

## CHAPTER I INTRODUCTION

### 1.1 Background of the Problem

Basically, education is the interaction between teacher and learners to achieve the education goals, happening on several environment. Creating the compatible learning environment for learners that drives them to the goals is the task of teacher. Uncomfortable and unpleasant learning atmosphere make learning activities not harmonious. It certainly becomes serious obstacle for the education goals attained (Djamarah, 2006).

Learning method determines the success of learning process. According to Nana (2005), learning method is way used by teacher to conduct the relation with learners while learning is underway. Picking out the exact method to deliver a matter is not as easy as it sounds, even many teachers prefer to use the conventional method only because it is easier to apply in class. Whereas it is an important point to choose suitable method to manage the students learning activities and behaviour so that they can actively perform learning tasks to get an optimal learning outcomes (Wahjoedi, 1999). The teacher and students said getting the success of learning process is if the learning objectives reached.

Biology is one of important science subject related to human daily life. PISA said that understanding to science is an important tools for each individu to reach their goal (The Programme for International Student Assessment, PISA, 2007). Science learning is not good enough delivered by usual way and not vary strategy like generally happening. It is better held as scientific inquiry because students can prove and find out the theoretical or practical problems in daily life by their own way. Only a little bit teacher uses this inquiry based learning whereas teaching methods that allow students to use hands, eyes, ears and the mind also enhance effective learning and students' achievement (Mills, 1991; Sogomo, 2001; Waihenya, 2000). In order to build this inquiry learning, learning method selection is needed. For the learning method used in Biology, the students feel

more comfort with their friends because of the togetherness in doing task given (Hana, 2011).

Based on the researcher observation to SMA Negeri 2 Balige, data obtained from one of X Class Biology teacher, Happy B. F. Hutabarat, the subject matter were generally delivered by using traditional method and there are no experiment used. During the lesson students were not sufficiently active in reading, asking, answering and responding their friends' opinion. While the teacher was explaining, mostly they were not serious. They became active laughing if the tacher made some humour but while the teacher was giving question, there were 3 to 4 students spontaneously answered, but they were always the same person. In responding friends' opinion, generally they kept silent. They were responding if only asked. Students togetherness ability was also categorized low, because they almost prefer working individually when asked to discuss one topic. Beside those phenomene of low rate of students activities, the examination result showed that students learning achievement were still below standard (56,25% or 18 students reach Minimum Completeness Criteria (MCC)).

Invertebrates were described mostly with soft, flexible, amorphous bodies and small sized bodies compared to vertebrates by the students as in the study by Kattmann (2001). Invertebrate zoology is related to taxonomy, morphology and anatomy. Cinici (2013) indicated that although the students could correctly recognize the difference between vertebrates and invertebrates (Phyla), they had failed to recognize the corresponding sub categories (Classes). Beside those three point, the invertebrates (such as worms) have many economic importance which play roles in the ecosystem balance around such as becoming food items, generating the products like honey and silk, being as the decomposers that aid maintenance and nutrient cycling within managed ecosystems, etc. Students may know the economic importance of the species, but they have no experienced in performing experiment and observation is shool so it is just like a result of recitation only, not experience.

There should be way out to overcome these problems in order to achieve the learning objectives optimally. One attempt to overcome these problems is by implementing the Cooperative Class Experiment (CCE) teaching method.

Cooperative learning does not mean several students which working together only. It is an instructional strategy in which students engage in activities that promote collaboration and teamwork. Cooperative learning in an arrangement in which students work in mixed ability groups and are awarded on the basis of the success of the group (Woolfolk, 2004). In cooperative learning the students work in small group and rewards are based on the entire group performance, this is a small group method or technique (Sprinthall, 2000). Cooperative learning activities are carefully structured learning activities in which students are held accountable for their contribution, participation and learning, they are also provided incentives to work as team in teaching others and learning from others (Slavin, 2000).

For the Cooperative Class Experiment (CCE) teaching method implementation, the cooperative learning is incorporated in class experiment (Wachanga and Mwangi, 2004). The class experiment teaching method involves supervised learning activities with students doing practical work individually or in groups (Das, 1985) while the Cooperative Class Experiment teaching method (CCE) combines the cooperative learning into class experiments.

Based on the background above, the research will be done in order to know *the advantage of Cooperative Class Experiment (CCE) teaching method over the conventional method on students learning activity and achievement in Invertebrates sub topic for grade X SMA Negeri 2 Balige academic year 2013/2014.*

## **1.2 Research Scope**

This research focuses on the using of Cooperative Class Experiment (CCE) teaching method in learning process to obtain an optimal learning. Aspects measured include students learning activity and students learning achievement in

Invertebrates sub topic in biology for grade X SMA Negeri 2 Balige academic year 2013/ 2014.

### **1.3 Problem Identification**

According to the background above, the identified problems are:

1. Uncomfortable learning atmosphere makes learning activities not harmonious.
2. The conventional method is commonly used in learning process.
3. There is no variation of learning method.
4. Activeness of students in learning process is still low.
5. Student achievement did not reach the standard.
6. Students have less experienced in performing experiment and observation in school in invertebrates materials.

### **1.4 Problem Limitation**

1. The using of Cooperative Class Experiment (CCE) teaching method in learning process.
2. Students learning activities of asking question, answering teacher's question, giving opinion, doing homework, performing in front of class, and work team.
3. Students learning achievement of Invertebrates sub topic for grade X SMA Negeri 2 Balige academic year 2013/ 2014.

### **1.5 Research Questions**

1. Is there any advantage of CCE teaching method over the conventional method on students learning activity in Invertebrates sub topic for grade X SMA Negeri 2 Balige academic year 2013/ 2014?
2. Is there any advantage of CCE teaching method over the conventional method on students learning achievement in Invertebrates sub topic for grade X SMA Negeri 2 Balige academic year 2013/ 2014?

## **1.6 Research Objectives**

1. To know the advantage of CCE teaching method over the conventional method on students learning activity in Invertebrates sub topic for grade X SMA Negeri 2 Balige academic year 2013/ 2014.
2. To know the advantage of CCE teaching method over the conventional method on students learning achievement in Invertebrates sub topic for grade X SMA Negeri 2 Balige academic year 2013/ 2014.

## **1.7 Significance of Research**

For teachers, to give motivation in learning plans by implementing the Cooperative Class Experiment (CCE) teaching method to improve students learning activities and achievement. For students, as learning experiences which can improve their learning activities and achievement. For researcher/ teacher candidate, as self preparation matter to be the future professional teacher.

## **1.8 Operational Definition**

1. Cooperative learning activities are carefully structured learning activities in which students are held accountable for their contribution, participation and learning , they are also provided incentives to work as team in teaching others and learning from others.
2. Inquiry is learning approach in which the students are pushed to learn passes through their own active contribution by concepts and principles for having experience and doing experiment that enables students to find out priciples for themselves. Knowledge and skills got by students be expected not as results of facts' set retention but as their own discovery result.
3. Cooperative Class Experiment (CCE) teaching method incorporates cooperative learning into class experimnts.