television, and reading materials which have a concept of true existence. In addition, the cause of the misconception according to experts including students, teachers, textbooks, teaching methods, and context (Suparno, 2005).

It is clear that students are not a blank paper, which is in the process of learning will be written by the teacher or their professors. Students before following the formal learning at school, it already carries a particular concept that they develop through their previous life experiences. The concept they bring it can in accordance with the scientific concept but can also not in accordance with the scientific concept.

According to Hiller (in Hewindati and Suryanto,2004), there is a close relationship between quality of explanations and knowledge of teacher with student learning achievement. Teacher who lack knowledge causes presentation of the subject matter is not clear will lead to the misconception.

A misconception to be one factor that inhibits students understanding of biological materials. Misconceptions can be hazards and obstructions in the process of teaching and learning biology lesson, especially where Biology is closely related to the concept. Many biological concepts are related to each other and key to understanding other concepts, so the misconception on one concept lead to misconceptions on other concepts (Tekkaya, 2002). Lack of knowledge of teachers in delivering the learning strategy and at least do well can lead to misconception. Most of the teachers teaching with lectures and recite method so that the learning process being passivity causes there are students not yet grasp the concept in depth, in addition to that the teacher did not notice the initial concept of students, causing a misconception. Students who are having a misconception could also be due to the difficulty of the students in understanding the concept. The difficulty stems from the complexity of the concept or term found in biology.

Based on the results of interviews conducted with the author of the biology teacher Mr. RamotSihombing in SMA N. 1 Simanindo , the author obtained the information that most students acquire the difficulty in studying concept of tissue and organ of plant, causes student's had misconception in this concept. This concept consist of tissues plant, primary tissue, permanent tissue, root, stem, an leaf.

There are some misconceptions about plant tissue. According to the research of Rahayu (2011) show the student's misconception: 1.student's perception about stomata is not modification of epidermal tissue, 2.students assume xylem and phloem only found in one of plant organ such as in stem or leaf, 3. Students perception that water absorption only occur in tip of root, 4. Student's perception that photosynthesis just in leaf, 5. Student's perception that in dicotyl plant there is cambium that formed by primary growth.

One of the learning technique that allegedly was able to create an atmosphere of learning, fun, and make students active when studying the matter is

Mind Mapping. According to IwanSugiarto (2004) Mind map is an excellent technique of learning to use teachers to enhance students understanding of students and memorized, and make the creativity of students increased. According to the result of interviewed of author with biology's teacher there are some term in plant tissue that difficult to understand and to remember, and there are picture of plant anatomy such as anatomy of stem, leaf, root. Therefore teacher needs a learning technique to make the topic easy and fun namely by using Mind mapping. The presence of a combination of colors, symbols, pictures, make it easy for the brain to receive the information. This can make the students can understand the subject matter in depth so that students would avoid the misconception.

The result of research Tjahjono and Aji (2010:10) got the score average of students that is taught by using Mind map is better 76.67 than is taught by lecture method 72.83 . Based on Rusdi(2011) research about Mind Map, he concluded that applying of learning technique can increase learning outcome of students in SMA N. 3 Binjai. The using Mind map is got learning outcomes of students amount 97.3%.

Based on identification of student's misconception above, the author need to do research with title "The Effectivity of Mind Mapping to Overcome Student's Misconception on Plant Tissue in SMA Negeri 1 Simanindo at Grade XI IPA I Academic Year 2016/2017" as effort to overcome student's misconception that occur in that school in Plant Tissue concept.

1.2 Problem Statement

Based on the background of the above problem, then problem identification in this research are:

1. There are some obstacles to learn plant tissue causes student's misconception in classroom.
2. Students have misconception on plant tissue.
3. Student difficult to understand plant tissue without exact learning method.

1.3 Scope of The Study

Based on the identification of the above issues, in order to avoid wrong interpretation against the research, then the author limited the focus of this research issue, namely:

1. The study will be conducted by using student at Grade XI IPA I SMA N. 1 Simanindo Academic Year 2016/2017.
2. The material is plant tissue topic.
3. The aspects measured is a misconception and student's cognitive.
4. Types of misconception is conceptual misconception.
5. Identify the effectivity of mind mapping to overcome misconception on plant tissue in at Grade XI IPA I SMA N 1 Simanindo Academic Year 2016/2017.

1.4 Research Question

Based on the background of the research question are:

1. Is there students have misconception on plant tissue topic at Grade XI IPA SMA N 1 Simanindo?
2. Does mind mapping overcome the student's misconception on the plant tissue concepts at Grade XI IPA SMA N 1 Simanindo?

1.5 Research Aim

The aim of this research are:

1. To identify the misconception on students on plant tissue topic at Grade XI IPA SMA N 1 Simanindo.
2. To know either misconception can overcome student's misconception or not and improve learning outcomes of students with mind apping at Grade XI IPA I N 1 Simanindo.

1.6 Significance of The Study

1. For teachers: extending the insights of teachers in teaching and learning strategies to overcome misconceptions students.
2. Student: to make simple to understand the concept.
3. School: give a donation in order to increase the quality of education
4. Researcher: can provide experience to other researchers and gain new experience by using mind mapping in learning process.

1.7 Operational Definition

1. Misconception is the wrong explanation and an idea that is not in accordance with the accepted scientific notions of the experts.
2. Effectivity is the learning technique that have function exactly namely to overcome student's misconception. Effectiveness indicates achievement of business goals or objectives that have been set in prescribed time.
3. Mind mapping is as a creative technique noted that combine lines, curves, symbols, words, images, and colors to make student easy to remember and understand and make learning process become fun, and can overcome misconception.