

CHAPTER I

INTRODUCTION

1.1 Background of Problem

Learning is an essential process to change human behavior that can be seen from the cognitive, affective, and psychomotor. Learning is a concept that consists of four interrelated elements, namely are : learners, stimulation, memory, and response. Linkage of the four elements of learning that is demonstrated by the phenomenon of learning activities will appear on the learner's self when there is interaction between stimuli with memory contents therefore the behavior (response) learners change from the time before and after the introduction of the stimulus situation.

Memory is one of the meaning learning process in the above. Memory is a process of remembering a lesson before understanding the subject matter. However there are still many teachers who do not give attention to how students memorize easily and quickly. They only think that students can understand what they have learned. Many people believe that to understand is better than memorize, before someone can understand the subject matter she/he must memorize the names or the order of the subjects.

Biology is one of the science lessons that related how to find out and understand the universe systematically. Learning biology involves mastering declarative and procedural knowledge. It makes student feel bored to learn science especially biology matters. Arturs Combs theory said that the teacher should be able to teach subject matter and to indicate the relation to environment surrounding students area (Suprihatiningrum, 2013). Human reproduction system is a topic requiring sistematic knowledge.

The learning otcome is indicator for teacher to know students mastering to subject matter that has been taught. Good learning process will continue well if all students have retain well. Therefore, if the students retantion is bad, learning process will be stagnant and caused the target of learning is not attained.

Retention is able to restore because retention is not carried from as she/he was born, but it is created by using the exact technique. The students are able to get and access the information easily (Stine, 2003). To improve long term memory of students in learning biology, some researchers find Mnemonic technique is effective. The result of this study uses independent sample t-test of parameter statistics (Halim, 2001) found that the value $t = 5.344$ ($t > 1.697$) and $F = 0.179$ ($F > 0.05$). The differences of average score between experiment class and control class is 33.12. It is showed that Mnemonic technique in this study to be effective and be successful to improve long term memory of students in learning biology. Mnemonic technique makes memorization easier by making the process of consolidation, or conversion of short term memory into long term memory more efficient.

Retention is important in learning process because it is part of memorizing that causes alteration permanently in learning outcomes. Students retention are able to be improves by involving students actively in learning process. Th role of active students in learning is able to be done in various ways from minimum to maximum (Aryanti, 2007).

Interview has been done by biology teacher at SMAN 8 Medan. Although the education level is different, human reproduction system is also discussed at class XI. Therefore the author assumes that it will happen the students similarity problem it difficult to memorize the names and the order of the organs of the reproductive system in humans because teachers are still using monotonous way in teaching the topic. She said teachers still use the conventional way of teaching and without using of appropriate teaching techniques to help students to memorize quickly. To help the problem there mnomonik memorize techniques that can be used by teachers in teaching biology, especially in the mostly systematic and Latin name.

The learning process in the classroom will be going well when all students have a good memory. When most of the students have a poor memory in remembering the subject matter of course there will be problems because of the learning process becomes slow. The memory can be improved. Stine (2003) that

people who have a good memory is not born but is created. Through the right techniques, one can utilize the memory so as to obtain the best from it, to process and access information easily. To facilitate an understanding of the utilization of memory, we need to know how it works.

Tony buzan (inventor mind map) and grandmaster chess Raymond Keen OBE in 1991 in England that invented mnemonic technique which is used at competition, this is useful for keeping technique and recalling information.

Mnemonic is taken from the Greek, namely *mnemonikos* which means "remember". Wojowasito dan Wasito (1980) There are many techniques to do so mnemonic memory could be stronger and last longer recitation in the head. Mnemonic is technique to remember information that is very difficult to remember back. There are three basic principles when using the mnemonic, namely : imagination, association and location. Based on these definitions it can be said that the mnemonic is a technique to make it easier to remember something that is done to make a statement or expression, or connecting words, ideas, and fantasies. In other words meaningful mnemonic memory techniques to utilize in certain ways. The benefits of using the mnemonic is to make it easy to remember. Of course, it will also facilitate learning. Barriers to learning will be lost. It will raise the motivation of students to study harder, therefore it can eventually achieve optimal learning outcomes.

The focus of mnemonic strategies is so specific that they are intended to be used to enhance the recall of the components of any lesson for which memory is needed. It is found for example, that mnemonic strategies can be used to enhance science learning when the curriculum involves a textbook/lecture format or when the curriculum involves a hands-on, inquiry learning format. Even though these approaches to science learning are very different (Mastropieri, 1994), mnemonic strategies can still be incorporated for the elements that require recall.

Retention is process to recall previous lesson that taught where the lesson enters to long terms our memories. This can be done by reviewing where we are going to re-examine the structure and function and may remove misconceptions that exist in their brains. Theory used in this learning model is a theory of

information processing. Stages of a good learning process, According to Gagne (1975) includes eight phases: (1) motivation, (2) apprehending phase, (3) acquisition phase (4) retention phase, (5) recall phase, (6) generalization phase, (7) performance phase and (8) feedback phase. From the steps above, teachers can make learning innovations for interventions and learning processes can be run in accordance with the intended purpose (Hamzah, 2011).

Therefore from the description above, researcher will observe a research and conduct the research with title “The Effect Of Mnemonic Technique into Students Learning Outcome And Retention Of Human Reproduction System For Grade XI Science Of SMA Negeri 8 Medan Academic Year 2013/2014”

1.2 Problem Identification

Based on the background above, the problem identifications of this study are as follows :

1. Biology learning process is monotonous and no technique to memorize quickly in reproductive system topic.
2. The selection of models and instructional media that have not been effective especially in Biology lessons on the human reproductive system.
3. Student learning outcomes in biology subject matter is still relatively low.

1.3 The Scope of Study

By regarding the extent indentified problems therefore in this research, the scope of study is limited in :

1. The using of Mnemonic Technique as the instructional learning resource in *Human Reproduction system* subtopic for grade XI science at SMA Negeri 8 Medan academic year 2013/2014.
2. The improving of students learning outcome and retention on *Human Reproduction system* subtopic for grade XI science at SMA Negeri 8 Medan academic year 2013/2014.

1.4 Research Questions

In this study, the research questions are as follows :

1. Is there any significant difference students learning outcome between class taught by using *Mnemonic technique* and without *Mnemonic technique* on human reproduction system at SMA Negeri 8 Medan?
2. Is there any significant difference students retention between class taught by using *Mnemonic technique* and without *Mnemonic technique* on human reproduction System at SMA Negeri 8 Medan?

1.5 Research Objectives

The objectives of this study are :

1. Knowing difference between students learning outcome is taught by using *Mnemonic technique* and without *Mnemonic technique* on Human reproduction system at SMA Negeri 8 Medan.
2. Knowing difference between students retention is taught by using *Mnemonic technique* and without *Mnemonic technique* on Human reproduction system at SMA Negeri 8 Medan.

1.6 Significances of Research

The significances that expected from the results of this study are :

1. For teachers, this study is expected able to enhance the innovative learning instructional by Mnemonic Technique in the classroom.
2. For students, Mnemonic Technique is expected able to improve the students learning outcome on Human reproduction system.
3. For school, can increase the learning quality especially in learning human reproduction system.