

An Analysis of the Use of English in Teaching
Mathematics at the Second Grade of SMA Negeri 1
Krian Sidoarjo

THESIS

Submitted in partial fulfillment of the requirement for the
degree of Sarjana Pendidikan Islam (S.Pd.I) in Teaching
English



By
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STATEMENT OF THE ORIGINALITY OF *SARJANA* THESIS

The undersigned,

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He declares that the present *Sarjanas'* thesis is an original research undertaken by the researcher mentioned above for the English Department, Tarbiyah Faculty, State Institute for Islamic Studies Sunan Ampel Surabaya. Any theories, findings, and research techniques not my own have been acknowledged in the text. Theoretical contributions and findings in this study are my own original work and have not been submitted for any degree in this or any other universities. If later it can be revealed that this *Sarjanas'* thesis contains partly or wholly plagiarized others' intellectual work of any kind, I will readily accept the sanction established by the university on the matter.

Surabaya, 24th February 2012

The Statement Maker,

Moh. Rosyid Ridlo

APPROVAL SHEET

This thesis by Moh. Rosyid Ridlo entitled *An Analysis of the Use of English in Teaching Mathematics at the Second Grade of SMA Negeri 1 Krian Sidoarjo* has been examined on 8th of February 2012 and approved by the board of examiners.



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ABSTRACT

Ridlo, Moh Rosyid. 2011. *An Analysis of the Use of English in Teaching Mathematics at the Second Grade of SMA Negeri 1 Krian*, A thesis. English Education Department, Faculty of letter, State Institute for Islamic Studies. Advisor: Dra.Arbaiah Ys, MA and Afida Safriani,MA

Key Words: The use of English, non English subject matter, mathematics class of RSBI.

This research was a descriptive qualitative research. This research was done because there was the government regulation which sets international standard school program up in Indonesia. This judgment is caused many criticisms from many aspects. Concerning the school profile, the educator and student competence is required the consideration in constructing the program. Especially for the teachers who do not teach English subject matter. They have to use English instruction as a medium in teaching their subjects. Based on that problem, the researcher did a research on how the use of English in teaching non English subject matter at the second grade of SMAN 1 Krian Sidoarjo. At the same time, the researcher analyzed whether the English language instruction is reasonable to be implemented or not.

This research was taken in SMAN 1 Krian Sidoarjo, one of a pilot project of international standard school in Sidoarjo. The subject was the students of XI science 4. The class consisted of 39 students, 10 male and 29 female students. The researcher did this research in descriptive qualitative which was aimed to describe the implementation of using English as an instruction for teaching non English subject matter, it was in the form of descriptive qualitative. The data were collected by observation, interview and questionnaire. Then they were analyzed by using Milles and Huberman model which provides three steps, data reduction, data display and conclusion drawing or verification.

The result of this study showed that there were items providing positive effect in this implementation actually but there was an item that made this study was not reasonable to be conducted. The teacher only graduated from the program of bachelor degree. She has not achieved the program of master's degree yet. In the regulation of national education article 78, 2009 mentioned that headmaster and educators must hold minimally master's degree in their subject.

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INTRODUCTION

This chapter consists of the background of the study, the problems of the study, the objectives of the study, the significance of the study, the scope and the limitation of the study, and the definition of the key terms.

A. Background of the study

International standard school is craved by every country in this world. The schools which have fulfilled the indicators of international standard school will be able to produce good English competence and compete with other the developed countries. Therefore, the government policy in Indonesia tries to set up the program of international standard school.

SMAN 1 Krian is one of senior high schools in Sidoarjo. The learning in this school is supported by complete facilities such as mosque, MIPA laboratory, computer multimedia, language laboratory, library, garden hall, cooperative, canteen and commodious parking lot. SMAN 1 Krian also has been holding some extracurricular activities like sports, art, reciting holly Quran art, scouts, and youth red cross. The complete facilities and many extracurricular activities support the students in SMAN 1 Krian to be one of favorite senior high schools and the most favorite school in the sub district of sidoarjo.

As a favorite school, SMAN 1 Krian is selected by the policy of national education ministry. The result is that SMAN 1 Krian becomes a Pilot Project of International Standard School. As a Pilot Project of International Standard School, SMAN 1 KRIAN has run the school programs that are similar to the program of international standard school in general. Not only are good facilities available in the school but teaching all subjects in English also must be conducted perfectly, especially teaching science.

English is easy for an English teacher when he or she teaches the lesson because an English teacher absolutely has expertise in teaching English. In this condition, the English instruction like pronunciation, grammar, language has to be implemented in the classroom. To be an expert in English, the teacher has to master the important skills: those are listening, speaking, reading, and listening. If he masters those skills, he will enjoy teaching and learning process.

English instruction must be conducted in all grades from the first to the third grade. However it is more likely to conduct English instruction in the second grade. There are some reasons of why the second grade becomes a choice.

This study deems essential because as in the curriculum of the International Standard School in Indonesia, it is stated that English is used as the medium of instruction in teaching English, mathematics, science and technology, and it is used to communicate outside the class (Depdiknas, 2007). From this statement, the researcher argues that it seems difficult to conduct teaching all subjects and causes much argumentation. As we know that English is a foreign

In this condition, the Indonesian teacher will face the difficulty in teaching their lesson in English, because most of Indonesian teachers do not have Basic English education. Moreover the student's language proficiency levels are low.

B. Problems of the study

1. Is there any problem of using English to teach non English subject for the second grade students of SMAN 1 Krian Sidoarjo?
2. How do the students respond toward a non English teacher using English to teach her subject?

1. To find out the problem of using English to teach non English subject for the second grade student of SMAN 1 Krian Sidoarjo.
2. To know the students respond toward a non English teacher using English to teach their subject.

The result of this study is expected to be of any use. They are both theoretical and practical purpose. Theoretically, the result of this research is expected more to motivate the teacher for teaching his subject matter in English especially mathematics.

This study is helpful to the researcher to find the knowledge more new vocabularies in their specific subject like mathematics. It is to fulfill the requirement for getting bachelor degree at state institute of Islamic studies.

It is expected to give some essential information on using English for non English teacher like a mathematics teacher.

This study is useful for other researchers as reference to conduct similar problems, like the use of English for teaching non English

2. The researcher

The result of this study is helpful to the researcher to find the knowledge more from the teacher, especially for new vocabularies in their specific subject like mathematics. In addition, this result of this study is to fulfill the requirement for getting bachelor degree in English education department at state institute of Islamic studies.

This study is expected to give some essential information on using English for teaching mathematics especially for non English teacher like a mathematics teacher.

This research is useful for other researchers as reference to conduct research corresponding to similar problems, like the use of English for teaching non English subject matters.

Based on the previous explanation in the background of the study, this research will be held in SMAN1 Krian Sidoarjo. This research discusses and focuses on using English for teaching non English subject matter.

[illegible]

REVIEW OF RELATED LITERATURE

A. Definition of International Schools

“Before implementing that rule, an international school is the foreign school which is established by an organization based on the regulation in Indonesia. This regulation is to be applicable especially for foreigners who do not become a member of diplomatic and consular of other country in Indonesia. It is absolutely governed by a minister of national education in Indonesia.

After determining PP 17/2010 and permendiknas 18/2009, international school becomes collective educational institution. It means that international school is corporation between accredited institutions of foreign school education unit and education unit in Indonesia that is gotten an accreditation A.”¹

International standard school is a school which has fulfilled and passed all indicators of national standard of education that is enriched with good qualification of OECD member (Organization for Economic Co-operation and Development). Based on the regulation of minister of national education (permendiknas nomor 78 2009), the researcher has translated those indicators into English as stated below.²

¹ Mudarwan, “Apakah sekolah internasional itu?”, (<http://mudarwan.wordpress.com/2010/05/24/permendiknas-no-78-tahun-2009-tentangpenyelenggaraan-sbi/>) accessed on July 30, 2011)

² Direktorat Jendral Manajemen Pendidikan Dasar dan Menengah Kementerian Pendidikan Nasional, Depdiknas, *Permendiknas no 78 2009, tentang penyelenggaraan SBI* (<http://www.kemdiknas.go.id/media.pdf>, accessed on

Fundamentally, the implementation of international standard schools overcomes the real issues or problems of how the schools enhance the quality of their graduates. (Permendiknas no. 78 years 2009) The regulation of minister of national education guides the schools to implement the national standard of education for increasing the quality of management and learning process with the indicators of pilot project of international standard school (RSBI) which absolutely agrees with the regulations of national standard. Realizing such educational expectation, the government determined various standards as (permendiknas no. 78 years 2009) the regulation of minister of national education below:

To fill the standard competency, there are some indicators which are achieved, such as:

- July 30, 2011)

2. Standard of Curriculum

- Applying the curriculum which is enriched with the standard of OECD member or other developed countries.
- Applying semester credit units (SKS)

3. Standard of Process

- a. Enriching the process standard with operating the learning model of OECD member and developed countries.
- b. Learning process is based on communication and information technology (TIK).
- c. Implementing teaching strategies that are communicative, active, creative, effective, enjoyable and contextual.
- d. Leading the learners to increase their potential optimal in academic and non academic potential.
- e. Giving face to face act, structured and unstructured assignment, and self-development act.
- f. Enriching in competitive and collaborative activity
- g. Enriching students' competency in entrepreneur based on high morality and ethic.

4. Standard of Administration Staff and Educators

- a. Reinforcing the competency of international standard school educator with the standard of OECD member or other developed countries.
- b. Facilitating the learning process based on communication and information technology.
- c. Leading educator to improve their ability in English proficiency or other foreign languages that are used in the international forum for certain subject matter except Indonesian, Islamic education, civic education, history education, and local content.

agement that is transparent and accountable.

helping hand from the government.

finance from the society.

scholarship for underprivileged learners who ha

minimum 20 percent of all the candidates

ent

standard of school assessment which is enriched v

er or other developed countries.

authentic assessment model and developing assessm

n and information technology.

national exam.

the learners to access an approved international ce

- a. The school finance fulfills the standard of educational finance and implements financial management that is transparent and accountable.
- b. Accepting a helping hand from the government.
- c. Accepting the finance from the society.
- d. Providing the scholarship for underprivileged learners who have good quality in academic at minimum 20 percent of all the candidates

8. School Assessment

- ### C. Mathematics English vs. General English

[illegible]

any line segment

Line is an infinitive line

repeated addition

bigger, smaller, or neither

dividing is cut into pieces

dividing is same multiplication (dividing by a non-zero
multiplying by its reciprocal)

do you want to drink Coffee or Tea?

are you coming or going?

- any line segment
- Line is an infinitive line
- repeated addition
- bigger, smaller, or neither
- dividing is cut into pieces
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are you coming or going?

D. Strategies for Teaching Mathematics to Limited English Proficiency (LEP) student

Jo Lynne De Mary, Ed.D. Said that increasing comprehension and making mathematics more accessible to LEP students, teachers may want to use a variety of strategies: ⁴

a. Classroom Management Strategies

- b. Create predictable classroom routines (starting class, collecting homework, and working in groups) so that LEP students will know what to expect.
- c. Use consistent formats for assignments, worksheets, and tests.
- d. Seat LEP students purposefully (near the teacher or next to a buddy).
- e. Foster an appreciation of and respect for cultural diversity among the students in the class.
- f. Write legibly and in print. Some LEP students may not be familiar with cursive and/or the Roman alphabet.
- g. Give directions step-by-step (orally and in writing) before assigning students to do independent, pair, or group work.
- h. Give LEP students more time to process questions and formulate an answer.

[illegible]

- i. Allow LEP students to talk to a peer in their native language when necessary to clarify understanding and clear up misunderstandings.
- j. Keep picture dictionaries in the class and allow LEP students to use bilingual dictionaries.

2. Instructional Strategies that Increase Comprehension

a. Integrate Language and Content

- i. Teach mathematical vocabulary (i.e., estimate, measure) and language structures daily.
- ii. Teach students strategies to learn and study new vocabulary (i.e., vocabulary section in mathematics notebooks, class word wall, student-made bilingual dictionaries, and/or flashcards on spiral-bound index cards with definition, examples, word used in a sentence, picture/diagram, or a native language translation).

Sample flashcard:

Word	definition
illustration	real world use

- iii. Integrate the four language skill (listening, speaking, reading, and writing) into mathematics class.
- iv. Model the process. Talk aloud while solving problems on the overhead or chalkboard to show the thinking process and common errors.
- v. Have students explain their thinking process aloud to a classmate while solving a

sentence construction.

s and vocabulary cards around the classroom on complex

number lines, rulers, fraction diagrams, and/or objects in the class

ents paraphrase and write complex concepts in their own

ly, pairs, or whole class).

mathematical vocabulary and concepts using games.

nowledge

the students' prior knowledge and experiences to new learning

nts already know about a topic by making a semantic web on

topic in the center of a circle and record students' knowledge around

the LEP students' culture into lessons whenever possible.

it of study by eliciting students' own questions about a topic.

- prior knowledge and experience

- i. Demonstrate how to read a mathematics textbook.
- ii. Point out key sections and resources in the textbook.
- iii. Teach students how to organize notebooks and binders and record homework assignments.
- iv. Teach mnemonic devices that assist memorizing content.
- v. Teach the study and test-taking skills.
- vi. Teach note-taking skills. For beginner LEP students, copying notes is an effective way to begin learning writing conventions.

a. Before Instruction

- i. Use daily warm-up activities to assess mastery of concepts from the previous day's lesson.
- ii. Assess the LEP students' knowledge before beginning a unit of study to learn where students have gaps in their learning and avoid unnecessary re-teaching of concepts. Some good techniques are semantic webbing and recording students' comments on a KWL chart. Listed below is an example of a KWL chart.

What Do You K now?	What Do You W ant to Know?	What Did You L earn?
---------------------------	-----------------------------------	-----------------------------

- i. Use a variety of assessment methods to measure English comprehension and mastery of concepts (drawings, charts, demonstrations, diagrams).

semester comprised of four units, those are: the development technology and communication technology, primary curriculum and pedagogy, English for teacher, and an integrated mathematics and science to develop scientific and quantitative literacy. Even though the first semester was delivered in Spanish, the second semester was delivered in English with all the assignments and assessments conducted in English. This required learners to use English as the target language.

Research is by Theresa Perez entitled "The Learning of Mathematics by the Bilingual Learner."⁹ This study focused on theoretical and applied research in mathematics for English as Second Language Learners. Research was reviewed with an emphasis on the design, implementation, and assessment of mathematics for a population of learners. A qualitative analysis of students' final

language, the second semester was delivered in English and assessments conducted in English. This research used English as the target language.

Research is by Theresa Perez entitled “The Learning of Mathematics by the Efficient Learner.”⁹ This study focused on theoretical and practical aspects of mathematics for English as Second Language Learners. The study was reviewed with an emphasis on the design, implementation, and the population of learners. A qualitative analysis of student

⁹ Theresa Perez entitled “*The Learning of Mathematics for Limited English Proficient Learner*.” Thesis. Charlotte: University of North Carolina at Charlotte

the information in the process of teaching and learning Physics in RSE
 lang based on the giving-information category of teacher-talk in the FLIN
 ta of the study are the utterances produced by the teacher in giving info
 The main data were taken during the teaching-learning process in the cl
 were collected through observation and recording the teacher talk
 in four meetings. To support the main data, secondary data were also
 interview with the Physics teacher and a student questionnaire. The data an
 steps, namely: data collection, data reduction, data display, and conclusion

¹⁰ Muhammad Islahudin entitled “*Teacher – Talk in Giving Information in RSBI physics Class at SMPN 3 Malang.*” Thesis. Malang: State University of Malang. 2010

RESEARCH METHODOLOGY

Based on this technique, the researcher obtains unclear information which is reasonable to be implemented in the classroom. Furthermore, this research is going to be composed fully and clear by supporting techniques beneath. The aim of using this technique is to obtain the data about the use of English as an instruction for teaching non English subject matter

For obtaining the data, the researcher makes questions while using face-to-face action to the respondent. According to Moh.Nazir, “interview is the inquiry process of getting information which is conducted by interaction and face-to-face act between the researcher and the respondent.”⁴

It is used to get the accurate data and to support observation conducted previously. Susan Stainback which is cited by sugiyono said that, "Interviewing provides the researcher a means to gain a deeper understanding of how the participation interprets a situation or phenomenon than can be gained through observation."⁵

In this opportunity, the students become interviewee of this technique. The result of using this technique is to obtain the information about English language instruction used by non English teacher to answer the research question number one.

Questionnaire as documents asking some questions all individuals in the sample. The researcher uses questionnaire to know the problem of student. According to Moh Nazir,

⁵ Sugiyono, *Metode Penelitian Kuantitatif Kualitatif dan R&D*, (Bandung: CV AFABETA, 2009), page 232.

In this case, the question is given to English students in order to know the students' responses concerning the use of English as the medium of instruction of non English subject matter.

Documentation purposes to support the result of observation and interview in qualitative research. According to Bogdan, “In most tradition of qualitative research, the phrase personal document is used broadly to refer to any first person narrative produced by an individual which describes his or her own actions, experience and belief”⁷

D. Data Analysis

“The qualitative data analysis is conducted interactively and continuously up to the completion of data. There are three steps of this model: data reduction, data display, and conclusion drawing/verification.”⁸

⁸ Moh.Nazir, page 246.

ly. The percentage of student's responses is acquired by the division of the correct answer and the number of respondent, then it times 100%. This step is important to get the most qualified data and the unqualified data.

The last step is conclusion drawing/verification. After conducting those steps, the researcher draws the conclusion of the data. The data is described and written on the form. The aim of this step is to obtain the reasonable of the use of English as the medium of non English subject matter.

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⁹ Ibid, page 249

adequate equipments and materials for lab activities for students and teachers. They are also provided LCD projector, internet Wi-Fi, and computer. Library is equipped with a wide variety of books and references that are adequate and sufficient for students and teachers. In addition, it is also equipped by a digital library that allows any user to search various books and information needed. Various means in the form of instructional media have been created and developed by teachers of SMA Negeri 1 Krian Sidoarjo

2. Teacher Profile

In SMAN 1 Krian Sidoarjo there are four mathematics teachers. Ms. Sayekti Reni W S.Pd is one of the mathematics teachers in that school. She holds a bachelor degree in mathematics education. When she was in junior high school of SMAN 1 Kertosono Nganjuk, she was interested in studying English and mathematics lesson. Both of them were her favorite lessons.

To improve her English, while she was studying mathematics in the university, she studied English by taking a course at English First (EF) for four months. She was able to learn English even though she had to focus on studying mathematics in the university.

She has been a mathematics teacher for more than 20 years. Recently, She seldom learns English. In 2006 she heard information that SMAN 1 Krian will be a pilot project of international standard school. After getting that information, she got a challenge to learn English. At the moment, she bought some mathematic books which are written in English. She tried to understand the mathematics English deeply.

She was born in October 1957. She is 54 years old now. However, she is still enthusiastic in learning English even though she gets older than her age. When SMAN 1 Krian became a pilot project of international standard school in 2009, she got an English course from the school program. In addition, she has some specialist teachers for supporting her speaking. He is Mr.

Abadi who graduated from one of the universities in the U.S. who is a science lecturer at Airlangga University Surabaya. Her daughter and brother who are English teachers in Bali become her consultants. They are her motivators when teaching mathematics in English. Therefore, the age is not an obstacle to learn the knowledge anymore. She struggles in learning English in her age.

3. Teaching's Problem

They were lesson plan, conveying the lesson, establishing communication, and leading discussion. The data of lesson plan was obtained from documentation. The data of conveying the lesson, establishing communication and leading discussion were obtained from the observation and the interview with the teacher.

a. Lesson plan

b. Conveying the lesson

In the learning process, the teacher did not explain the lesson in English. Instead, she asked the students to read the book and discussed together what in the book. When explaining the lesson, she used simple language and clear explanations. She found it difficult when constructing the complex sentences. The teacher was likely to use simple, clear and systematic explanation.

When the students got the difficulty to understand the meaning, the teacher began to discuss or ask the students, to look up the word in the dictionary and translate them into

[illegible]

4. Students' response

The researcher presented the student's responses that were obtained from the questionnaire, observation and documentation at SMAN 1 Krian Sidoarjo. The questionnaire was done by the researcher on 15th of August 2011 after the observation had been conducted on 20th of July up to 10th of August 2011. And the documentation was collected on 15th of August 2011. This study found some points related to the problem of teaching below.

They were student's convenience, students' comprehension, students' passion and students' score. The data of students' convenience, comprehension and liveliness were obtained from observation and questionnaire. The data of students' score was obtained from documentation.

a. Students' convenience

Based on the class observation, it is known that the students' convenience was clearly visible when they felt comfortable in the classroom. It was able to emerge some points. Their facial expression could indicate whether they enjoy the class or not. When the learning was taking place, they showed positive facial expression. It could be showed from their smile when learning in the classroom.

In addition, the sitting position and their behavior showed the students' convenience. When the learning was happening, they showed positive behavior in the classroom. They could receive the lesson when the teacher taught them. They enjoyed in the classroom. Thus the students gave the positive response in the learning process.

The students' answer in the questionnaire could be showed on the table below.

**TABLE 4.1 STUDENTS' RESPONSES TO THE TEACHER WHEN CONVEYING
THE LESSON (NUMBER 2 OF QUESTIONNAIRE)**

Q.2	Statement of students' response to	Option	Frequen ncy	Percentage %
	The teacher when conveying the lesson	Very comfortable	1	3,13
		comfortable	25	78,13
		uncomfortable	6	18
		very uncomfortable	0	0

Based on the table, 25 of 32 students (78,13%) answered that they felt “comfortable” when the teacher was delivering mathematics lesson in English, 6 students (18%) answered that they felt “uncomfortable” when the teacher is conveying the lesson, and one student (3,13%) answered that they felt “very uncomfortable”

TABLE 4.2 STUDENTS' RESPONSES TO THE TEACHER WHEN DELIVERING THE LESSON (NUMBER 4 OF QUESTIONNAIRE)

Q.4	Statement of students' response to	Option	Frequency	Percentage
				%
	The teacher when delivering the lesson	Very happy	0	0
		Happy	19	59,38
		Unhappy	13	40,63
		Very unhappy	0	0

Based on the table, 19 of 32 students (59,38%) answered that they were “happy” when the teacher was teaching the mathematics lesson in English, and 13 students (40,63%) answered that they were “unhappy” when the teacher is conveying the lesson.

**TABLE 4.3 STUDENTS' RESPONSES TO THE ENGLISH SUBJECT IN THE
SCHOOL (NUMBER 5 OF QUESTIONNAIRE)**

Q.5	Statement of students' response to	Option	Frequency	Percentage %
	The English subject in the school	Very pleased	5	15,63
		pleased	19	59,38
		unpleased	5	15,63
		very unpleased	3	9,38

Based on the table, 19 of 32 students (59,38%) answered that they were “pleased” about the English subject in the school, 5 students (15,63%) answered that they were “very pleased” with the English lesson in the school, 5 student (15,63%) answered that they were “unpleased”, and 3 students (9,38%) answered disagree that they were “very unpleased”.

Therefore, from the result of students' answer in the questionnaire about students' convenience the researcher can conclude that:

- 1) The students felt comfortable when the teacher was delivering mathematics lesson in English instruction.
- 2) The students were happy when the teacher was teaching mathematics lesson in English.
- 3) The students were pleased with the English lesson in their school.

VOCABULARY (NUMBER 6 OF QUESTIONNAIRE)

Q.6	Statement of students' response to	Option	Frequency	Percentage %
	The mathematics English vocabulary	Very easy	0	0
		easy	4	12,5
		difficult	28	87,5
		very difficult	0	0

Based on the table, 28 of 32 students (87,5%) answered that they felt “difficult” when finding the mathematics English vocabulary in the classroom, and 4 students (12,5%) answered that they felt “easy” when finding the English mathematics vocabulary in the classroom.

COMMUNICATING WITH HER (NUMBER 10 OF QUESTIONNAIRE)

Q.10	Statement of students' response to	Option	Frequency	Percentage %
	The teacher's speaking when communicating with her	Very understandable	1	3,13
		Understandable	18	56,25
		Confusing	12	37,5
		Very confusing	1	3,13

Based on the table, 18 of 32 students (56,25%) answered that the teacher's speaking was "understandable" when communicating with her, 12 students (37,5%) answered that the teacher's speaking was "confusing" when communicating with her, one student (3,13%) answered that the teacher's speaking was "very understandable", and one student (3,13%) answered that the teacher's speaking was "very confusing" when communicating with her.

TABLE 4.7 STUDENTS' RESPONSES TO THEIR FRIENDS' SPEAKING WHEN COMMUNICATING WITH THEM. (NUMBER 12 OF QUESTIONNAIRE)

Q.12	Statement of students'	Option	Frequency	Percentage
	response to			%
	Their friends' speaking when communicating with them	Very understandable	2	6,25
		understandable	22	68,75
		Confusion	7	21,88
		Very confusion	1	3,13

Based on the table, 22 of 32 students (68,75%) answered that their friends' speaking was "understandable" when communicating with them, 7 students (21,88%) answered that their friends' speaking was "confusing", 2 students (6,25%) answered that their friends' speaking was "very understandable", and One student (3,13%) answered that their friends' speaking was "very confusing" when communicating with them.

Therefore, from the result of students' answer in the questionnaire about students' comprehension the researcher can conclude that:

- 1) The lesson was understandable by when the lesson is taught by the teacher.
- 2) They felt “difficult” when finding the mathematics English vocabulary in the

The students' answer in the questionnaire could be shown on the table below.

**TABLE 4.8 STUDENTS' RESPONSES TO THE FREQUENCY OF ASKING
QUESTION ABOUT MATHEMATICS ENGLISH VOCABULARY (NUMBER 7
OF QUESTIONNAIRE)**

Q.7	Statement of students' response to	Option	Frequency	Percentage
				%
	The frequency of asking question about mathematics English vocabulary	Often	5	15,63
		sometimes	19	59,38
		seldom	6	18
		Never	2	6,25

Based on the table, 19 of 32 students (59,38%) answered that they “sometimes” asked question about mathematics English vocabulary, 6 students (18%) answered that they “rarely” asked question about mathematics English vocabulary, 5 students (15,63%) answered that they “often” asked question about mathematics English vocabulary, and 2 students (6,25%) answered that they “never” asked question about mathematics English vocabulary.

**TABLE 4.9 STUDENTS' RESPONSES TO THE FREQUENCY OF LOOKING UP
THE DIFFICULT WORD IN THE DICTIONARY (NUMBER 8 OF
QUESTIONNAIRE)**

Q.8	Statement of students' response to	Option	Frequency	Percentage
	The frequency of	Often	5	15,63

	looking up the	Sometimes	15	46,88
	difficult word in the	Seldom	7	21,88
	dictionary	Never	5	15,63

Based on the table, 15 of 32 students (46,88%) answered that they “sometimes” looked up the difficult word in the dictionary, 7 students (21,88%) answered that they “rarely” looked up the difficult word in the dictionary, and 5 students (15,63%) answered that they “often” looked up the difficult word in the dictionary, and 5 students (15,63%) answered that they “never” looked up the difficult word in the dictionary.

TABLE 4.10 STUDENTS' RESPONSES TO THE FREQUENCY OF COMMUNICATION IN ENGLISH WITH THE TEACHER (NUMBER 9 OF QUESTIONNAIRE)

Q.9	Statement of students' response about	Option	Frequency	Percentage
				%
	The frequency of communication in English with the teacher	Often	0	0
		Sometimes	6	18
		seldom	16	50
		Never	10	31,25

Based on the table, 16 of 32 students (50%) answered that they “rarely” communicated in English with the mathematics teacher, 10 students (31,25%) answered that they “never” communicated in English with the mathematics teacher, and 6 students (18%) answered that they sometimes communicated in English with the mathematics teacher.

**TABLE 4.11 STUDENTS' RESPONSES TO THE FREQUENCY OF
COMMUNICATION IN ENGLISH WITH THEIR FRIENDS (NUMBER 11 OF
QUESTIONNAIRE)**

Q.11	Statement of students' response to	Option	Frequency	Percentage %
	The frequency of communication in English with their friends	Often	1	3,13
		Sometimes	20	62,5
		Seldom	10	37,5
		Never	1	3,13

Based on the table, 20 of 32 students (62,5%) answered that they “sometimes” communicated with their friends in English, 10 students (31,25%) answered that they “rarely” communicated with their friends using English, one student (3,13%) answered that they “often” communicated with their friends, and one student(3,13%) answered that they “never” communicated with their friends.

Therefore, from the result of students' answer in the questionnaire about students' passion the researcher can conclude that:

- 1) They sometimes asked question about mathematics English vocabulary.
- 2) They sometimes looked up the difficult word in the dictionary.
- 3) The students rarely communicated with the mathematics teacher in English.
- 4) The students sometimes communicated with their friends in English

Based on the four statements, the researcher concluded that most of the students gave good responses about their passion in the classroom. However, there was an aspect

d. Students' score

The list of students' score and the students' answer in the questionnaire could be provided on the table below

Q.13	Statement of students' response to	Option	Frequency	Percentage %
	The influence of learning mathematics English on students' score	Very much	6	18
		Much	20	62,5
		Little	6	18
		Very little	0	0

Based on the table, 20 of 32 students (62,5%) answered that learning English mathematics influenced their score “much”, 6 students (18%) answered that learning English influenced their score “very much”, and 6 students (18%) answered that learning English influenced their score little.

TABLE 4.13 STUDENTS' RESPONSES TO THE MATHEMATICS SCORE OF THE EXERCISES (NUMBER 14 OF QUESTIONNAIRE)

Q.14	Statement of students' response to	Option	Frequency	Percentage
				%
	The score of the mathematics exercises	Excellent	26	81,25
		Very good	6	18,75
		Good	0	0
		Fair	0	0

Based on the table, 26 of 32 students (81,25%) answered that they were “excellent” in the mathematics exercises, 6 students (18,75%) answered that they were very good in the mathematics exercises.

Therefore, from the result of students' answer in the questionnaire about students' score the researcher can conclude that:

- 1) Learning English mathematics influenced their score much.
- 2) They were excellent in the mathematics exercises

TABLE 4.14 THE LIST OF STUDENTS' SCORE

No	Name	Score
1	AXELINO MUHAMMAD GHAZAIN	80

25	TIAS MARDIANI DEWI	88
26	ARIF MUHAMMAD YUNAN	98
27	BAGUS SAPUTRO	98
28	KHIFI ULIYAH ANDRIWATI S.	73
29	ADI SETIAWAN	80
30	FEBY NUR SOFIATIN	70
31	MARINI ATIKA RAHMAN	98
32	MUNFARID	80

The standard score of mathematics in SMAN 1 Krian is 7,5. Based on the table, 5 of 32 students got the score under the standard score of mathematics. 27 students got the score beyond the standard score of mathematics.

Based on the two statements of students' responses and the list of students' score above, the researcher concluded that the students gave good positive response to the lesson. They felt that learning mathematics English gave effect positive toward their score. It is indicated by their good scores.

B. Discussion

The discussion of this study is about the result of research finding.

1. The school is in the process of meeting the qualification of OECD (Organization for Economic Co-operation and Development)

Teaching subject matter in English actually needs good English proficiency. From this opportunity, the quality of Indonesian school is expected to be equivalent with the school quality of developed country or OECD member. Furthermore, it is expected that the rising of students' English proficiency which rounds into international language.

From the school profile explained previously, it indicated that mostly the school has been applying the indicators of international standard school pilot project that has been determined by the minister of national education number 78 in 2009⁶. Unfortunately, there is one aspect that the school has not achieved the criteria yet. The mathematics teacher did not hold the master's degree. Whereas, based on the regulation of the minister of national education article 78 in 2009, the teachers have to pass master's program. It was because Mrs. Sayekti Reni as the mathematics teacher in SMAN 1 Krian did not have time to continue her study. She is an old woman and she will face the retirement.

The mathematics teacher in SMAN 1 Krian could be said as a heroine by the researcher because even though she gets older than her age, it does not make her enthusiast low in learning English. She is a mathematics teacher and hold bachelor degree in mathematics education, but she still has full of energy to learn other knowledge in her second childhood. She is interested in learning mathematics and English. She can speak English fluently and construct an English sentence perfectly although it is only a simple sentence.

⁶ Direktorat Jendral Manajemen Pendidikan Dasar dan Menengah Kementerian Pendidikan Nasional, Depdiknas, *Pemendiknas no 78 2009, tentang penyelenggaraan SBI* (<http://www.kemdiknas.go.id/media.pdf>, accessed on July 30, 2011)

CONCLUSSION AND SUGESTION

A. Conclusion

1. The teaching problem faced by the teacher when implementing her mathematics lesson in English almost never happened in the learning process. Based on the interview and observation sheet that were derived from the teaching and learning process, she enjoyed and had fun in her teaching. Also she still tried to study more even though she got older. She only got problem when developing long sentence but quickly it could be solved by asking to the expert before the class began. Therefore, the learning process of teaching mathematics in English ran well.

2. Most of students gave good response to the teacher when implementing the learning process of mathematics in English. Based on the questionnaire, observation and documentation that were derived from the students and the learning process, they showed respect to the teacher when the learning was happening in the class. It happened when they felt convenient in learning, they were active when the learning was progressing, and also they achieved excellent score of their mathematics exercises in the class. Thus, the students had good responses when teacher implemented mathematics lesson in English.

In addition, the school and the teachers of SMAN 1 Krian Sidoarjo, almost applied the

“Salah satu faktor utama kegagalan dari setiap sekolah adalah sumber daya manusia (SDM). Yakni, minimnya komposisi guru berjenjang strata dua (S-2) di sekolah-sekolah RSBI tersebut. Padahal, itu merupakan salah satu syarat utama untuk menjadi SBI.”

Based on some conclusions that have been explained previously, the researcher provides some points that the use of English is not applicable to be implemented in teaching mathematics by Ms. Sayekti Reni W S.Pd. It means that the school has not been applicable to be international standard school (SBI) yet, because the school has not applied all criteria or indicators of international standard school yet. Even though the program of minister of national education still goes on, Muhammad Nuh³ states that, “*Kegagalan dalam satu lulusan tidak berarti gagal secara keseluruhan.*” “The failure in one graduate does not mean getting failure in totality.”

At the end of this study, the researcher gives some suggestions. There are four parts of suggestion. They are for the school of SMAN 1 Krian, the teachers and the students of SMAN 1 Krian, and the future researcher.

¹ Direktorat Jendral Manajemen Pendidikan Dasar dan Menengah Kementerian Pendidikan Nasional, Depdiknas, *Permendiknas no 78 2009, tentang penyelenggaraan SBI* (<http://www.kemdiknas.go.id/media.pdf>, accessed on July 30, 2011)

³ Muhammad Nuh, “*nuh: RSBI Jalan Terus*” (Jawa Pos, 5 Januari 2012), 1

be more creative to make the lesson interesting and easy to the

the teacher should improve their learning in developing

more confident when teaching in the classroom.

ould prepare themselves to study vocabulary of English m

e class. It is expected that students will understand easily wh

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searchers who conduct research corresponding to similar pro

the weakness or complete this study, like the use of English fo

natter.

Teacher should be more creative to make the lesson interesting and easy to the students to understand. Besides, the teacher should improve their learning in developing complex sentence to make her more confident when teaching in the classroom.

The students should prepare themselves to study vocabulary of English mathematics before learning in the class. It is expected that students will understand easily when teacher explains the lesson.

For the future researchers who conduct research corresponding to similar problems, are expected to reform the weakness or complete this study, like the use of English for teaching non English subject matter.

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