

## The Implementation of Teaching Science and Mathematics in English at Secondary School in Kelantan

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### ABSTRACT

*Teaching of Science and Mathematics in English TeSME, more frequently referred to as PPSMI(Pengajaran dan Pembelajaran Sains dan Matematik dalam Bahasa Inggeris) is a policy involving the change of medium of instruction for these two subjects from Malay which is the National Language of Malaysia to English. The implementation of PPSMI seems to have resulted in several issues and problems that have required attention. This article reports on part of an on-going study that focuses on the demographic profiles and perceptions of learners with limited English proficiency. The purpose of the study was to find out the relationship between student's attitude and their achievement towards learning English in mathematics and science. In implementing English language as a second language in school, normally teachers who are teach in school at rural area usually faced more problems compare to the teachers who are teach English in urban school. One of the objectives of this study to know how far that statement can be accepted and the research will handle about the problems of teaching English as a secondary language, whether the students agree or disagree about this. The result showed that the highest percentage of students disagree for the implementation of study mathematics and science in English. It can be prove by the questionnaire and question test that will be given for them.*

**Keywords:** PPSMI, Student's achievement

## **INTRODUCTION**

Prior to 2003, all subjects in Malaysia Education system is teach in Malay, National Language. It is based on National Education since 1957 for the purpose to democratize the education opportunity and encourage the nation development of the Malaysian unity. Suddenly, on July 2002, through Ministry of Education, Datuk Musa Muhamad, announce that Malaysian government had implemented the policy on using English to teach Mathematics and Science (PPSMI) in January, 2003. So that, on January Tun Mahathir(former prime minister) announced that Mathematics and Science must be taught in English. Because of that, on Jan 5 2003 all school implement this policy starting for Year One, Form One and Lower Six students.

The weakness of teachers and students in teaching and study English had encouraged the researcher to do research on the problems of teaching mathematics and science by using the English language as a medium of instruction. According to A.Samad Said's statement about the implementation of PPSMI, about 500,000 Malay students was drop-out since the implementation of mathematics and science in English. This students unable to further their study in form six and university because of the bad results in mathematics and science. He also said, Malay is our formal language and almost practice everyday especially among people in rural area compare to the people in urban area which prefer to mix malay and english in their daily conservation. So, the urban society prefer to understand more in malay rather than english language.

## **MATERIALS AND METHODS**

The respondents of this research comprise the sudents at three school in three district in Kelantan, Malaysia. They are from Sekolah Menengah Kebangsaan Kota, Kota Bharu, Sekolah Menengah Kebangsaan Agama Falahiah, Wakaf Bharu, and Sekolah Menengah Agama Rantau Panjang.

### **Data Collection**

In our research, we was use quantitative variable in research methodology. For example in our research project, we use discreet quantitative to get the number of students in three district, Rantau Panjang, Kota Bharu and Wakaf Bharu. The population for respondent is 480. We take 200 respondents to be sample for our research sample. We get a sample from student in form 3, 4 and 5 in secondary school areas in Rantau Panjang, Kota Bharu and Wakaf Bharu, Kelantan.

## **Data Analysis**

Morgan *et al.*<sup>[3]</sup> defined data analysis as a process of classification, summarizing, organized and manipulated data that has been received from respondents. Hence, data analysis involves in this studies only emphasized on the Statistical Package for Social Science (SPSS).

## **RESULT AND DISCUSSION**

According to Norman H. Nieand C. Hadlai Hull. SPSS (originally, Statistical Package for the Social Sciences) is among the most widely used programs for statistical analysis in social science. Based on the research, majority of students in SMKA Falahiah, SMK Kota, and SMA Rantau Panjang agree to study science and mathematics subject in Malay language. It can be approving by our research when majority off 135 respondents agree, compare than 31 respondents not agree.

### **English examination result \* Student have problems in learning and teaching English**

**Crosstabulation**

Count					
		Student have problems in learning and teaching English			
		Agree	Disagree	Not sure	Total
English examination result	Pass	116	33	32	181
	Fail	21	2	7	19
	Total	126	35	39	200

### **English examination result \* Learning and teaching English encumber the student'**

**Crosstabulation**

Count					
		Learning and teaching English encumber the student			
		Agree	Disagree	Not sure	Total
English examination result	Pass	59	70	52	181
	Fail	5	5	9	19
	Total	64	75	61	200

In the perception of the factor difficulty in learning and teaching English, there are two variables which had been used to show the respondents usually faced difficulty in learning and teaching English. It can be proved in research of the respondents have problems in learning and teaching English, 126 respondents agreed compare with 35 respondents disagreed. While in research of learning and teaching English encumber the respondents, shows 125 respondents agreed compare with 75 respondents disagree.

**English examination result \* Teachers used appropriate methods in encouraging student to dominate in English**  
**Crosstabulation**

Count					
		Teachers used appropriate methods in encouraging student to dominate in English			
		Agree	Disagree	Not sure	Total
English examination result	Pass	123	27	31	181
	Fail	12	3	4	19
	Total	135	30	35	200

**English examination result\* Explanation of teacher during the teaching and learning session was clear**  
**Crosstabulation**

Count					
		Explanation of teacher during the teaching and learning session was clear			
		Agree	Disagree	Not sure	Total
English examination result	Pass	88	39	54	181
	Fail	8	3	8	19
	Total	96	42	62	200

In the perception of the factor teachers roles in encouraging the respondents to dominate in English, there are two variables had been used to shows that usually teachers play main role in encouraging the respondents dominate in English. It can be proved that in the research of teachers used appropriate methods in encouraging respondents to dominate in English, 135 respondents agreed compare to 30 respondents disagreed. While in research of explanation of teachers during the teaching and learning was clear, shows that 96 respondents agree compare to 42 respondents disagree.

**Type of school\* Student agree if the implementation of teaching and learning Mathematics and Science in Malay**  
**Crosstabulation**

Count		Student agree if the implementation of teaching and learning mathematics and science in Malay.			
		Disagree	Agree	Not sure	Total
Type of school	SMK A	20	55	25	100
	SMK R	7	38	5	50
	SMA R	4	42	4	50
	Total	31	135	34	200

## **CONCLUSION**

As a conclusion from the analysis above, there are three independent variables that we used which are English examination results, age and type of school. All of them show positive result in the problem of teaching English in secondary school. Based on all question in our questionnaire, we can conclude that majority of students in SMKA Falahiah, SMK Kota, and SMA Rantau Panjang agree to study science and mathematics subject in Malay language. It can be approving by our research when majority off 135 respondents agree, compare than 31 respondents not agree.

## **REFERENCES**

- Morgan, G.A., N.L. Leech and K.C. Barret, 2005. SPSS for Intermediate Statistics: Use and Interpretations. 2nd Edn., Lawrence Erlbaum Associates, New York, ISBN: 13: 978-0805847901, pp: 256.
- Aminuddin, M.: 2003, *Administrators' perceptions of the support they can offer to Mathematics and Science teachers teaching in English*, Paper presented at the TED-ELTC ETeMS Conference 2003:Managing Curricular Change, Retrieved November 11, 2008, from [http://www.eltcm.org/eltc/Download/conferences/8\\_Abstracts.pdf](http://www.eltcm.org/eltc/Download/conferences/8_Abstracts.pdf)
- Bryman, A. and Cramer, D.: 1998, *Quantitative data analysis with SPSS for Windows: A guide for social scientist*, London, Routledge  
<http://en.wikipedia.org/wiki/SPSS>