CHAPTER I

INTRODUCTION

A. Background

Cooperative learning is a learning model that is currently used to make learning student-centered teaching (student oriented), primarily to address the problems found in the teacher allows students, who cannot work with others, students who are aggressive and do not care about other people. Teachers in the learning process do not dominate as usual, so that students are required to share information with other students and learn to teach themselves. At this time the public is increasingly aware of the importance of training students to think, solve problems and combine the skills and expertise. However, to optimize the work of the group, teachers need to be conscious of their dual roles as subject matter experts and as group managers, and to plan the group’s work both in terms of the content to be covered and the strategies will be used to achieve the learning aims of the group, including how teachers manage the students grouping (Kelly and Stafford, 1993). Many ways to grouping students, one of grouping is grouping students based on their level of ability, namely homogeneous group is a group whose members have the same ability level and heterogeneous group is a group whose members have mixed ability (Slavin 1992).

Based on the findings of Rimmer (2011), study in his dissertation indicated that heterogeneous grouping increased the academic achievement and social and emotional growth of students; however, results were mixed regarding the value of heterogeneous grouping on improving equity. Emily (2003) studies revealed that if students are grouped homogeneously, there is the fear that low-ability students will be deprived of opportunities to learn and be unmotivated to learn because of peer, personal and teachers’ expectations of poor performance. On the other hand the result of Adodo and Agbayewa (2011) shows that homogenous ability grouping is superior for promoting student achievement. If the purpose of the
group learning activity is to help struggling students, then the research shows that homogeneous groups may help most. On the other hand, if the purpose of the group learning activity is to encourage medium ability groups to learn at high levels then heterogeneous grouping would be better. Classes are arranged in heterogeneous, meaning a mixture of heterogeneous student ability, gender and ethnicity. This model not only excellent in helping students to understand difficult concepts, but also develop students' critical thinking skills, collaborate and engage actively in the learning process so about providing a positive impact on the quality of interaction and communication quality and enhance academic achievement (Slavin 1992).

From the above research experts, most of experts said that heterogeneous group is better to improve student achievement compared to heterogeneous groups, only the result of Adodo and Agbayewa (2011) argue that the homogenous ability grouping is superior for promoting student achievement in their different ability levels. Experts said that heterogeneous group is better to reduce competition among students and preferably to direct the students to help each other in learning. Therefore, this study wants to investigate the effect of grouping type based on student’ ability, there are homogeneous and homogenous with the characteristics of students who had good behavior in class, easily organized by teachers, quiet classroom during the teaching and learning take place, but have lowest level of academic compared to other classes homogeneous. This research also examined the patterns of interaction between homogeneous and homogeneous groups and student achievement for both groups, because this research is more emphasis to the interaction patterns during discussion. Student interaction and discussion are very important to solve the problem of environmental pollution.

Environmental pollution topic is one of the subjects stated in the basic competencies in the KTSP curriculum. Competence standard and basic competences in science are minimum standards to be achieved by learners in junior high school. Through learning environmental pollution, students are expected to have the ability to participate in the increasing awareness of
maintaining and preserving the environment and natural resources as one of the aims of science subjects. Mostly, teacher conduct group discussions in learning activity in order to students obtain whole part of concept of environment pollution topic in limited time. In other hand, today environmental pollution has become a problem for all people in the world so that the subject needs to be solved by students as part of the community. Therefore, students are expected to criticize and solve environmental pollution problems. This study proved which type of grouping is better applied to students. The topic chosen for the 2nd semester junior high school students are a lot of activities involving discussions to solve problems related to everyday life.

B. Research Problem

Research problem in this research is: “what is the effect of implementation grouping type on teaching strategies to student’ achievement and interaction to environment pollution topic of secondary students?”

Further, the research problem is formulated and stated as the following questions:
1. How does the improvement of student’ achievement in homogeneous and heterogeneous groups to environment pollution topic?
2. How does the interaction among group members in homogeneous and heterogeneous groups?
3. How does the response of student and teacher to grouping type based on student ‘ability on teaching strategies to student’ achievement and interaction to environment pollution topic?

C. Research Objective

Objectives to be achieved of this research are:
1. To investigate the improvement of student’ achievement in homogeneous and heterogeneous groups to environment pollution topic.
2. To investigate the interaction among group members in homogeneous and heterogeneous groups.
3. To investigate the response of student and teacher to grouping type based on student ‘ability on teaching strategies to student’ achievement and interaction to environment pollution topic.

D. Limitations of Research

Limitations of the research are examined in order to define the research. This research will be defined based on the following limitation:

1. The effect which is examined in this research is limited on the improvement of students’ achievement on pretest and posttest scores which are calculated by normalized gain.

2. Other effect which is examined in this research is limited on the profile of students’ interaction patterns that appear in each grouping type, namely symmetric interaction patterns, shifting asymmetric interaction patterns and asymmetric interaction patterns.

3. The concept which is examined in this research is environmental pollution. The concept is limited into water pollution and air pollution for 7th grade of junior high school students.

E. Significant of Research

1. Significant for researcher:
   a. The research is expected to improve the perception and knowledge about the method of small group discussion using grouping treatment related to science learning process.
   b. Researchers were able to provide knowledge to the readers about the type of grouping based on student ability to increase student ’achievement.
   c. Researchers were able to provide information about patterns of interaction during learning by using homogeneous and heterogeneous groups.
2. Significant for teacher:
   a. Teachers can develop a method of group discussion in class by implementing strategies and technique of grouping.
   b. Provide input to teachers in grouping based on students' ability.
   c. Provide information about the influence of homogeneous and heterogeneous grouping to student achievement.
   d. The teacher can know the pattern of interactions that appear during learning with homogeneous and heterogeneous groups.

3. Significant for student:
   a. Through small discussion student has more opportunity to develop skills in communication (listening, responding, interacting) and interpersonal relations.
   b. Provide information about patterns of interaction that occur during learning activity with homogeneous or heterogeneous group, so it can be used as a reference by students in order to show the interaction that can help students to achieve the learning goals, improve student achievement and mastery of concepts.
   c. Help students to apply the concepts they have learned into their daily lives through learning with group discussions and problem solving.

F. Organization Structure of Research Paper

This research paper comprises five chapters that are started with introductory chapter which describes the background and statement of the problem, research questions, research objective, and limitation of the research and finally the benefits of the research. The second chapter provides literature review of the study, the chapter started by focusing on theory of grouping type, student achievement, interaction patterns and characteristic of environmental pollution topic. Finally the grouping type used in this study for the teaching and learning more specifically water pollution to homogeneous grouping and air pollution to heterogeneous grouping. The third chapter examines research methodology. The chapter begins by detailing the participant of the study and the time and location.
under which the various stages of research were carried out. Next, it dealt with the method and design of research, operational definition and data collection instruments. The fourth chapter presented data analysis and interpretation. Descriptive and inferential statistics such as frequencies, tables and percentages were used in the data analysis and summaries. The results of both qualitative and quantitative data were presented by using tables and graph. The last chapter presented conclusion that was taken from the research and suggestion for further research.