

# CHAPTER I

## INTRODUCTION

This chapter discusses the background of the study, statements of problem, objectives of study, significance of study, scope of study, research methodology, significance of terms, and organization of paper.

### 1.1 Background of the Study

In order to face global competition era, the need to be proficient in the use of English among non-native speakers has become a global phenomenon (Camilla, 2006). Some countries such as Malaysia, some African and American countries, and also Indonesia should try to improve their education system (Fatmawati, 2011). One of the efforts is to use English in education system in order to develop the quality and competitiveness of graduates that have internationally standard (*Depdiknas*, 2003).

Accordingly, in 2003, National Educational Ministry (*Depdiknas*) in Indonesia announced the implementation of a new policy in our national education system called the National Educational System Law number 20/2003 (in *Bahasa Indonesia* named *UUSisdiknas*). Based on The National Educational System Law in the article 50 (3) states “Central and/or local government is suggested to run at least a unit (a school) of education in every level of education, and developed to meet international education standard”. As the implementation, the National Educational ministry expected the General Director of the Primary and Secondary Education Management to improve the quality of educational

services and produce graduates that are recognized by the national and international society (Depdiknas, 2003). One of the implementations of this policy is by creating International Standard School or commonly named as *Sekolah Bertaraf Internasional (SBI)*. Then, in fulfilling the quality standards of *SBI*, some schools are asked to prepare themselves by improving the quality of all aspects in their education. These preparing schools are commonly called International Standard Pilot Project Schools or *Rintisan Sekolah Bertaraf Internasional (RSBI)*. According to Government Regulations No. 17/2010, *SBI* or *RSBI* is defined as follows:

*SBI* or *RSBI* is defined as an education that is held after fulfilling the education national standard (SNP) and enriched by standard of the OECD (Organization for Economic Co-operation and Development) countries or other developed countries (p. 5). Moreover, SNP itself consists of content standard, process, graduates' competence, educators and education staffs, facilities and infrastructure, management, funding, and education evaluation (Government Regulations No. 17, 2010).

The difference between regular and *SBI/RSBI* school is stated in the government regulation (PP) No. 19/2005, article 16 and 17. In regular school, the implementation of curriculum school is applied in the form of *KTSP* that is used as a guide and arranged by *BSNP*, while in an International standard school (*SBI/RSBI*), the curriculum developed is *Kurikulum Tingkat Satuan Pendidikan plus X (SNP/KTSP + X)*. Related to definition of *X*, Alwasilah (2010) explains some criteria below:

The school has an International curriculum, using Bilingual in math and sciences subject and also IT-based, having IT and Foreign language competence, equipped with Facilities and Infrastructures of international standard, recognized by ISO management 9001: 2008, ICT-based, having International certification, and Minimum funding standard is about 3 millions in a month per student (Alwasilah, 2010).

Completing the criteria above, National Educational Ministry (2010) also applied some rules in teaching learning process for *SBI*. The rules covered the teaching learning process in *SBI* should become a model for other schools in attitude, personality, leadership, and innovator; enriched by a model of educational standards of the OECD (Organization for Economic Co-operation and Development) or other developed countries; applying the learning of ICT-based in all subjects; and the last, sciences, math, and main subjects of vocational school should use English as a medium of instruction (bilingual).

Regarding the new teaching method of the use of English as a medium of instruction in sciences and math subject, Pandian and Ramiah (2004) highlights “the teaching method is congruent to significant developments and understandings in second language acquisition that emphasize the role of meaningful and understandable input”. In line with Pandian and Ramiah (2004), Kessler & Quinn (1987) adds that teaching mathematics and sciences in English will provide a rich context for genuine language use and as such serves as a focal point around which oral language and literacy in English can develop.

Teachers and students who have been teaching and learning in *Bahasa Indonesia* are now expected to perform effectively in English, to teach and acquire certain knowledge (Camilla, 2006). This is indeed a formidable challenge, seen in the light of concerns voiced about English teachers’ proficiency and competency (Pillay, 1998) and the overall declining standards of English (Pillay, 1998; Pandian, 2001). In line with Pillay and Pandian, Mc Keon (1994) also says, “on one hand, students must learn mathematics and sciences content while they

are still learning English and on the other hand, teachers, who themselves still have proficiency problems with this new medium of instruction (English).”

Pandian (2009) argues similar concern in his research as follows;

When the competency of English teachers themselves become questionable, what more can we expect of teachers of mathematics and sciences? These teachers who are not language specialists will have to cope with the double demand transmitting content as well as language. Will they be able to cover their subject area in an accurate and efficient manner? (Pandian, 2009).

To understand the topic clearly, it is important to understand the perceptions, knowledge, and readiness of these teachers and students toward the use of English as a medium of instruction in sciences and math subject. As Pandian (2002) asserts, “what teachers know and can do, affect all the core tasks of teaching”. Furthermore, numerous studies (Gambrell, 1996; Chakravarthy, 1997; Pandian, 1999) have stressed the roles of teachers in influencing the behavior of students.

Therefore, this study attempts to investigate the implementation of *RSBI* in one of public junior high schools in Bandung, especially when English is used by both teachers and students in teaching and learning sciences and math. It is also essential for this study to find out sciences and math teachers’ perception on the use of English in teaching learning process and to find out students’ perception on the use of English in learning sciences and math.

## **1.2 Statements of Problem**

The problems in this study are formulated in the following research questions:

1. In what situation do sciences and math teachers use English in teaching and learning process?
2. What are sciences and Math teachers' perceptions about teaching sciences and math by using English?
3. What are students' perceptions about learning sciences and math by using English?

### **1.3 Objectives of Study**

In accordance with the research questions above, the objectives of this study are:

1. To investigate in what situation sciences and math teachers use English in teaching and learning process
2. To find out sciences and math teachers' perception on the use of English in teaching learning process, and
3. To find out students' perception on the use of English in learning sciences and math.

This study is aimed to find out whether the teachers and the students have positive or negative perception toward the use of English as a medium of instruction in teaching and learning sciences and math.

### **1.4 Significance of Study**

The findings of this study are expected to give contributions to sciences and math teachers in preparing themselves to master English for teaching bilingual class in international class. It is also beneficial for headmasters to help

the teachers in solving their problems and finding some ways in mastering English as a medium of instruction in teaching and learning process. And finally, before choosing or determining a school as a *SBI /RSBI*, it needs to be considered by the government related to some aspects such as the schools' facilities, the readiness of teachers' ability, competency, proficiency, knowledge, perceptions, and also teachers' needs toward their readiness in teaching sciences and math in English. In addition, this study also aims to find out students' perception that will be beneficial as material evaluation for the teachers and the schools, so it will help the successful of teaching and learning process. Furthermore, this study is also expected to give some additional information to anyone who is interested in investigating the same area of study.

### **1.5 Scope of Study**

Related to the research questions and the purposes of them, this study is expected to know in what situation English as a medium of instruction is used by teachers in teaching sciences and math, to find out sciences and math teachers' perception on the use of English in teaching learning process, and to find out students' perception on the use of English in learning sciences and math.

### **1.6 Research methodology**

#### **1.6.1 Data Analysis**

The data in this study were analyzed by using qualitative descriptive research design. In this case, the data was explained and elaborated descriptively by using words and numbers. The descriptive method was used to describe the data during research and then tabulate them.



## **1.6.2 Data Collection Techniques**

### **1.6.2.1 Research Samples or Participants**

This study involved 2 natural sciences teachers, 1 math teacher, and five classes of ninth grade students of 2010-2011 academic years.

### **1.6.2.2 Instrumentation**

In order to get the information and data, this study employed classroom observation, questionnaire, and interview.

### **1.6.3 Data Analysis Procedures**

This study was started by doing observation in the classroom to see the process of using English in teaching and learning sciences and math. The observation was conducted for several meetings. After doing the classroom observation, questionnaire was given to the teachers and students. After that, interview was held to the teachers and students in order to clarify the answers of questionnaire items since the questionnaire was the main source of data in this study.

## **1.7. Clarification of Key Terms**

To avoid misunderstanding, several terms are clarified as follows:

**1. Bilingual.** This term refers to an applying of two languages (*Bahasa Indonesia* and English) related to the use of English as a medium of instruction in sciences and math subject at *SBI/RSBI*. Bilingual education which is used in Indonesia related to what New World Encyclopedia (2008; NABE, 2004) said that Bilingual education involves teaching all

subjects in school through two different languages and the practice of teaching students in their native language for a variety of social and pedagogical purposes.

**2. Perception.** Psychologically, Mussen (1973) explains that perception is the process where information acquired through the sensory receptor (eyes, ears, nose, and skin) and transformed into a percept of what we think, see, hear, smell, taste, or touch. In this case, this term refers to the teachers' and students' opinion in running RSBI program at sciences and math classes, whether the opinion is positive or negative.

**3. SBI/RSBI.** RSBI/SBI is an education program held after fulfilling the education national standard (*SNP*) and enriched by standard of the OECD (Organization for Economic Co-operation and Development) or other developed countries (Government Regulation, number 17/2010). In this context, the term mainly talks about an implementation of a policy developed by government in educational system called the international standard pilot project schools that refers to *Sekolah Bertaraf Internasional (SBI/RSBI)* (cited in The Jakarta Post) in order to create and gain the global educational system based on the regulation of national educational system number 20 /2003, article 50 (3). In this study, one of public schools that has been implementing RSBI program since 2007 was chosen.



## **1.8 Organization of Paper**

This organization of the paper is made to make readers understand the content of the paper. Chapter I is Introduction and it deals with background of the study, statements of problems, objectives of study, significance of study, scope of study, research methodology, population and sample, and organization of the paper.

Chapter II is literature review. It mainly discusses theories of language across curriculum, bilingual, perception, and previous studies related to this study.

Chapter III, this study describes the research method. It presents the type of the study, subject of the study, object of the study, method of collecting data, method of analyzing data, and key terms.

Chapter IV discusses findings and discussion.

Chapter V presents conclusion and suggestion.