CHAPTER 1
INTRODUCTION

1.1 Background

Biology learning process emphasizes providing direct experience to develop competence so that learners are able to understand the nature around. Therefore, ideally biology lessons learned scientifically to improve the learning outcomes of students. Unfortunately, the importance of the scientific study of Biology is not accompanied by action-oriented learning process skills of students in the school. Science Process Skill in learning biology is still very low, evident from the research data PISA (Program for international assessment of students) the latest in 2012, Indonesian students reading level ranks 61st out of 65 countries members of PISA, the reading level of the Indonesian students lags behind neighboring countries, Thailand (50) and Malaysia (52). For mathematical literacy, students Indonesia was ranked 64th, and literacy Science was ranked 64th with a score of 382. (PISA, 2012)

Based on the fact that the authors obtained from interviews with subject teachers of biology in high school during Field Experience Programe (PPL) time in SMA Negeri 2 Kisaran, students tend more to memorize the concepts, theories, and principles without interpret the acquisition process. Learning with the lecture method causes less active of students in the teaching-learning process. Directed learning to memorize therefore, students are theoretically clever but poor in application. Teachers have been applied some learning model such discussion method, but the results not show progress, students held discussions method tends inactive and can't express their opinion, it just some students are active on discussion, while others tend to rely on students are usually active in the class.

From the results of unstructured interviews the Biology's teacher at the school, obtained the information that rarely hold an experiment biology in the lab, almost never. Even if there are practical only one or two times during a

1

semester, these was done if there is semester exams which require a Biology lab assessment or report on Learning activities of teacher to the principal. From some results above indicate that learners in SMAN 2 Kisaran has a low ability in the Science Skill process of Biology.

As weel as the facts finding, the results of studying Biology's students at SMAN 2 Kisaran is still unsatisfactory. There are still many students who have not passed the minimum completeness criteria (KKM). Minimum completeness criteria (KKM) in SMAN 2 Kisaran is 80, while more than half of the students scored below 80. To deal with this problem needs to be implemented innovative learning model that can increase the ability of Science Process Skill and student learning outcomes. Guided Discovery can be used as an alternative that is expected to develop Scientific Process Skill of students in the subjects of biology that will enhance the learning outcomes as well.

According to Sani (2013) guided discovery learning is a method which is uses by teacher to build the concept in students mind by teacher guidance. Another idea from Warner (Simanjuntak, 2011), by with Guided Discovery models student is given to concrete materials and questions. In order to answer the question, student work individually or in small groups to explore, is observed, and discover the answer. It will improve science process skills of the students themselves. Dimyati and Mudjiono (2012) stated that by increasing students science process skill, it's mean giving a changes to the students working by knowledge, not only explain or listen to explanation about knowledge. In other side, students will be happy and enjoy the learning because they are more active and not being passive students anymore.

From the studies that have been done previously showed that the Guided Discovery learning model provides a positive impact on students' Science Process Skill that lead to increased student learning outcomes. Sulystiowati (2012) in his research has been getting the results that the model Guided Discovery learning is more effective against the problem solving and learning outcomes of students of class XI in SMA Purworejo academic year 2013/2014. The results of the analysis of the problem-solving ability and student learning

outcomes showed that the experimental group had a problem solving ability. Meanwhile, Oghenevwede (2010) through the research entitled Effects of Discovery and Inquiry Approaches in Teaching and Learning of Biology on Secondary Schools Students' performance in delta state, nigeria, concluded that the discovery method was superior and more effective than the inquiry method. Therefore science teachers should consistently make use of the discovery approach in teaching biology.

Recent research by Fatokun and Eniayeju (2014) from the Department STME, Faculty of Education, Nasarawa State University, under the title The effect of concept mapping- guided discovery integrated approach on Chemistry students achievement and retention shows the results of the t-test analysis of the retention test from experimental group (used Guided by models) was Significantly better than that of the control group (traditional method) $p < 0.05$. another research from Akanbi and Kalawole (2014) examined the effects of guided discovery (GD) and self-learning (SL) strategies on senior secondary school students' achievement in biology, shown the result that Self learning and guided discovery strategies improved students' achievement in biology. It is, therefore, recommended that teachers, curriculum developers and textbook writers adopt these two strategies for the improvement of students' learning outcomes in biology.

Ecosystem is the subject matter for Biology lesson in grade X, that learning about the concept, facts and process. Most students know and understand the subject matter in concept only, and poor in process, this is cause the students low in order to understanding the relationship between the subject matter concept and the application in daily life. Finally this is gives an impact to the students learning outcome which is still low and poor in Science process skill.

Guided Discovery Learning can be used as alternative models in order to improve students' Science Skill process and increase students' Learning outcome. Guided Discovery Learning model will be guided the students to find out information by themselves, this also influence their science skill process

including; students ability to describe result observation, classification, predict, interprets, filed questions, plan experiment, applying concept and communicating.

Based on the problem that describe above, the research with entitled "The Effect of Guided Discovery Model on Science Process Skill and Learning Outcome for Ecosystem Topic in Grade X SMA 2 Kisaran" will be done.

1.2 Problem Identification

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

1. Indonesian Students' Science Process Skill is still low, that problem causing Indonesian Students' ranked on 64th from 65 countries.
2. Students in SMA Negeri 2 Kisaran tend more to memorize the concepts, theories, and principles without interpret the acquisition process.
3. Teaching and learning process is still using conventional method and discussion.
4. Students that rarely hold an experiment biology in the laboratory, almost never.
5. Students' Learning outcome in SMA Negeri 2 Kisaran is still under standard and didn't pass Minimum Competences Criteria (KKM).

1.3 The Scope of Research

In this research, the research problem definition is:

1. Science Process Skill in this research is ability of student to describe result classification, interpretation, prediction, applying, planning, communication and asking a question.
2. Learning in this research done in Guided Discovery model as experiment class and Conventional Learning as control class.
3. Students' Learning Outcome in this research restricted on cognitive domain based on bloom taxonomy including; knowledge or memory (C1),

Understanding (C2), application (C3), analysis (C4), evaluation (C5), and creation (C6) at ecosystems topic.

1.4 Research qestions

Based on the background and research scope, research question can be Formulated as follow:

1. Is there any effect on Students' Scienc process e skill that of Guided Discovery Learning model on science skill process of students at ecosystem topic in grade X SMA Negeri 2 Kisaran?
2. Is there any significant differences of Guided Discovery Learning model on students learning Outcome of students at ecosystem topic in grade X SMA Negeri 2 Kisaran?

1.5 Research Objectives

Based on the formulation of the problem above, the objective of this research is to determine:

1. The Effect of Guided Discovery learning models on Science process skills about Ecosystem Topic in class X SMA 2 Kisaran.
2. The Effect of Guided Discovery learning models on students' Learning Outcome about Ecosystem Topic in class X SMA 2 Kisaran

1.6 Significances of research

Practically, the significance of the research study namely, for the Teacher, this research can help to increase class management in student grouping to make learning activity more active and easy for students to get mastery of concept and process in subject matter. For students, this research will be make students more active in learning process and increasing their ability to find out the material learning by themselves. For the next researcher this research useful as the references. For the researcher, as an input and motivation to carry out the profession as a teacher in the future.