

**UNIVERSITI TEKNOLOGI MARA**

**TEACHERS' READINESS IN THE TEACHING OF  
MATHEMATICS AND SCIENCE IN ENGLISH**

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## ABSTRACT

When the Malaysian Education Ministry announced a change in the medium of instruction from the national language, Bahasa Malaysia to English for Mathematics and science subjects for Primary one, form one, and lower sixth forms, beginning the year 2003, teachers and students nationwide have to grapple with the switch of language. As the implementation news was announced at a very short notice, many teachers were caught by surprise as some were not prepared to deliver the subjects using English. This is probably due to lack of proficiencies, confidence and inadequate command of English. These problems, if not taken seriously would undermine the process of teaching and learning and subsequently students would be the victim as they are the ones that sit for the assessment and examination. Therefore, this study using questionnaires is undertaken to investigate the Teachers' Readiness in the Teaching of Mathematics and Science in English. Sixty-nine respondents from four selected secondary schools in Kuching, Sarawak participated in this study. The major finding shows that a large number of the respondents felt that they were ready to teach Mathematics and Science in English. The finding also indicated that the respondents were proficient and confident in teaching both the subjects in English as indicated by 75% or 53 of the respondents. Although, courses and training were given 25% or 16 of the respondent encountered problems in understanding some of the terminologies and pronunciation in English. A positive finding from the study revealed that majority of the respondents was well prepared before each lesson as indicated by 80% or 57 of the respondents. Finally, respondents were of the opinion that they were ready to teach both the subjects in English as indicated. In addition, it can be implied that some Mathematics and science teachers should be given motivational training to upgrade their proficiency in English Language. Based on the findings which only involved sixty-nine Mathematics and Science teachers, thus it is recommended that a larger study could be carried out with larger sample from the whole state of Sarawak that could provide a more valid and reliable information. Secondly, this study only concentrates on teachers' readiness, thus, it is appropriate to conduct a study that involves students' readiness too for both the primary and secondary schools. Finally, as this study only covered some aspects of technical training ICT for courseware for the respondents, it is recommended that a special study be conducted on teacher's training on handling of computer course wares in future to further enhance the process of teaching and learning Mathematics and Science in English.

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# CHAPTER I

## 1.0 Introduction

This chapter will discuss on the background of the study, statement of the problem, purpose of the study, significance of the study, research questions, limitation of the study, definition of terms and the summary of the study on teachers' readiness in teaching Mathematics and Science in English.

## 1.1 Background of the Study

English has been the language that is widely used as means of communication in this era of globalization. In order to participate in the international arena English is still the main language of communication. However, the standard of English in Malaysia has generally declined since the change in medium to Bahasa Malayu in schools and institutions of higher learning in 1983 and it should continue (Tun Mahathir; Borneo Post, 23 November 2008).

The use of English as the medium of instruction in the teaching of Mathematics and Science was introduced by the government to overcome the deterioration of competency in English among students in the country. Hence, the teaching of Mathematics and Science in English (ETeMS) was introduced in 2003 as an effort to upgrade the standard of English among Malaysian students.

Before independence, English was the medium of instruction in schools. After Independence in 1957, English remained an important second language to enable Malaysians to participate not only in international trade and commerce but also to keep up with scientific and technological developments (The Third Malaysian Plan 1976, 386). Thus, in 1970 it was made compulsory for all Malaysian students to learn English

## **CHAPTER II**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter will present the related literature review on the Teaching of Mathematics and Science subjects in English. It provides the overview of the related literature, language historical events in Malaysia for Mathematics and Science subjects and previous studies related to ETeMS.

It is presented according to the following headings' the Policy changes and concerns, language related theories, the importance of English, the decline of English, teaching Mathematics and Science in English, the background of ETeMS and Buddy System, factors that influence the shift of medium of instruction to English, the training and retraining of Mathematics and Science teachers, ETeMS aims and the focus area and its programmes, present situation, latest development and the summary.

#### **2.1 Policy Changes and Concerns**

In 2002, a change in policy by the Malaysian government in the teaching of Mathematics and Science in English was seen as a revolutionary move towards the use of the English Language. According to Pandian and Ramiah (2004), this change in policy was necessary to ensure that Malaysians are capable of keeping abreast with the scientific and technological development that is mostly recorded in the English language. At the same time, this move is envisaged to provide opportunities for students to use the English language and therefore increase their proficiency in the language (Ministry of Education, 2002a). In this context, teaching Mathematics and