#### **CHAPTER I**

### **INTRODUCTION**

## A. Background

Education is a very important aspect in life. Especially in the present life that keep improved, educated people will go forward and easy to get success while uneducated people will be left far behind. Therefore, the Indonesian government is trying to improve the quality of education, one of the ways for improvement is equating the standard of Indonesian schools with schools in other parts of the world. Many national schools are now become the pioneer of international standard schools. These schools use the national curriculum which is also known as KTSP or "Kurikulum Tingkat Satuan Pendidikan" and it is enriched with international standards. But also there are many schools in Indonesia which is already an international standard school with a curriculum that is recognized worldwide.

The importance of the presence of international schools is not simply to improve English language skills of local students who go to these schools, as desired or the goal of most students and parents who send their children to international schools. Ministry of National Education established a policy about international standard school that outlines the international school should has excess showed by international admission toward the process and the results or

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Mia Kusmiati, 2012

output of quality education and tested in various aspects. One of the excellence of international schools is the curriculum it uses. According to Simon Marcus Gower, quoted from The Jakarta Post October 24, 2011, that is:

"At the heart of an international curriculum is likely to be a more, what might be called, open approach to learning. International curricula typically look for ways in which students will be encouraged to become much more independent as learners. This in turn means that much open ended questioning is used; students are encouraged to explore and significantly are expected to develop research skills. Perhaps too, it might be said that international curricula have a slightly different attitude toward learning and the acquisition of knowledge."

Therefore no wonder if students of international school have very good achievement. For the example, The International Mathematics Olympiad had been followed by Indonesian students from some international schools, one of them is Pribadi Bilingual School, in 2008 and 2011 (Wartapedia, 2011). Achievement is one of measurement toward the success of students as the result of learning process. It is the output of teaching and learning process.

Students' achievement is influenced by two factors, that is factor from the outside of student (extrinsic factor) and factor from the inside of student (intrinsic factor). Extrinsic factors are environment and facilities, such as curriculum as been mentioned before, while intrinsic factors are interest, early ability, and motivation (Siroyudin, 2009).

Motivation is very important. Students who have high motivation usually have better result of learning process in school. Motivation can be defined as the driving force behind all the actions of an individual (Rabideau, 2005). In the case of mathematics, many students have low motivation to learn, maybe because it

needs calculation and involves numbers that make some students hate them. It relates with students' perception toward mathematics.

Mathematics has traditionally been taught as a series of procedures to be applied to specific types of problems rather than as the ability to build and analyze models of complex real life situations. As such, memorization of procedures can be important to learning mathematics. Instead, the concepts in mathematics are abstract and difficult to learn. Thus, it is a common thing that many people perceive that mathematics is difficult to learn. Those things could affect on students perception toward mathematics. If students keep perceiving that mathematics is difficult, it is likely will affect on their motivation and achievement.

Beside motivation, the difficulty of mathematics is also affecting on anxiety. Mathematics anxiety reactions can range from mild to severe, from minor frustration to overwhelming emotional disruption, for example, on Aschraft observation, he found a college students burst into tears during a lab experiment that tested simple substraction facts (Aschraft and Moore, 2009: 197). Thus, anxiety will interfere enjoyment class activity, and sufficient to interfere student's achievement.

As been mentioned above, perception, motivation, mathematics anxiety, and achievement seem to have relationship. All of them refer to effectiveness of learning mathematics. Thus, the author will reveal relationship between students' perception toward mathematics, motivation, mathematics anxiety, and achievement.

### **B.** Research Questions

According to background that has been explained above so that the research questions are :

- 1. Is there any significant relationship between students' perception toward mathematics, motivation, mathematics anxiety, and achievement in mathematics?
- 2. How is the image of the relationships between students' perception toward mathematics, motivation, mathematics anxiety, and achievement in mathematics?
- 3. What factors are affecting students' perception toward mathematics, students motivation, and students' mathematics anxiety?

### C. Aims of the Research

- 1. To reveal relationship between students' perception toward mathematics motivation, mathematics anxiety, and achievement in mathematics.
- To reveal the causes of students' perception toward mathematics student's motivation, and students' mathematics anxiety.
- To predict students' achievement through their perception toward mathematics or motivation or mathematics anxiety.

### D. Significance of the Research

Significances of the research are somethings that are expected from the research that can be used and useful for people, especially those pertaining to the subject of research. Significances of this research are:

- 1. As literature for other related research that studying perception, motivation, mathematics anxiety, and achievement.
- 2. As an input and information, especialy in mathematics, teachers can predict students' achievement through students' perception toward mathematics, or motivation or mathematics anxiety
- 3. By knowing what causes the perception, motivation, and math anxiety, teachers can try to change students' negative perception toward mathematics to be more positive, motivate students, and decrease students' anxiety in order to increase their mathematics achievement.
- 4. By knowing what causes the perception, motivation, and math anxiety, students can try to improve their perception toward mathematics, increase their motivation, and decrease their anxiety in order to increase their achievement.

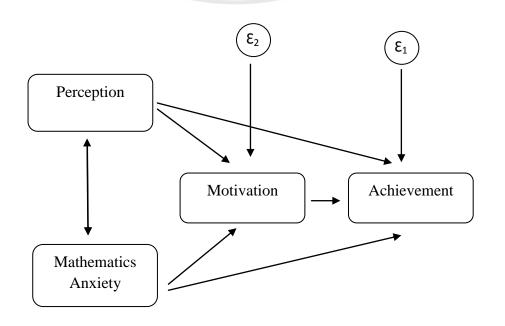
### E. Limitation of the Research

To make this research more directed and not too wide, so the author is limiting the space of the problems in this research as follows:

- 1. This research is studying relationship between students' perception toward mathematics, motivation, mathematics anxiety, and achievement in mathematics.
- 2. The population is Bilingual International schools students and RSBI students in Bandung.
- Samples are 7<sup>th</sup> and 8<sup>th</sup> grade students in Pribadi Bilingual School and SMPN
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# F. Hypothesis

 $\label{eq:Diagram 1.1} Diagram 1.1$  Hypothesis of Structural Correlation between  $X_1, X_2, X_3,$  and Y



- 1. There is a significant relationship between students' perception toward mathematics and motivation.
- 2. There is a significant relationship between students' perception toward mathematics and mathematics anxiety.
- 3. There is a significant relationship between students' perception toward mathematics and achievement.
- 4. There is a significant relationship between mathematics anxiety and motivation.
- 5. There is a significant relationship between motivation and achievement.
- 6. There is a significant relationship between mathematics anxiety and achievement.

### G. Clarification of the Terms

- Perception is process of attaining awareness, or understanding of the environment by organizing and interpreting sensory information (Wikipedia, 2011). Meanwhile, Morkowitz and Orgel stated perception is an integrated process on accepted stimulus inside individual self. From both statements we can say that perception is a process of interpreting information from our environment.
- 2. Motivation is all the reasons why we behave as we do and revolves around intentionality (McLean, 2009 : 7). Motivation to get achievement is called

achievement motivation. McClelland stated that achievement motivation is individual's desire to do their best without much influenced by the prestige and social influence, but for personal satisfaction (Maharani, 1986). It means that motivation is a desire and reason to do something for individual's personal satisfaction.

- 3. Mathematics anxiety is a person's negative affective reaction to situations involving numbers, math, and mathematics calculations, a feeling of tension and anxiety that interferes with the manipulation of numbers and the solving of mathematical problems in a wide variety of ordinary life and academic situations (Richardson and Suinn cited in Aschraft and Moore, 2009: 197). In a simple way, we can say that mathematics anxiety is a feeling of anxious toward mathematics.
- 4. Mathematics achievement is accomplishment in mathematics. Most of schools represent it in score number.