



Ain Shams University
Faculty of Education
Curriculum and Instruction Dept.

**The Effectiveness of a Training Program Based on Interactive
Multi-media in Light of Scaffolding in Developing English
Language Reading and Writing Skills Among First Year
Secondary Students**

A Dissertation

Submitted in Partial fulfillment of the Requirements for the PH. D. Degree in
Education (Curriculum and Instruction of English)

By

Sabrein Ahmed Mohamed Ibrahim

(A senior Teacher of English as a Foreign Language)

Supervised by

Dr. Zeinab Ali El-Naggar
Professor of Curriculum and
Methods of Teaching English
as a Foreign Language
Faculty of Education
Ain Shams University

Dr. Magdy Mahdy Ali
Professor of Curriculum and
Methods of Teaching English
as a Foreign Language
Faculty of Education
Ain Shams University

2016

SUPERVISION COMMITTEE

Name of the Researcher: Sabrein Ahmed Mohamed Ibrahim.

Research Title : The Effectiveness of a Training Program Based on Interactive Multi-media in Light of Scaffolding in Developing English Language Reading and Writing Skills Among First Year Secondary Students

Submitted for : The PhD degree in Education Curriculum and Methods of Teaching English as a Foreign Language

Faculty : Education

University : Ain Shams University

Date of Examination : 15/12/2016

Thesis' Mention :

Supervisors

No	Name	Position	Signature
1	Dr. Zeinab Ali El-Naggar	Professor of Curriculum and Methods of teaching English as a Foreign Language Faculty of Education Ain Shams University	
2	Dr. Magdy Mahdy Ali	Professor of Curriculum and Methods of teaching English as a Foreign Language Faculty of Education Ain Shams University	

CURRICULUM VITAE

Name of the Researcher: Sabrein Ahmed Mohamed Ibrahim.

Research Title : The Effectiveness of a Training Program Based on Interactive Multi-media in Light of Scaffolding in Developing English Language Reading and Writing Skills Among First Year Secondary Students.

Date of birth : April 5th, 1976

Place of birth : El- Amerya, Cairo

Qualifications

- 1- B.A of Arts. In English Language and Education, English Language Department, Faculty of Education, Ain Shams University: with general estimation "Good", the third, May, 1998.
- 2- A professional Diploma in English Language curriculum and Teaching Methodology. Faculty of Education, Ain Shams University: with general estimation "Very Good", July, 1999".
- 3- Special Diploma in English Language curriculum and Teaching Methodology, Faculty of Education, Ain Shams University: with general estimation "Good", October, 2000.
- 4-Master s degree in Education , English language Curricula and Teaching Methods ,Faculty of Education , Ain Shams University, with general estimation " Very Good" , February,2007.

Related Experience

- 1- In service Training Course for Egyptian Teachers of English in the English Language Teaching Division (ELTD), Faculty of Law, Arts & Social Sciences, The University of Strathclyde, Glasgow, Scotland, UK (April to July, 2005).
- 2- A trainer of English Language as a Foreign Language in the Training Unit, Hadayk El Koba Sector, El Naser Zoon.
- 3- A designer of Ideal Lessons of English Language as a Foreign Language for Preparatory and Primary stage Teachers.
- 4- The manger of the Integration Unit (Integrated audist students into governmental schools).

Current position

A Senior Teacher of English as a Foreign Language in a Governmental Official Language School in the Ministry of Education.

ABSTRACT

Author's name: Sabrein Ahmed Mohamed Ibrahim

Supervisors' name: Dr. Zeinab Ali El-Naggar - Dr. Magdy Mahdy Ali

ResearchTitle: “The Effectiveness of a Training Program Based on Interactive Multi-media in Light of Scaffolding in Developing English Language Reading and Writing Skills Among First Year Secondary Students.”

Source: Faculty of Education, Ain Shams University, 2016

The present study aimed at designing an interactive multimedia training program to improve reading and writing skills for first year secondary students and investigating the effectiveness of using scaffolding strategies in developing first year secondary students' reading and writing skills. Based on reviewing literature and related studies, the researcher reviewed the theoretical framework of integrating reading and writing skills, interactive multimedia and scaffolding strategies. To determine the most important reading comprehension and writing skills for first year secondary students to be developed throughout the proposed program, a checklist was designed and approved by a jury of specialists in the field of teaching and learning EFL. Based on these reading comprehension and writing skills, a pre-/post- reading and writing test was developed and used. The study adopted the quasi-experimental pre-post test control group/ experimental group design. The participants of this study were thirty-five female participants who were randomly selected from one of Cairo governmental secondary schools, namely Safaya Zaghlol Secondary School for Girls. The students of the experimental group received training through the proposed program based on interactive multimedia and scaffolding strategies while students in the control group received regular instruction and assessment. The pre and post test scores were statistically analyzed using t-test and then the effect size was calculated. It was found that there were statistically significant differences at 0.01 level between the mean scores of the control and the experimental groups on the post-test in favour of the experimental group in overall reading comprehension and writing as well as in each reading comprehension and writing sub-skill separately. There were also statistically significant differences at 0.01 level between the mean scores of the experimental group on the pre-test and the post-test in favour of the post-test in overall reading and writing as well as in each reading comprehension and writing sub-skill separately. Finally, It was concluded that the proposed training program based on learning interactive multimedia and scaffolding strategies for first year secondary students proved to be effective in developing the necessary reading and writing skills among the experimental group students. Therefore, it was recommended that the present program can be adopted for teaching reading and writing skills to students at the secondary stage and other stages. Moreover, English language teachers should make use of interactive multimedia and scaffolding strategies.

Key words: Interactive Multi-media, Scaffolding, Integrated Reading and Writing Skills, Secondary Students, Egypt.

ACKNOWLEDGMENTS

I had a journey of curriculum and methods in the sea of teaching English as a foreign language. My ship faced many problems, challenges and obstacles. But, My God blessed me to have these specialized people in my journey, who accepted to wave with me in the sea of EFL. Therefore, without their endless supportive guidance, help and encouragement, my ship has never reached safely and sees the glory of win. I would like to publicly acknowledge them.

My sincere appreciation and gratitude go to my supervisor, **Professor Dr. Zeinab Ali EL Naggar** for her continuous limitless support and encouragement. She generously gave much of her time, thoughtful guidance, stimulating ideas throughout the development of this study. This work would not have been possible without her loyalty, thoughtfulness and moral support. She is my Godmother in my career, whose fruitful suggestions furnished the study. I learned a lot of her such as how to work hard to gain information and to add new trends in the field of teaching English as a foreign language and how to work with students in a friendly atmosphere. May Allah grand her long healthy life.

Professor Dr. Magdy Mahdy Aly who has provided a constant source of encouragement, support, guidance and insightful analysis. He has always been extremely patient and tolerant. His remarkable and valuable ideas, remarks and comments enriched the study. He has showed me how well theory and practice can be melded. Therefore, I expressed to him my deepest thanks and gratitude. He has motivated me and provided me with much of information, constructive criticism and feedback necessary to complete this work.

With sincere feelings of gratitude and thanks of indebtedness, I would like to express my thankfulness to **Dr. Asmaa Ghanim Gheith (internal examiner), Dr. Mohamed Esmail Abo Rahma (External examiner) and Dr Ann Stoke.**, whose fruitful suggestions furnished the study. I deeply thank them for spending a lot of their precious time reading and adding valuable comments and ideas generously throughout the different stages of this work of research.

Special thanks are extended to the jury and the raters of the program for their kind assistance and the great efforts exerted by them. I am also deeply grateful to each student in my study group and the teaching staff at Safaya Zaghlol Secondary School for Girls for their commitment, attention and punctuality.

Finally, I would like to express my special thanks and gratitude to all members of my family especially my mother (mercy be upon her) for her patience, sympathy and encouragement and my dear father, May God Almighty have mercy on his soul.

TABLE OF CONTENTS

Contents	Page
Abstract	iii
Acknowledgments	iv
Contents	v
Chapter One: Background and Problem	1-15
1.1 Introduction	1
1.2 Background of the problem	7
1.3 Statement of the problem	10
1.4 Research questions	11
1.5 Significance of the study	12
1.6 The study hypotheses	12
1.7 Delimitation of the study	13
1.8 Definition of terms	14
Chapter Two: Review of literature and related studies	16-109
Part one: Review of Related literature	
2.1 Integrated Reading and Writing skills	16
The importance of integrated reading and writing skills	18
Implications for Integrated Reading and Writing Instruction	22
Activities for Integrating Reading and Writing in the	25
Language Classroom	
Commentary	30
Characteristics of Secondary stage students	31
The Secondary Stage Social Development	31
Principles in integrated reading and writing for secondary	32
students	
Successful implications for Reading and writing as an	33
integrative skill	
Commentary	34
Conclusion	34
2.2 CALL and interactive multimedia in language learning	36
Introduction	36
Benefits of using CALL in EFL Setting	37
Changing roles and expectations in CALL environment	41
CALL & Internet	43
Interactive Multimedia as a new approach of CALL	46
Learners and teachers in interactive multimedia Social	49
Environment	
Characteristics of interactive multimedia for instructional	53
design	
Role of the student in the interactive multimedia learning	55
environment	

Teaching Principles in Interactive Multimedia Environment	56
Functions of Interactive Multimedia for Reading and Writing Integration	57
Conclusions	60
2.3 Scaffolding Instruction	61
The role of scaffolding	65
Explanation of Educational Scaffolding Model	66
Application of the Educational Scaffolding Model	67
Scaffolding Educational model for success	69
Characteristics of Educational Scaffolding	70
Critical Features of Scaffolded Instruction	72
Methods of Instructional Scaffolding	73
Scaffolding in foreign language classroom	74
Effective Scaffolding Teaching Principles	76
Scaffolding through out the lesson	78
Advantages and disadvantages of scaffolding	79
Scaffolding in cooperative learning	82
Scaffolding and integrating reading and writing skills	86
• Scaffolded Reading and writing Skills	87
• Scaffolding Strategies	89
• Implementing Scaffolding with Reading and Writing	89
Commentary	90
Conclusion	92
Critical Point of view	93
Part Two: Review of Related Studies	94
First: Previous studies concerned with using integrating reading and writing skills.	95
Second: Previous studies concerned with using interactive multimedia in reading and writing.	97
Commentary	100
Third: Previous studies concerned with using scaffolding strategies in reading and writing.	101
Commentary	104
Fourth: Previous studies concerned with using interactive multimedia in light of scaffolding strategies in reading and writing.	104
Commentary	106
Critical Point of view of the related studies	106
Chapter Commentary	108
Chapter Three: Research Method and Procedures	110-134
3.1 Study Design	110
3.2 Participants	110
3.3 Comparison of the control and experimental groups prior to the program's implementation	111
3.4 Research instruments	113

3.4.1 The integrated reading and writing skills checklist	114
• The purpose of the checklist	114
• The Sources and the content	114
• Criteria for integrating reading and writing skills	115
• Validity of the checklist	115
• The reading comprehension skills included in the checklist	116
• The writing skills included in the checklist	117
3.4.2 The Scaffolding strategies checklist	117
• The purpose of the checklist	117
• Validity of the checklist	117
• The scaffolding strategies included in the checklist	118
3.4.3 The reading and writing tests	119
• Aims of the test	119
• Description	119
• Procedures of designing the integrated reading and writing tests	120
• Test Validity	122
• Reliability	123
3.4.4 The training program	124
• The framework of the program	124
• The program	124
• Aims and objectives of the proposed program	126
• Material used in the program	127
• Content and Activities	129
• Instructional procedures	131
• Setting of the program	131
• Duration of the program	131
• Assessment methods	131
3.4.5 Student's questionnaire	132
3.4.6 Interactive Multimedia website checklist	132
3.4.7 Observation forms	133
Chapter Four: Data Analysis, Results, and Discussion	135-151
4.1 Results	135
First hypothesis	135
Second hypothesis	137
Third hypothesis	139
Fourth hypothesis	141
Fifth hypothesis	143
4.2 Discussion of the results	145
Overall integrated reading and writing skills	145
Integrated Reading sub- skills	147
Integrated Writing skills	150
Chapter Five: Summary and Conclusions	152 - 159
5.1 Summary of the Results	152
5.2 Summary and main findings	153
5.3 Limitations	153
5.4 Pedagogical Implications	154

5.5 Conclusions	155
5.6 Recommendations	156
5.7 Suggestions for further studies	158
References	160-203
Appendices	
Appendix A : Jury and Co-raters	204
1- Names of the jury.	204
2- Names of the co-raters	204
Appendix B: Reading and Writing Skills Checklist	205-211
1- The checklist in its first form	205
2- The final version of the checklist	206
Appendix C: The Scaffolding Strategies Checklist	212-215
1- The checklist in its first form	212
2- The final version of the checklist	215
Appendix D: Interactive Multimedia Educational Website Checklist	216-219
1- Criteria for validating the interactive multimedia website	216
Appendix E: Reading Comprehension Test	220-256
1- Criteria for validating the reading and writing test	220
2- The reading and writing tests in its first form	221
3- The final version of reading comprehension test	232
4- The test answer key	255
Appendix F: Observations sheets	257-263
1- Classroom Observation	257
3- Strategies Observation	261
4- Interaction Observation	262
Appendix G: Students' Questionnaire	264-265
Appendix H: The Interactive Multimedia Scaffolding Program	266-403
1- Criteria for judging the program validity	266
2- The program lessons	278
Appendix I: The outline of the website & Students' reaction	404
1. Photos of the teacher's sessions.	404
2. Photos of multimedia room and web room.	404
3. Photos of the control group.	405
4. Photos of the experimental group.	405
5. Example of students' work.	406
6. Interactive Multimedia Website on a DVD.	414

Summary in Arabic

LIST OF TABLES

List of tables	Page
Table (3-1) The mean score of the control and the experimental groups on overall integrated reading and writing pre-test	112
Table (3-2) Specifications of the Reading and writing Tests	120
Table (3-3) The Reliability Coefficient Formula for the Integrated Reading /Writing Tests (Test- retest reliability)	123
Table (3-4) The reliability coefficient formula for the reading /writing tests (Interrater reliability)	124
Table (3-5) Description of the training sessions	128
Table (4-1) Comparison of the experimental group scores on overall integrated reading and writing test (pre-post tests)	135
Table (4-2) Comparison of the experimental group scores on integrated reading sub-skills and writing skills Pre-posttests	137
Table (4-3) Comparison of the control and experimental groups on integrated reading and writing tests (post-test)	140
Table (4-4) Comparison of the control and experimental groups on integrated reading sub-skills and writing skills post test assessed by means of independent samples t- test	142
Table (4-5) The correlation between the participants levels of reading / writing and their use of scaffolding strategies	144

LIST OF FIGURES

	List of figures	Page
Figure (2-1)	Interactivity	48
Figure (2-2)	A learning environment model	51
Figure (2-3)	Effect of ICT usage on a user's zone of proximal development	66
Figure (3-1)	Comparison of the control and the experimental groups on overall integrated reading comprehension and writing pre-test	113
Figure (3-2)	Scaffolding-Oriented Strategy Development and Implementation: The Learning Process Analysis: Steps and Procedures	125
Figure (4-1)	The difference between the mean scores of the experimental group students in the pre and post measurement on the integrated reading and writing skills as a whole	136
Figure (4-2)	Comparison of the experimental group scores on integrated reading sub-skills and writing skills Pre-posttests	139
Figure (4-3)	The mean scores of the experimental group students and the control group students in developing overall integrated reading and writing skills (pre and post-test)	141
Figure (4-4)	Comparison of the control and experimental groups on integrated reading sub-skills and writing skills post test assessed by means of independent samples t- test	143

CHAPTER ONE

BACKGROUND AND PROBLEM

1.1 Introduction

Learning foreign languages contributes to increasing students' opportunities to interact and understand other cultures. Besides, English has become an international language that is widely used for different reasons. Therefore, there is a vital need to become proficient English language learners and to succeed in academic contexts as well as in practical life.

There is a great shift in language instruction from being grammar oriented to communication oriented which requires the increase of students' repertoire of reading and writing. Wang and Chuang (2007: 11) point out, reading is not word calling or "sounding out" but it is a process of constructing meaning from a context. Thus, reading reveals itself as a marvelously complex process, in which many cognitive activities should occur simultaneously. Reading and writing become special forms of reasoning in which both the reader and the writer contribute perspective, inference, and logic. Reading and writing have a significant role in learning a foreign language.

The most essential language skills of learning foreign languages are reading and writing. Advances in linguistic theory and cognitive psychology have enabled learning reading and writing skills become of the major developmental tasks to be mastered. As the educational process continues, reading and writing become more and more important in student's ability to acquire knowledge and learn independently.

Davies (2011:24) claims that "Students read to understand the meaning of written materials. This search for meaning - the process of comprehension - depends on both the writer and the reader". Therefore, reading and writing provide experience through which the individual may expand his horizons and gain deeper understanding of himself and of other human beings.

In addition, Dias (2010: 16) claims that “The emphasis is now being placed on understanding the internal process involved in integrating reading and writing, that is , what the reader does while reading. Earlier, the emphasis was more on the products of reading - what the reader remembers from reading”. The main purpose for reading is not to recognize words but to comprehend and construct meaning of the concepts described in a text, relate them to the previous experiences and how these are transferred in a written form.

Gupta P. & Schulze M. (2011:12) have posited “a psycholinguistic view of interconnection between reading and writing confirm that reading and writing are viewed as an interactive process between language and thought”. According to Wang (2008: 23), this interactive process involves three factors: conceptual abilities, background knowledge, and process strategies. Thus, for successful reading and writing to occur, an individual must possess basic intellectual ability, knowledge of the world and learning strategies".

Current research confirms the integration of reading and writing processes for learning English as EFL. Thus, one of the most important goals in teaching reading and writing skills in EFL is to see the language as a one unit integrated not separated to improve learners' language ability. Chiu (2008:30) argues that there is often too much emphasis on teaching the reading and writing as integrated skills in ESL courses instead of teaching them separately and that meet the students' need. In this context, there are many researchers who discussed the importance of integrating reading and writing skills such as Wang (2008); Kenworthy (2004); Khalaf (2002); Khater (2002); Jung (2001).

The use of technology in EFL setting has to be taken as a natural development in the field and the EFL community look at the advantages that CALL brings to their students, especially in bringing "life" to the EFL classroom. Life here means using the foreign language for real interaction, and learning it for communicative purposes. Using CALL in EFL setting allows for a combination of sound, graphics, text, and video to be presented in one program, which facilitates efforts to teach all four language skills by computer.

The main advantage of applying interactive multimedia in EFL setting is to establish the link between the EFL learners and their counterparts in learning English, and put them in a close proficiency level. It is clear that multimedia may help in bridging the gap between the real use of English Skills and EFL classrooms with respect to the linguistic competence.

Students' learning environment is continuously changing. In recent years, it has changed from being exclusively associated with auditoria, labs and books to including internet pages, virtual discussion, video clips and social activities. In online work and studying, the learning environment is always at hand; students are not limited by space or time but can study when it best fits into their portfolio of activities. Online studying is thus not simply a new teaching tool but provides a new context for learning (Davies G. & Hewer S., 2011:15). The role of the teacher changes from giving lectures and supplying facts to being a guide or facilitator, with emphasis on helping students to construct their own knowledge. Students use their computer for solving problems, collaborating and as a tool to make (better) decisions (Davies G., 2011:4). Multimedia enhanced teaching should thus result in more student-oriented teaching, more group work and improved learning.

Interactive multimedia is one of the most exciting innovations in the age of information. With the gradual increase in the integration of computer and multimedia technology in educational activities, there is a need to consider not only the unique opportunities they bring to learning and learners, but also the benefits that may be derived from their use. Therefore, there is a need for computer-aided learning materials in educational activities, which can provide students with practice and foster moral values at the same time. With access to the Internet, computers can be a means of learning more about reading and writing and serve as a vehicle for sharing ideas with others. Interactive multimedia is suitable in presenting reading and writing skills to pupils for it

facilitates learning and enjoyment of learning. The potential of interactive multimedia in the learning environment is well-recognized world wide, as evidenced by several studies which have been conducted in recent years on using the interactive multimedia to enhance reading and writing skills. Erchun & Jie (2012) confirms that

"computer and internet technologies, especially interactive multimedia are changing what it means to be literate because of technology, the way in which readers interact with print has changed, as it has the construction of meaning in both reading and writing."
(p.43).

These issues have led to the proposal that additional aids, or scaffolds, are needed to assist students and teachers engaged in this type of learning (Lajoie (2005), Lipscomb, L., Swanson, J. (2012); Murray, D. E., & McPherson, P. (2006).). Scaffolds are tools, strategies, and guides which support students in attaining a higher level of understanding; one which would be impossible if students worked on their own.

The term “scaffolding” was initially introduced by Wood, Bruner, and Ross (1974) as tutoring or other assistance provided in a learning setting to assist students with attaining levels of understanding impossible for them to achieve without assistance. They viewed scaffolds as personal in nature; that is, aid provided by a teacher or peer to help with the learning process. More recently, the concept of scaffolding has been broadened to include a multitude of different tools and resources that can be used by students to assist them with instructional activities. These tools can be embedded within multimedia and hypermedia software to provide students with support while they are using the software (Reingold, Rimor, and Kalay, 2008). There are two basic building