

CHAPTER V

CONCLUSIONS & RECOMMENDATIONS

This chapter includes two sections: conclusions and recommendation. The first part presents the conclusions of the conducted study and the second part points out some suggestions for the further research.

1.1 Conclusion

The aim of this study is to investigate the students' difficulties to comprehending mathematical word problems written in English based on teachers' and also students' opinions, and also investigate what are the strategies that the teachers used to help the students in understanding the word problems.

The result reveals that students' English proficiency had influenced the students' difficulties to comprehend the word problems. The students found the difficulties, since English used as a medium language of instruction. English was used to deliver the subject or Mathematics in this case for Indonesian primary school students as English language learner affected the students' knowledge about the material less perfectly known than the used in Bahasa Indonesia to deliver the subject (Hajer, 2000). The students less knew the medium language of instruction than their native language, it is cause how being taught in foreign language affected the subject knowledge and skills of the students', since (Hajer, 2000). Otherwise, the researcher also figured that the students were inadequate to read English text types to enrich their vocabularies. If, the students have adequate vocabularies, they will not have the problems to the word problems in Mathematics or any other subjects.

Based on interview, the teachers believed if there were seven difficulties of the students to comprehend the mathematical word problems written in English, such as: syntax features, prepositions, difficult expressions, comparative constructions, unfamiliar English vocabulary which include with unfamiliar English mathematical terminology, and hard pronounce proper names that can be found in the word problems. Otherwise, based on the questionnaire, the

students claimed if they had four difficulties in comprehending the word problems written in English, such as: Syntax features, prepositions (phrasal verbs), unfamiliar English vocabulary, visual displays information linked to the word problems.

The teachers and the students agreed if syntax features, prepositions, and unfamiliar English vocabulary were the challenges for the students to comprehend the word problems written in English. The issue of how the word problems being taught in foreign language affected the mathematical knowledge and skills of the students who are English Language Learners (ELLs). The medium language of instruction used English made a barrier between their English proficiency and mathematical knowledge. So, the students used to struggle in their reading to get the gist of the information provided in the word problems to be solved. (Hajer, 2000; Wiest, 2003; Lopez, 2008).

There were some different opinions toward the students' difficulties in comprehending the mathematical word problems written in English. Based on interview data, the teachers argued if the students' difficulties included their difficult English expressions, comparative constructions, unfamiliar English mathematical terminology, and also hard to pronounce proper names. But, based on the questionnaire, the students believed if graph and visual displays information were the difficulties for them in comprehending the mathematical word problems written in English. Even, the students did not mind if they have to solve the long text of the word problems as long as the vocabulary is familiar to them. The students also argued if they are not confused when they found unfamiliar English mathematical terminology.

Based on the questionnaire, the students did not have any problems towards English that used in the word problems. According to the data, the teachers had some strategies to help the students comprehending the mathematical word problems written in English. There are some strategies based on the result of the interview, that the teachers used in the classrooms to help the students comprehending the word problems written in English, such as: translating/ bilingual used (English Bahasa Indonesia), paraphrasing or rephrasing, providing visualizations (manipulative) and reading comprehension. The strategies were used in order to help the students in comprehending the mathematical word problems written in English by help the students understand the language first, before they have the number sentence to answer the question correctly (Moore-Harris, 2005).

1.2 Recommendation

There are some points of recommendation to suggest for this study. First, comprehending the language is essential in Mathematics and also other subjects. In order to acquire the knowledge, the students have to master the language first which used to deliver the subject. So, it is important for the students mastered English, even English is used as foreign language in Indonesia.

Parents play important roles in this case, the parents need to consider about their children's language ability, especially for their children's English proficiency. The students spent more time in their home with their family where they interact with their family members more frequently than with their teachers in school. So, the language used in their family influenced to the students' language ability. It will become a problem for some of the students if they are studying in International school which used English as the medium language of instruction, but they did not use English at their home. It is important to create effective language learning environment for the students where the speaker familiar with English, so the students can use English comfortably and confidently.

Second, language is essential in comprehending the content which the students learnt. The teachers should have to aware about what has caused students' difficulties. The teacher can provide some effective strategies, even they used to teach English in their Mathematics class in order to help the students comprehend about the content. It is because the student can master the Mathematics if they have mastered the language as the medium language of instruction.

Third, this study expects can help in conducting the future research with the same focus. Since, this study investigated the students' difficulties in comprehending the mathematical word problem written in English, it is possible to conduct further investigations to other classes such as, *Biology*, *Physics*, *Chemistry* class, and many more which used English as the medium of learning instruction. Since, there are many international schools developed in Indonesia, and English is used as the medium of learning instruction in many subjects. Therefore, it is also possible for the English education department to spread further investigations widely, even across subjects.