CHAPTER I

INTRODUCTION

1.1 Background of The Study

The advances in various sector such as technology or information in global nowadays is very correlated with education achievement. Education cannot be separated from learning. Slameto (2013) said that Learning is a process done by an individual who achieves the new behavior through the learning process. Learning can be improved by a number of factors, such us: curriculum, talent, interest, teaching model, teaching method, facility and infrastructure, teaching approach etc. Among these factors, teaching model is one of the factors that can improve learning outcomes and learning activity.

The lack of students' interest in learning process causes the decrease in students' outcome. It can be seen in the result of national examination in 2013. In North Sumatera, a total of 4564 senior high school students/equivalent did not pass the examination. The chief of national examination committee in North Sumatera, Hendri, said that the level of total number of the students that pass the national exam this year (2013) had decrease by 0,08% from 2012 (previous year). So, it meant that the total students who did not pass the national exam in North Sumatera increased. (Widianto, 2013).

There are factors that causes the low learning outcomes, some of them are: (1) Model and method used by teacher are not varied (Arahim, 2006); (2) Teaching and Learning Process is still dominated by conventional methods (Ghazi, 2003); (3) Learning process dominated by teacher (Sulastri, 2009); (4) The less precise method used by teacher in learning process (Oleyede, 2011); (5) Learning process of student in memorizing level, in which students are more inclined to memorize rather than understand the topic materials, which make them easily forget the matter (Yusuf, 2006).

Based on the researcher's interview with the Biology teacher in SMAN 8 Medan in February 2014, the learning outcomes of students in the school were relatively low during the exam period. It can be seen in the average of Biology's final examination results in the first semester 2013/2014. Students who did not reach the average accounted more than 50% of 30 pupils in the class from minimum score (KKM) 75. In the daily learning process, the students' frequency in asking about topic taught is low, teacher must ask student repeatedly in order to make them want to ask question. Teacher admitted that the poor score of final examination happened because the students do not want to review the topic after class, and also because Biology lesson has a wide scope in term of learning material.

Regardless of what the teacher said, according to Slameto (2013) the low final examination grade is also because the high school teachers are too used to using the lecturing method, it makes students feel bored and less active, even many students tend to learn independently. Progressive teachers dare to use new methods, which help to improve learning and teaching activities, and improve student motivation to learn. The lack of interaction between students and the teacher, and also between students themselves in learning Biology is because the teacher does not involve student actively and cooperatively in learning. It directly will cause student's skills and attitudes to be less optimally developed. Adles (1982) said all genuine learning is active, not passive. It is a process of discovery in which the student is the main agent, not the teacher.

Alternative strategies which can be used to achieve optimal learning outcome and good learning activity, as problems described and observed by teacher and researcher above, are by creating Biology course as a fun model, student centered and involving student in learning is by using active learning model. Active learning model arouses students' independence, and the students will actively use their brain to find the main idea of a lesson, solve problem and apply what they have just learned to the real life (Dewi, 2010).

Application of active learning model on students will help them improve their memory. Active learning model that student centered can improve student thinking and attitude and also can improve his learning outcome (Armbruster, 2009). Therefore the students can achieve successful learning objectives. Learning in which arouse student to be active can improve student learning outcome, because active learning provide the student to think critically (Freeman, 2007). Index card match is the model, which asks students to match a pair of card; this model is very fun to memorize and review the lesson just given before. It is because students can learn while playing (Suprijono in Ni'mah, 2012).

Index card match learning model can develop teamwork and mindset of the students. Students are given one card, it may be a question card or an answer card, and they must match his/her own card with the pair of card given to another student. When the matching card is found, both students in one pair cards must discuss the question and answer in that card, which will make them understand the material learned more. This model is very suitable for students because it involves them more actively, and contains elements of a game so the students will not be bored in learning biology. Students care what they learn about and remember what they understand (Ericksen, 1984). In addition, this model has an important role in providing a fun effect that can give a deep impression on students that will facilitate and enhance motivation to learn harder and obtain optimal results of learning biology.

Yusrida (2011) in her research said that the implementation on *Index card match* model in grade X senior high school has a higher significant increase than conventional model, which achieve pretest ($45,42 \pm 8,80$) and posttest ($76,42 \pm 7,72$) in index card match class and in conventional class pretest ($46,28 \pm 11,13$) and posttest ($66,42 \pm 8,87$). While Maulida (2010) in her research using ICM active model in grade XI natural science senior high school, students have achieved completeness criteria of student that more than 85% of students achieved score more than $\geq 85\%$. *Index card match* model was implemented by Sitanggang (2012) in grade X senior high school Berastagi 2011/2012 in Ecosystem topic,

and students achieved 86,66% in fourth cycle and more than 75% students were able to answer questions correctly on each level of question based on taxonomy bloom.

Confucius said more then 2400 years ago. 'What I hear I forget, what I see I remember, what I do I understand' (Confucius in Silberman, 2009). This sentence affirms that active learning model can improve help students their understanding in improve process and learning activity.

1.2 Problem Identification

Some problems that can be identified by background of study above are:

1. Model and method used by teacher are not varied.
2. Teaching and Learning Process is still dominated by conventional methods.
3. Learning process dominated by teacher.
4. The less precise method used by teacher in learning process.
5. Learning process of student in memorizing level, in which students are more inclined to memorize rather than understand the topic materials, which make them easily forget the matter.

1.3 Problem Scope

1. Research Subject

Research subject is scoped on all of student in X grade of senior high school 8 Medan, second semester, school year 2013/2014.

2. Research Object

Research object scoped on:

1. Learning model: conventional learning model in conventional class and *index card match* learning model in index card match class.
2. Parameters used in this research are the students learning outcome (cognitive) and learning activity in learning process.

3. Result of study on "ecosystem" material student in X grade of senior high school 8 Medan, second semester, school year 2013/2014.

1.4 Research Questions

1. Is there any effect of *index card match* active learning model on student learning outcome in X grade of senior high school 8 Medan academic year 2013/2014?

2. Is there any effect of *index card match* active learning model on student learning activity in X grade of senior high school 8 Medan academic year 2013/2014?

1.5 Research Objectives

1. To know the effect of *index card match* active learning model on student learning outcome in X grade of senior high school 8 Medan academic year 2013/2014.

2. To know the effect of *index card match* active learning model on student learning activity in X grade of senior high school 8 Medan academic year 2013/2014.

1.6 Significances of Research

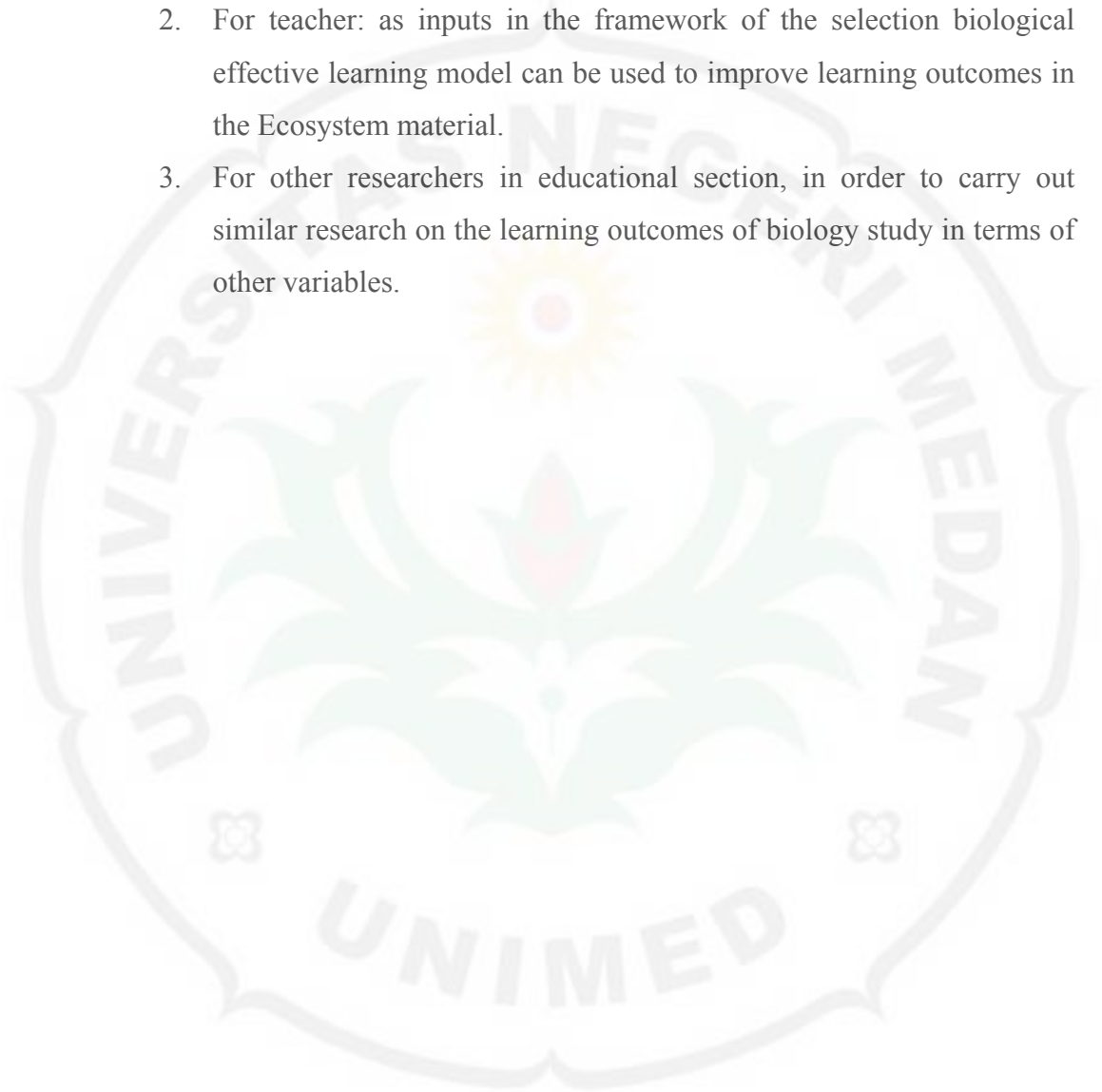Hopefully the result of this research giving significance as below:

1. Theoretical Significance

Consolidating existing theory on education section, especially in application of *index card match* active learning model can affecting the learning outcomes and activity of student

2. Practical Significance

1. For student: giving a new learning environment in study of biology more varied therefore it will be more interested, hopefully improve students outcome and activity in learning.

2. For teacher: as inputs in the framework of the selection biological effective learning model can be used to improve learning outcomes in the Ecosystem material.

3. For other researchers in educational section, in order to carry out similar research on the learning outcomes of biology study in terms of other variables.