

UNIVERSITI TEKNOLOGI MARA

**FACILITATING HIGHER ORDER
THINKING SKILLS (HOTS) IN ESL
READING THROUGH COMPUTER
MEDIATED LEARNING TUTORIAL**

NORAINI BINTI AHMAD BASRI

Thesis submitted in fulfillment
of the requirements for the degree of
Doctor of Philosophy

Academy of Language Studies

April 2017

ABSTRACT

Developing learners' critical reading skills at tertiary level is crucial because learners need the knowledge and skills to be able to read academic materials constructively throughout their university courses. However, L2 learners have difficulties in developing higher order thinking skills (HOTs) such as analyzing, synthesizing and evaluating, all of which are important for critical reading. Among the problems identified in this study are learners' lack of performance in advance reading and critical thinking, learners' motivation in acquiring the skills and the lack of useful learning supports which can facilitate knowledge acquisition and skills attainment of HOTs. There is an urgent need to seek effective tools that can be used to teach these skills in the classroom. For this purpose, technology has been found to assist learners' vocabulary growth, improve learners' reading comprehension and motivation, and increase their reading performance. This study applies a mixed-method (quantitative and qualitative approaches) at examining the use of a customized computer-mediated learning tutorial (CMLT) in the teaching of higher order thinking skills in ESL reading classrooms. One hundred and eighty-five (185) undergraduate learners who pursued their degree at Universiti Teknologi MARA, Malaysia participated in this study. The experimental group learners were given lessons and activities on Reading and Critical Thinking course through the use of a CMLT. Meanwhile, the control group learners were only exposed to standard textbooks as their reference for the course. The research intervention (CMLT) was developed based on the Instructional System Design model and Gagne Nine Events of Instruction. A pretest, posttest and the final examination were administered to find out learners' performance in their Reading and Critical Thinking course. Surveys and interviews were also conducted to solicit information regarding learners' perceived usefulness of the CMLT and their motivation in learning the course after they had been exposed to the intervention. In addition, statistical analyses were performed to determine learners' performance before and after using the CMLT. Results of the findings showed that technology did assist learners in their reading and critical thinking course. The experimental group learners outperformed their counterparts both in their posttest and final examination performances. Moreover, the experimental group learners' motivation showed improvements after they were exposed to the treatment. It is hoped that his study would help educators to use technology as an alternative teaching tool in developing L2 learners' reading and critical thinking skills. There is also a need for language educators to work closely with instructional system designers in coming up with interactive multimedia templates that can be shared. Coming up with common templates will allow new contents to be added easily, modified and improved over time.

ACKNOWLEDGEMENT

In the name of Allah, the Most Merciful and the Most Gracious. I sincerely, thank Allah swt for giving me the strength, the ability and the courage to complete this long and challenging journey successfully.

I would also wish to express my utmost gratitude to my supervisor Assoc. Prof. Dr. Saidatul Akmar Zainal Abidin who has assisted me tremendously throughout my studies. I thank you so much for your generous time in proof reading, editing and suggesting areas of improvement in my dissertation. To my co-supervisor, Dato Prof. Dr. Ahmad Ahmad Redzuan Abdul Rahman, I sincerely thank you for your support and advice.

My appreciation goes to my dearest husband, Othman Ismail, for your support, patience and ideas in assisting me to complete this dissertation. You have been the greatest inspiration in my career pursuance.

I would also like to extend my gratitudes to all students who have participated in this study. Also, special thanks to my colleagues and friends for your kind assistance and sincere contribution.

This dissertation is also dedicated to the loving memory of my very dear late father and mother for the vision and determination to educate me. This piece of victory is dedicated to both of you. Alhamdulillah.

Last but not least, this dissertation is also dedicated to all my children, Nadiah, Muhammad Muzakir and Nurul Aisyah for their unconditional love and relentless support.

TABLE OF CONTENTS

	Page
CONFIRMATION BY PANEL OF EXAMINERS	ii
AUTHOR'S DECLARATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	xiii
LIST OF FIGURES	xviii
LIST OF ABBREVIATIONS	xx
CHAPTER ONE: INTRODUCTION	1
1.1 Research Background	1
1.2 Problem Statement	6
1.3 Purpose of the Study	10
1.4 Research Questions and Hypotheses	10
1.5 Theoretical Framework of the Study	12
1.6 Significance of the Study	17
1.7 Scope and Limitation	18
1.8 Definition of Terms	20
1.9 Summary	26
CHAPTER TWO: LITERATURE REVIEW	29
2.1 Introduction	29
2.2 Theoretical Framework	32
2.2.1 Behaviourist Learning Theory	32
2.2.2 Cognitive Learning Theory	33
2.2.3 Constructivist Learning Theory	34
2.2.4 Connectivist Learning/Instructional Theory	35

2.3	The Integration of Higher Order Thinking Skills (HOTs) in Malaysian Curriculum	37
2.3.1	Teaching of Thinking Skills at the Secondary School Level	40
2.3.2	Teaching of Thinking Skills at the Tertiary Level	42
2.4	Bloom's Taxonomy and Critical Thinking	44
2.4.1	Bloom's Revised Taxonomy	45
2.4.2	Lower Order Thinking Skills and Higher Order Thinking Skills	47
2.4.3	Reading with Higher Order Thinking Skills (HOTs)	48
2.4.4	Relevant Studies on Bloom's Taxonomy and Critical Thinking	50
2.5	Reading: Concepts and Definitions	52
2.5.1	Task Demand Using Weir's Reading Validation Framework	53
2.5.2	Types of Reading Models	58
2.5.2.1	Reading as a Bottom-Up Model	58
2.5.2.2	Reading as a Top-Down Model	59
2.5.2.3	Reading as an Interactive Model	59
2.5.3	Stages of Reading Strategies	61
2.5.3.1	Pre Reading Stage	62
2.5.3.2	While Reading Stage	63
2.5.3.3	After Reading Stage	64
2.5.4	Relevant Studies on Task Demand and Reading Strategies	67
2.6	Technology Applications in Enhancing Learning	70
2.6.1	Benefits of Using Technology in Reading	71
2.6.2	Relevant Studies on Technology Applications	72
2.6.3	Multimedia Capabilities in Learning	76
2.6.4	Relevant Studies on Using Multimedia in Learning	77
2.7	Instructional Systematic Design (ISD) Models in Support of Computer-Mediated Learning Instrument	79
2.7.1	Historical Background of Several Instructional System Design (ISD) Models	79
2.7.2	Relevant Studies on Using Instructional Systematic Design (ISD) Models	81