CHAPTER I
INTRODUCTION

1.1.Background of the Research

Education is important factor in improving human resources for the progress of a nation. Thus Nurhadi states (2004:1): "The progress of a nation is determined by the quality of human resources. The quality of human resources depends on the quality of education". This matching is also contained in the GBHN 1993 (Munandar, 1999:17) about the national education:

> "National education aims to improve human quality of Indonesia, the people who is faithful and righteous to God Almighty, noble character, personality, independent, advanced, powerful, intelligent, creative, skilled, disciplined work ethic, professional, responsible, and productive as well physical and mental healthy."

Nowadays the progress of science and technology which are progressing rapidly have an impact on the lives and human well being. It is to be able to manage and make use of necessary human resources who have the creativity that is formed through a process of education.

A variety of new discoveries and new technologies were donated by the creativity of society. Munandar (1999:46) states: "It is inevitable that the welfare and prosperity of society and our country rely on the creative contributions, in the form of new ideas, new inventions and new technologies of the members of society".

Further Gardner (1985)states:

> Creativity is a complex construct and is most commonly expressed through a broad range of intelligences including linguistic, musical, mathematical, spatial, kinesthetic, interpersonal, and perhaps even intrapersonal.

Creative thinking is one aspect of creativity. Munandar (1999:85) states that: "Creative thinking is an essential element of creativity".

Individual creativity is not born by themselves, but can be delivered through learning. many educators have not yet realized that such changes occurred toward more creative education.

Recognizing this are need to do an effort to improve creative thinking ability of students, Remind the urgency and significance of mathematics for the future control for the nation. According Satiadarma and Fidelis E. (2003): "There are some things that needed to develop creativity and need attention: (1) classroom settings. (2) teaching a fun atmosphere. (3) preparation of teachers. (4) The attitude of teachers. (5) The method of teaching "

The author also does the interviews with Ms. BS Hasugian as math teacher in SMA Budi Murni 2 Medan, and obtained the information that the student's ability to think creatively in solving problems given by the teacher is still low. Students still have not maximize the way to communicate his ideas with mathematics languages.

The low quality of education in Indonesia can not be separated from the ability of teachers to teach their students. So far, it is felt that some teachers are less appropriate to choose a method that is used to convey the subject matter.

Generally in the learning process, teachers deliver lessons using the conventional method, where the teacher is more active as the giver of knowledge to students, while passive students who only receive knowledge, and usually students are less active in delivering his opinion. In accordance with the results of interviews with Ms. BS Hasugian, that teachers' knowledge about teaching models such as Problem Based Learning and Cooperative Learning Jigsaw type was still minimum so the learning models which they had been using were only the question and answer, and lectures. As said by Lie (2004:3) that: "many teachers teach expect students to the sit, Silent, Listen, Record and memorized (3DCH) ".

For that a mathematics teacher should develop learning strategies that could enable creative thinking ability of student. Problem-based learning is one of the innovative teaching methods that can be used for this approach aims to

training students in creative thinking. Learning by presenting contextual problems in early learning is one of the stimulus and triggers for thought. Then, students are allowed to discuss it in order to determine what key words that referred to in the questions, teachers help the students to conceptualize the material again as a problem, and students have to specify more than one keyword with the material and formulate questions to the alleged and analysis. Means the problem acts as a learning vehicle for achieving the goal.

Besides problem based learning, there is another alternative learning models, named Cooperative Learning Model Jigsaw type where students who have difficulty will be guided to resolve the issue. At the time of the expert group discussions students are required to discuss, issue an opinion giving the reason, so that all can be resolved. Thus the expected characteristics of creative thinking ability of student can be presented in the activities of the group.

Based on the above descriptions, it can be said that Problem Based Learning and Cooperative Learning Model Jigsaw Type is very interesting and quite effective to be implemented. The question is, there is difference in problem based learning model and cooperative learning model jigsaw type to improve creative thinking ability of student on the subject of Exponent? Accordingly, the author is interested in doing research with the title "Analysis Of Differences In Creative thinking Ability of Student Through The Application Of Problem Based Learning Model And Cooperative Learning Model Jigsaw Type”

1.2. Problem Identification

With reference to the background, the identification of the research will be divided into several problems:

1. Learning process in school less support students to develop creative thinking ability.
2. Level creative thinking of math students are still low.
3. The creative thinking ability of students in exponent is still low.

4. The learning model used by the teacher is not relevant with the objectives and characteristic of mathematics.

1.3. Problem Limitations

In assessing the problem, there are many problems that defined. Not all problems will be researched; therefore it is necessary restrictions on the problem. The limitations problem in this study is:

1. The subject matter is exponent
2. The creative thinking ability of students in exponent is still low.
3. The learning model used by the teacher is not relevant with the objectives and characteristic of mathematics.

1.4. Problem Formulation

Based on the problem identified above, the problems of the research can be formulated as: Is there difference in creative thinking ability of student taught by Problem Based Learning and Cooperative Learning Model Jigsaw type?

1.5. Research Objectives

Based on problem formulations above, then the objectives of this research are: To know the difference in creative thinking ability of student taught by Problem Based Learning and Cooperative Learning Model Jigsaw type.

1.6. Research Significance

This research is expected to contribute in improving the quality of learning in mathematics. In particular, the authors hope this research can provide benefits to everyone, including:

1. School

   Through this research, it is expected as input and contribution of ideas in order to improve the quality of learning, including the increased creative thinking ability of students.

2. Teacher

   Through this research, it is expected to further expand their horizons and knowledge of teachers about the learning model of Problem Based Learning

and Cooperative Learning Jigsaw type as an alternative learning in an effort to increase creative thinking ability of students.

3. Student

   Through this research, it is expected to optimize the creative thinking ability of student as alternatives in problem-solving process in accordance with the ideas and reach a higher level of thinking.

4. Researcher

   Through this research, it is expected to be a mean for self-development researchers and can be used as reference material or reference for similar studies. As well as an initial step in developing appropriate teaching and learning in the classroom.

1.7 Operasional Definition

1. Creative thinking ability in mathematics is the ability to solve mathematics problem to find as many answers or method of solutions that reflect the fluent thinking skills, flexible thinking skills, original thinking skills, and refine the skills of an idea.
2. Problem Based Learning is a learning model that involves the students to solve a problem through the phase of the scientific method so that students can learn knowledge related to such problems and also have the skills to solve problems
3. The Cooperative Learning Jigsaw type is a learning model that involves the students are grouped as an original group and an expert group who discuss to exchange information and opinions about a topic or problem to find an answer or a solution with all the possibilities.
4. Pretest is tes given by teacher before treatment done which developed by preequisite matter