

CHAPTER I

INTRODUCTION

1.1 Background

Education is the guiding to light in the path of our success. Education can be defined as the process of acquiring knowledge, belief, values, skill and habits, which teaches us to be a true human being. Education can be formal, informal and non-formal. It employs different educational techniques and methods like lecture method, storytelling, learning by doing etc. Generally it starts from pre-school to university.

Education is the most important part of realizing and developing the potential of every human being. Education is inseparable from the teaching and learning process. The teaching and learning process is two words that have different meanings but are interconnected, if there is a learning process in the classroom there will be a teaching process. From the learning process of teaching and learning will be obtained a learning outcome. In order to obtain optimal results, the learning process must be done well and organized. Interaction or reciprocal relationship between teacher and student is the main requirement for the ongoing learning process (Dirman, 2014).

The low quality of education and human resources become problems that exist in the State of Indonesia. Learning success is an indicator of the educational quality. Learning success is generally measured by how far students master the concepts taught. Retention factors or the stickiness of concepts in memory lack attention, even though learning retention can be used as an indicator of learning outcomes. Learning should not only be measured from mastery of concepts, but further needs to be analyzed whether the concepts taught can be embedded in students' memories or quickly forgotten. Efforts to improve student learning outcomes and retention in biology are one of them by selecting effective learning strategies, so that optimal student learning and retention can be achieved.

Which are contained problem of student learning difficulties in studying tissue culture, from the results of the presentations there are several schools showing a level of difficulty in understanding tissue culture material around 70%. Currently the use of media to help learning has begun to feel the benefits, learning aids are needed now changes from the previously focused on the print media or books now the provision of

learning media, therefore was encouraged to make comparisons of learning media that is very influential on the subjects biology in tissue culture materials (Harahap, 2017).

Difficulties in studying tissue culture caused by the absence of other learning media in addition to textbooks used as the only medium of learning. Difficulty studying tissue culture is to explain the process of tissue culture with an indicator to sort the steps in tissue culture. At school, learning difficulties can occur because students experience a lot of stress and the causes of stress are different from each other from each individual (Bruner, 1993).

From the observation based on data, the main obstacle faced by the students is difficult to understand the concept of tissue culture such as cell totipotensi concept 49,90%, the concept of calculation of media making 46,44%, the composition of media used 52,23%, sterilization explants 63,07%, plant propagation 63,17%, until the acclimatization stage 63,44%. In addition, the difficulties of tissue culture learning can be seen from the scores on each aspect of the learning indicator as well as the test scores that average are still below 70 as the standard of graduation (Bennett, 2001).

The use of learning media in the teaching and learning process can generate desires and new interests, generate motivation and stimulation of learning activities, and even bring psychological influences to students. The use of media at the teaching orientation stage will greatly help the effectiveness of the learning process and the delivery of messages and content of the lesson at that time. Learning media can also help students improve understanding, present data attractively and reliably, facilitate interpretation of data and compact information (Hamalik, 1986).

The importance of media video and visual image media in today's era, which is one of the learning resources will help teachers enrich students' insights. Various types of learning media used by teachers become a source of knowledge for students. Media as a learning resource is recognized as an auditive, visual and audiovisual tool. Because the presence of media is very helpful for students in understanding a particular concept. At this time students are still thinking concrete and have not been able to think abstractly, for this reason teachers should use the media and choose the right media in accordance with the learning objectives. The teacher's inability to explain a material can be represented by the role of the media, so that learning objectives can be achieved as planned.

The choose one school to be interviewed the biology teacher in SMA Negeri 5 Medan. She explained that the biology lesson on tissue culture material is not good, because the teaching process have not optimal using media. In explaining the sub tissue culture material She only using whiteboard media and projector and the teacher only showing the pictures from internet and she explained according to power point. So this make the students less understand lesson of tissue culture that causes the low learning outcomes of students that we will know after having a daily examination in class XI IPA SMA N 5 Medan, for the subject matter of plant tissue culture many get low score of KKM i.e. 78. So, the author is interested to conduct research with the title "The Comparison of Learning Outcomes and Retention between Students Taught with Video and Visual Image Media in Tissue Culture in Grade XI IPA SMA Negeri 5 Medan Academic Year 2018/2019."

1.2 Identification of Problem

Based on the background of the research proposal problem, then the problems are:

1. Students in SMA Negeri 5 there have in biology subject matter of tissue culture
2. Students in SMA Negeri 5 there are still difficulties of learning in tissue culture
3. Students in SMA Negeri 5 lack of utilization of instructional media, especially the use of video learning in subject matter of tissue culture

1.3 Scope of Problem

In order for research can be implemented well then the researcher limits the problem of research that is:

1. The used media video and visual image media in tissue culture material
2. Variable measured in student learning outcomes based on cognitive level
3. Research subject of Grade XI IPA SMA Negeri 5 Medan Academic Year 2018/2019
4. Retention is done in the third week after posttest

1.4 Research Questions

Based on the background the questions asked for this research is on follows:

1. Is there any difference in learning outcomes of students taught using media video learning and visual image media on tissue culture in Grade XI IPA SMA Negeri 5 Medan?

2. Is there students retention taught using media video learning longer than using visual image media on tissue culture in Grade XI IPA SMA Negeri 5 Medan?

1.5 Purpose of Research

The purpose of this research is:

1. To compare student learning outcomes taught using media video learning with media visual image on the subject matter of tissue culture in Grade XI IPA SMA Negeri 5 Medan.
2. To compare student retention taught using media video learning with media visual image on the subject matter of tissue culture in Grade XI IPA SMA Negeri 5 Medan.

1.6 Significant of Research

The benefits of this research are:

1. For teachers, as inputs to take the initiative in order to perfect the teaching and learning process so that between teachers as educators can complement each other and work together well, and improve the selection of media and the use of media video learning and media visual and enrich the creativity of teachers in teaching.
2. For students can take advantage of learning media-based video learning and media visual image, facilitate students in understanding the tissue culture materials so, as to improve student learning outcomes students can motivate, more enthusiastic and play an active role in the learning process.
3. For Researchers, the results of this study will add insight, ability and experience and improve my competence as a prospective teacher.

1.7 Operational Definition

Variable:

1. Learning Outcomes, using cognitive learning outcomes taken from C1-C6 levels.
2. Retention, test students memory skills, for example given a test in the third week after the post-test.
3. Media Video, tools in the learning process, which produces images and sounds that are easier for students to remember.
4. Media visual images, tools in the learning process, only display images and writing.
5. Tissue Culture, material taught for high school students of class XI IPA.