

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The study highlighted the problems teachers face in teaching Science in English as well as the language difficulties that students encounter in learning Science in English. In this study, it is proven that teaching and learning strategies play an important role as they help in the better understanding of the content and language of the subject learned. This study also revealed the teachers and students' responses and feedback towards the implementation of teaching and learning science in English, which is entering the seventh year of implementation since 2003.

5.1 Conclusion

From the study, “Problems in teaching and learning Science in English, it is clear that language plays a vital role in understanding of the content of a subject matter. Some good learners or students were able to follow the learning of Science in English and on the other hand, there are those who lack the language ability and this result in difficulties in understanding the content. The high use of technical words, complex structures in writing and specialized vocabulary was barriers in learning Science in English.

Therefore, employing effective learning strategies could help in overcoming their difficulties. Using the proper learning strategies help students to better understand the content and language functions in different contexts of the topic. These learning

strategies help to boost students' confidence because they practiced the proper study skills and learn ways to master content and language.

The teachers who have learnt Science and are trained to teach Science in Bahasa Malaysia, face a tough time in imparting the knowledge to students using English language. It is a big task for them to ensure that the topics taught are understood by their students, and they are able to answer the questions in the exam or do the Science experiments. If the teachers themselves have problems with the language, lack vocabulary or cannot explain precisely in English, this would affect the teaching and learning process as well. Therefore, teachers need to master the effective teaching strategies that can be applied in classrooms according to their students' level of competency. It is in the hands of teachers to build confidence, motivate their students through the teaching process for the students to be able to follow the lesson using a second language as the medium of instruction.

This study has revealed that generally, the teaching and learning of Science in English seems appropriate but there are some problems that could retard the teaching and learning process. Appropriate steps should be taken to overcome these problems so that the aims and objectives of the implementation of the teaching and learning of Science in English can be achieved.

5.2 Recommendations

The findings of this study from the students' point of view results in effective measures that need to be taken in developing the teaching and learning of Science in English. Students' language difficulties could be reduced if more exposure to the language in the teaching and learning of Science and Mathematics is carried out. If students are given a good foundation in school in early education then students can upgrade the mastery of the language and this gives meaningful input to students.

Effective learning strategies can prepare students to identify their weaknesses in learning the Science content and English language; therefore, making them engage in the right strategies according to their ability. The different learning strategies will improve their ways of learning Science and better understanding of a Science lesson.

From the teachers' point of view, they are able to study the weaknesses in their teaching and presentation of a topic and improve on their English language usage. Vocabulary that is more appropriate will be gained through much exposure in English and drilling on every different topic. Teachers' interest level and motivation have an impact on the students' interest and motivation too as the teacher moulds students' scientific inquiries, interest and learning strategies. Applying the appropriate teaching strategies can boost different levels of students' abilities according to their understanding. This will change their negative mindset or perceptions on learning Science in English as being difficult and find it more interesting though challenging.

The Teacher Education Division, Ministry of Education Malaysia has come up with 'English for Mathematics and Science Module' (EMS) on August 2007 for Mathematics and Science teachers "to develop basic communicative skills and build their confidence in using the English language"(p. 1).

Teachers Education Division (2007) states that according to the Director of Teacher Education Division, En. Mustama bin Wan Abdul Hayat, the module was aimed “to assist teachers to manage classroom interaction as well as the teaching and learning process. It will also enhance teacher’s ability in using the accurate terminology and classroom language so the students are able to follow the lessons taught effectively” (p. 1).

Therefore, more modules focusing on the language usage in Science classrooms and presenting the lessons in a simple way of communication should be emphasized, as the teachers need to upgrade their proficiency level to teach Science in English. As being cited in Teacher Education Division (2007) regarding English for Mathematics and Science “once the teachers face fewer problems where English language is concerned, they will be able to deliver their lessons more successfully, thus moulding the students towards becoming excellent citizens”(p. 1).

The results of this study can be a stepping stone in creating an effective teaching and learning process as the teacher and students can see the weaknesses both face in learning Science in English. Teaching methods need to be varied. Teachers should not merely read sentences from the Science textbook or read words displayed on a VCD screen. Simple Metacognitive strategies should be widely used as all levels of students apply the Cognitive strategies in their learning. Using simplified sentences and introducing scientific vocabulary in every topic should be done by teachers in a more sociable manner such as using the Science word maze, quiz, spelling bee on scientific language to encourage students' interest in learning the English language.

The study focuses on the urban lifestyle children with a small number of sub-urban children. However, it can be applied to children living in different areas such as the rural areas on the teaching strategies that interests the students and bring out their

ability. More exposure to language usage such as the communicative function of language will help in improving the content of a subject and language use as well.

The researcher suggests that The Teaching and Learning Strategies as proposed by Chamot and O'Malley's, (1994) CALLA approach are an effective approach that can enhance students' understanding as an appropriate study skill for Science. Teachers can assess the ability of their students and design specific teaching and learning strategies for different learners in the Science classroom as this approach helps in improving their academic skills and language skills as well.

Recently, the government has decided to revert to Bahasa Malaysia for the teaching and learning of Science in English beginning 2012 on the fact that learning a subject in the mother-tongue will result in better understanding and performance as students are more comfortable with the native language. However, efforts to teach Science content in English language can still be achieved through effective planning of teaching and learning strategies in the classrooms that facilitates students' different levels of ability in understanding Science in English language.

5.3 Suggestion for Future Research

1. A Study on Rural Schools with Regards to the Teaching and Learning of Science and Mathematics in English.
2. Teaching and Learning Strategies Applied in Rural Schools in the Teaching and Learning of Science and Mathematics in English.