# UNIVERSITI TEKNOLOGY MARA

# A STUDY ON PRACTICE, PERCEPTION AND ATTITUDE OF MATHEMATIC AND SCIENCE TEACHERS (MST) TOWARDS THE EFFECTIVENESS OF ETeMS COURSE AND THE USE OF ICT IN TEACHING

# ZULKEFLE AB RAHMAN

Independent Study in partial fulfillment of requirements for the degree of Master of Science

Faculty of Information Technology and Quantitative Science

November 2005

## **ACKNOWLEDGEMENT**

My highest gratitude to Allah, The Most Gracious and The Most Merciful for placing me in Iman and Islam. A continuous salawat and salam to prophet Mohammad (pbuh) till the end of the world. The Holy Ramadhan, in which I have to finish this Independent Study.

My sincerest appreciation for my supervisor Associate. Professor Zaidah Ibrahim for her guidance in the conduct of this study.

A special gratitude for my brother- in-law, Professor Dato' Mohammad Ali Hassan, lecturer of UiTM, for helping me from day 1 of this master programme.

A special thanks to Mohd Hang Tuah Ismail (Sek. Men. Keb. Keroh, Kuala Krai) for his guidance in coding of SPSS and Dr Zaharah Sulaiman, lecturer of Universiti Sains Malaysia, for her special guidance in the statistics and data analysis. She has been my reference for SPSS all the while.

For my beloved wife, Dr Habsah Hasan, Lecturer of Health Campus, Universiti Sains Malaysia, thank you for helping me day and night to finish the IS. May Allah bless you in this world and hereafter; I love you very much.

Not forgetting, my mother and father, who always pray for the success of their son, thank you very much, I will never forget you in my prayer. To my children, Uwais, Rumaisa', Abdullah Harith, Amirah Aisyah, Harith Murshidi, Mutsanna and Buraidah you are my main source of inspiration.

Last but not least, my highest gratitude to Allah (s.w.t) for giving me the strength to finish this IS and the whole master programme.

# **Table of Content**

Content				]	Page
Title Page					
Acknowledgemen	t				n
<b>Table of Content</b>					iii
List of Tables					V
List of Figure					vi
List	of	A	bbreviations		vti
Abstract					viii
Chapter 1- Introd	luction				
1.1 Background					1
1.2 Study Objectiv	ve				2
1.3 Null Hypothes	es				3
1.4 Significance of	Study				3
Chapter 2- Litera	ture Reviev	V			
2.1 Overview	of	PPD	Kuala	Krai	4
2.2 ETeMS Course	e Module				4
2.3 Trainer					6
2.4 Trainees					6
2.5 ETeMS Progra	ım				7
2.6 Students Exam	ination				7
2.7 Teaching Facil	ities				7
2.8 Related Study					8
2.8.1 Integration					8
2.8.2 Advantag	ge and Dis	sadvantage c	of ICT as an	instructional	10
tool	, CIC	T. I	C . 1: .		1.1
		Ü	for teaching scie		11
2.8.4 Factors			use of ICT	in School	12 15
teaching and		ooi teachers	on the use	or ici iii	13
		teachers on	the use of IC	T in teaching	16
and learning				8	
_	of school	teachers on	the use of IC	T in teaching	16
and learning					

Chapter 3- Research Methodology	
3.1 Study Design	18
3.2 Study Population	18
3.3 Sample Population And Sampling Method	19
3.4 Sample size	19
3.5 Inclusion criteria	19
3.6 Rejection criteria.	20
3.7 Research Tool-Questionnaire Development	20
3.8 Data Collection	21
Chapter 4- Results	
4.1 Sample Population and Data analysis	23
<ul><li>4.2 Demographic analysis</li><li>4.3 The Perception of MST Towards usefulness of ETeMS</li></ul>	$\frac{24}{26}$
Programme	20
4.4 The Attitude of MST Towards the Usefulness of ICT for teaching Science and Mathematics	30
4.5 The Perception of MST towards the use of ICT for teaching in ETeMS	34
4.6 The practice of MST on ICT as a teaching tool in ETeMS Program.	36
4.7 Significance Test	40
4.7.1 Pearson Chi-Square	41
4.7.2 Independent-T Test Analysis	41
Chapter 5- Discussion	
5.1 Demographic Data	43
5.2 The perception of MST Towards usefulness of ETeMS Programme	44
5.3. The attitude of MST towards the use of ICT for teaching in ETeMS	45
5.4 The Perception of MST towards the Usefulness of using ICT	46
for	
teaching Science and Mathematics	
5.5. The practice of MST on ICT as a teaching tool in ETeMS Programme.	48
5.6 Significance Test	49
Chapter 6- Conclusion	51
Chapter 7- Limitation and Recommendation of Study	52
Bibliography	54
Appendices	

### **ABSTRACT**

English Teaching for Science and Mathematic (ETeMS) programme has been proposed as an urgent interim measure to ensure that teachers of mathematics and science (MST) will have basic capacity to use English as the medium of instruction. The overall aim of ETeMS programme is to enhance the English language skills of MST as well as the use of ICT as an instructional tool in the classroom for a more effective way of teaching science and mathematics. The objectives of this study were to determine the perception of MST towards the usefulness of training provided by the ETeMS programme, to determine the perception and attitude of MST towards the use of ICT for improving the teaching of mathematics and science and to determine the practice of MST on the use of ICT in schools. This is a cross sectional study conducted from August to September 2005. The study involved all teachers teaching science and mathematic in form one, two and three in secondary schools in PPD Kuala Krai, Kelantan. A questionnaire was used as a research tool and the data was analyzed using SPSS software. Seventy-eight MST successfully responded to the questionnaire and the analysis showed that majority of MST in PPD Kuala Krai have good perception in the usefulness of ETeMS training. We also found that they have good attitude towards the use of ICT for teaching of Science and Mathematics. However, we found that they are still a high number of MST having negative perception on the use of ICT for teaching of Science and Mathematics. MST have frequent usage of specific software but rarely for other ICT facilities.