

# CHAPTER I

## INTRODUCTION

### 1.1. Background

At this present time a lot of criticisms are directed on the teachers' way of teaching which puts too much emphasis on the mastery of just a number of information or concepts rather than the teaching-learning process itself. Delivering information or concepts to students can be less useful or even not useful at all if it is only communicated through one-way direction.

The same problem also happened in one of junior high school in Tebing Tinggi. Based on the observation that has been done on teaching practice last semester (July to November 2011), there were some findings, for instance students were rarely involved in the learning process. The teacher was still the main source of information. The class activity was dominated by the teacher alone. Thus, there was not much opportunity for students to involve actively in the learning process.

While in the cognitive aspects, unsatisfactory results could be seen from the daily test of students VII-6 which had average score only 63.4, in addition to Mid-tests which had average score 64 on a scale of 100. It indicates that the learning outcomes are still below of minimum completion (KKM) which is 75.

The analysis of the topic problem was done by taking last year's result of students' learning outcome (Academic year 2010/2011). About 50% of the students did not reach the minimum requirement to master the topic of Environmental Management. Based on the interview with the Biology teacher, Zainab Nirwani, S.Pd, M.Si, stated that this subtopic is very wide, so the students cannot understand all of the materials thoroughly.

Based on the problems above, it would require a more concrete learning method which can build the concepts and motivate students to learn, so that the whole aspect of the learning outcomes can be achieved. Beside that it can facilitate students to get used in doing the learning experience. One way to solve the problem is by applying *inquiry* in learning process. Based on Alberta Education (2004: 11), "One of the main reasons to think about using inquiry is because it provides a means to actively involve students in the learning process. With the trend in higher education to move away from teacher-centered instruction to a more student-centered approach, inquiry gives the opportunity to help students learn the content and course concepts by having them explore a question and develop a hypothesis and

research. Thus, giving students more opportunity to reflect on their own learning, gain a deeper understanding of the course concepts, and Become better critical thinkers”.

From the statement above, it can be said that the inquiry-based learning can help students in acquiring knowledge and skills of the results found own (experience) and not the result given set of facts. Taking Brunner’s opinion (Dahar (1988:125)) that said finding solution and knowledge by involving in it will produce a meaningful knowledge. The meaningful knowledge is characterized by the ability of students to understand about the concept or facts has been discovered and acquired in learning process.

However, according to Wenning (2005:3) in his article *hierarchies of pedagogical practices and inquiry process* said that *"There is little attention given to how the processes of scientific inquiry should be taught and critical need to synthesize a framework for more effective promotion of inquiry processes among students at all levels"*. Learning by inquiry can be less effective and causing confusion to the student if the inquiry activity which is conducted is not suitable to the ability of the people that is involved, both teachers and students. That's why, Wenning (2005: 4) states that there are five-tiered approaches in learning activities oriented science inquiry; they are discovery learning, interactive demonstration, inquiry lesson, inquiry labs, and hypothetical inquiry (pure hypothetical inquiry and applied hypothetical inquiry). From the approaches above, interactive demonstration approach is simpler and leads to student understanding in learning science.

Interactive demonstration method on inquiry-oriented learning will facilitate students in understanding subject matter well. Based on Wenning (2005:5) stated that interactive demonstration designed to enhance students' skills in making predictions or make an explanation to determine whether or not students have misconceptions. In other words it can be concluded that this method is oriented to understanding the subject matter.

The stages in the interactive learning based on Wenning (2005:5) consists of demonstrating by the teacher and asking questions about the possibility of what would happen (prediction) or how something could happen (explain). The teacher's role in this method are in conducting the demonstration, developing and asking probing questions, eliciting responses, soliciting further explanations, and helping students to reach the conclusions. In other words, a demonstration on interactive demonstration doesn’t show a teacher as a model.

Based on the description above, so the research about “The Implementation of Inquiry Oriented Interactive Demonstration Method to Improve Students’ Learning Outcome and

Activity on Environmental Management Topic of Year VII/6 SMPN 1 Tebing Tinggi Academic Year 2011/2012” will be done.

## **1.2. Problem Identification**

From background above, so the problems are:

1. Most of students have not reached the mastery learning standard
2. Teacher is the only source of information and lecturing is the main method of teaching
3. The lecturing method is less giving the opportunity to the student to involve in learning process

## **1.3. Research scope**

Research problem is limited into:

### **1.3.1 Subjects of Research**

The Subject in this study is the improving of student’s learning outcome and activity by implementing interactive demonstration oriented inquiry.

### **1.3.2 Object of research**

Object in this study is students’ year VII/6 SMPN 1 Tebing Tinggi academic year 2011/2012 with environmental management topic.

### **1.3.3 Parameter**

1. The improving of learning outcome of student that can be seen from the gain of the average pretest and posttest score presented in the form of individual and classical score index.
2. The improving of student’s activity that can be seen from the observation sheet.

## **1.4 Research Question**

By considering the background and limitations of problems then the formulation of the problem are:

1. Is the students’ learning outcome of VII-6 SMPN 1 Tebing Tinggi academic year 2011/2012 on environmental management topic is higher after the implementation of inquiry oriented interactive demonstration?

2. Do the students' activities of VII-6 SMPN 1 Tebing Tinggi academic year 2011/2012 on environmental management topic improve after the implementation of inquiry oriented interactive demonstration?

### **1.5 Objectives**

Based on the research questions above, the research objectives are:

1. To know the increasing of students' learning outcome of year VII/6 SMPN 1 Tebing Tinggi academic year 2011/2012 on environmental management topic after the implementation of inquiry oriented interactive demonstration
2. To know the increasing of students' activities of year VII/6 SMPN 1 Tebing Tinggi academic year 2011/2012 on environmental management topic improve after the implementation of inquiry oriented interactive demonstration

### **1.6 Significance of Study**

The significances of study that is expected are:

#### **1.6.1 Theoretical Benefits**

The results are expected to provide useful input for the education's development, especially learning outcome and student's activity in biology

#### **1.6.2 Practical Benefits**

1. Teacher can use inquiry oriented interactive demonstration method to improve the learning outcome and student's activity in environmental management topic
2. Provide information to emphasize students' activeness in teaching and learning activities
3. As the system consideration and input as well as the motivation to do class action research
4. The application of active learning strategies and fun that can motivate learners to learn so that educational goals can be achieved
5. Can motivate students to learn biology, so that the students' learning outcome can be increased