CHAPTER I

INTRODUCTION

A. Background

It isa common problem from middle school students that school is boring and that they cannot relate to nor understand the material that is presented to them each day in class(King, 2009). Students are neither passionate nor motivated to learn in class. This problem can be both challenge and opportunity for teacher to deliver the material in alternative way by engaging the students to learn in class. Students' engagement can be done by providing several activities which lead them to have experience and connect them immediately to the knowledge.

On the other hand, education system should also contribute towards the development of creativity (Osborn, 1992 in Zampetakis). Creativity is an important aspect in life, because humans' life is always faced with challenges which need creative idea to overcome those challenges. By developing creativity, students are hoped to be able to solve the problems given. Similarly, Munandar (1992) stated that person who has high level of creativity will show possible answers of a problem. Besides, creativity also makes students become brave to express their idea.

According to government regulation number 17 years 2010 regarding Management and Operation of Education aims to build a foundation for the development of potential student to become human who: faith and fear of God Almighty, noble and sublime personality; knowledgeable, skilled, critical, creative, and innovative; healthy, independent, and confident; tolerant, sensitive social, democratic and accountable. Here, it is clearly stated that one of education aim is to develop students' creativity.

Unfortunately, the learning process in schools hasn't facilitated students to do activity and develop their creativity.According to some research on students' creativity, it is found that students' creativity is still low. One of causes is because the teacher didn't provide learning process which can develop students' creativity. One of research done by Fortuna (2013) showed

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that students' creativity improve after given an activity in form of project to the students. The research result stated that by doing project, students are able to develop their creativity. Similarly, Rogers in Munandar (2009) stated that this encouragement is the primary motivation for creativity when individuals form new relationships with the environment in an attempt to be him fully. Here, motivation can be provide by the teacher through several ways. One way to provide activity is by engaging the students in a project which will lead them to have experience and connect them immediately to the knowledge.

Projectbased learning is the instructional strategy of empowering learners topursue content knowledge on theirown and demonstrate their new understandings through a variety of presentation modes. Effective project-based learning has the following characteristics: leads students to investigate important ideas and questions, is framed around an inquiry process, is differentiated according to student needs and interests, is driven by student independent production and presentation rather than teacher deliver the information, requires the use of creative thinking, critical thinking, and information skill to investigate, draw conclusions about, and create content, connects to real world and authentic problem issues. The skill set for project-based learning is diverse includes science and technological literacy and group process skills. Throughout the process students will engage in and develop proficiency in these types of skills: comprehension skills, research and writing skills, questioning skills, group processes/ collaborative learning skills, sequencing and chronology skills, skills with resources such as maps and globes, skills with presentation tools such as charts and graphs, analysis skills, communication skills, problem solving and critical thinking skills, task and self-management skills (King *et.al.*, 2009).However, the skill set which is needed to be mastered by students already listed in every instructional curriculum and some adaptation should be considered.

Considering the phenomenon above, the researcher aimed to a research related to students' understanding and creativity. This research is focused on the implementation of project-based learning on global warming concept based on Curriculum 2013 and Cambridge Curriculum. This research will

analyze two variables that are students' understanding and students' creativity. Developing from those variables this research will also investigate students' respond toward implementation of project based learning.

B. Research Problems

According to the background which has already stated, the problem of this research is "How is the effect of project based learning on students' understanding and creativity in learning global warming?"

C. Research Question

Based on the statement of problem, it can be described into several research questions as follow:

1. How is the effect of project based learning on students' understanding in learning global warming?
2. How is the effect of project based learning on students' creativity in learning global warming?
3. Whatis students' respond toward implementation of project based learning?

D. Research Objective

According to the problem that has been proposed the aim of this research is to investigate the effect of project based learning on students' understanding and creativity in learning global warming, furthermore this research is conducted to obtain some other information and arranged as follows:

1. To investigate the improvement of students' understanding through the implementation of project based learning
2. To investigate students' creativity through their project based learning product
3. To investigate students' respond toward implementation of project-based learning in global warming concept

E. Limitation of Problems

To avoid widening of problem on this research, then the research will be limited for the following things:

1. The stage of project-based learning which is used in this research is based on Aaron Adair and Bao Lei research in 2012.
2. The students understanding measured is the cognitive achievement based on Bloom's Taxonomy (C1-C6) and four different knowledge dimension (factual, conceptual, procedural, and metacognitive)
3. The project in this project-based learning is to make product of poster that represent global warming concept
4. The students' creativity is measured based on the product that they create

F. Significant of Research

This research is important to be conducted because it is expected to provide some benefits to various sides including:

1. For students: Project-based learning will give new learning experience, the implementation of Project-based learning is expected to improve students' understanding and creativity.
2. For teacher: Project-based learning can be used as innovative way to deliver concept in learning process, furthermore in curriculum 2013 project-based learning is suggested to be implemented.
3. For other researcher who has same focus study, it is expected to give reference for further study.