

The copyright © of this thesis belongs to its rightful author and/or other copyright owner. Copies can be accessed and downloaded for non-commercial or learning purposes without any charge and permission. The thesis cannot be reproduced or quoted as a whole without the permission from its rightful owner. No alteration or changes in format is allowed without permission from its rightful owner.



**THE EFFECT OF PHONEMIC SEGMENTATION ON WORD  
RECOGNITION THROUGH THE USE OF INTERACTIVE  
WHITEBOARD AMONG JORDANIAN ENGLISH AS A  
FOREIGN LANGUAGE (EFL) BEGINNING READERS**



**MOHAMMAD HUSAM. A. ALHUMSI**

**UUM**  
**Universiti Utara Malaysia**

**DOCTOR OF PHILOSOPHY  
UNIVERSITI UTARA MALAYSIA  
2017**



Awang Had Salleh  
Graduate School  
of Arts And Sciences

Universiti Utara Malaysia

**PERAKUAN KERJA TESIS / DISERTASI**  
(Certification of thesis / dissertation)

Kami, yang bertandatangan, memperakukan bahawa  
(We, the undersigned, certify that)

**MOHAMMAD HUSAM A.M.A.A AZIZ ALHUMSI**

calon untuk Ijazah

PhD

(candidate for the degree of)

telah mengemukakan tesis / disertasi yang bertajuk:  
(has presented his/her thesis / dissertation of the following title):

**"THE EFFECT OF PHONEMIC SEGMENTATION ON WORD RECOGNITION THROUGH  
THE USE OF INTERACTIVE WHITEBOARD AMONG JORDANIAN ENGLISH AS A  
FOREIGN LANGUAGE (EFL) BEGINNING READERS"**

seperti yang tercatat di muka surat tajuk dan kulit tesis / disertasi.  
(as it appears on the title page and front cover of the thesis / dissertation).

Bahawa tesis/disertasi tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan, sebagaimana yang ditunjukkan oleh calon dalam ujian lisan yang diadakan pada : **23 Mac 2017.**

*That the said thesis/dissertation is acceptable in form and content and displays a satisfactory knowledge of the field of study as demonstrated by the candidate through an oral examination held on:  
March 23, 2017.*

Pengerusi Viva:  
(Chairman for VIVA)

Assoc. Prof. Dr. Noor Hashima Abd Aziz

Tandatangan  
(Signature)

Pemeriksa Luar:  
(External Examiner)

Assoc. Prof. Dr. Mohamad Jafre Zainal Abidin

Tandatangan  
(Signature)

Pemeriksa Dalam:  
(Internal Examiner)

Dr. Hariharan a/l N. Krishnasamy

Tandatangan  
(Signature)

Nama Penyelia/Penyelia-penyelia:  
(Name of Supervisor/Supervisors)

Assoc. Prof. Dr. Ahmad Affendi Shabdin

Tandatangan  
(Signature)

Tarikh:

(Date) **March 23, 2017**

## **Permission to Use**

In presenting this thesis in fulfilment of the requirements for a postgraduate degree from Universiti Utara Malaysia, I agree that the Universiti Library may make it freely available for inspection. I further agree that permission for the copying of this thesis in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor or, in his absence, by the Dean of Awang Had Salleh Graduate School of Arts and Sciences. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from my thesis.

Requests for permission to copy or to make other use of materials in this thesis, in whole or in part, should be addressed to:

Dean of Awang Had Salleh Graduate School of Arts and Sciences

UUM College of Arts and Sciences

Universiti Utara Malaysia

06010 UUM Sintok

## Abstrak

Membina kemahiran membaca yang berkesan sangat penting dalam kalangan pelajar Bahasa Inggeris di sekolah rendah kerana ia akan mewujudkan kesedaran, khususnya, kesedaran fonemik. Di Jordan, kajian mendapati pencapaian yang lemah terhadap kemahiran membaca dalam kalangan murid sekolah rendah dan kebolehan pelajar muda mengecam perkataan. Kajian juga telah menunjukkan keupayaan untuk memenggal perkataan kepada fonem merupakan petunjuk kemahiran membaca yang paling berkesan pada masa hadapan. Walau bagaimanapun, kajian yang terhad tentang kemahiran penggalan fonemik telah member kesan terhadap pengecaman perkataan menggunakan papan putih interaktif (IWB) dalam kalangan pelajar Jordan yang merupakan pembaca peringkat awal Bahasa Inggeris sebagai bahasa asing (EFL). Kajian ini menyelidik kesan kemahiran penggalan fonemik terhadap pengecaman perkataan dalam kalangan pembaca peringkat awal warga Jordan dengan menggunakan bantuan papan putih interaktif (IWB). Ia juga mengkaji persepsi guru-guru mereka terhadap penggunaan penggalan fonemik dan penggunaan IWB. Instrumen kajian ialah ujian pengecaman perkataan dan soal selidik secara keratan rentas. Ujian-t sampel bebas berpasangan, ujian-*t* terikat, statistik deskriptif, dan ANOVA sehalu telah digunakan untuk menganalisis data. Ujian pra dan pos pengecaman perkataan telah diedarkan kepada 41 pembaca peringkat awal yang dibahagikan kepada kumpulan eksperimen dan kawalan. Kumpulan eksperimen didedahkan kepada penggunaan IWB selama empat minggu, manakala kumpulan kawalan diajar menggunakan papan hitam. Sementara itu, soal selidik telah diedarkan kepada 86 orang guru. Dapatan menunjukkan perbezaan yang signifikan dalam skor ujian pengecaman perkataan antara kumpulan eksperimen dan kumpulan kawalan. Dapatan juga menunjukkan bahawa tidak terdapat perbezaan statistik yang signifikan dalam persepsi guru pembaca peringkat awal EFL berdasarkan jantina dan pengalaman mengajar terhadap penggunaan penggalan fonemik dan IWB. Hasil kajian menjelaskan guru-guru EFL ini telah memberikan sokongan positif terhadap penggunaan penggalan fonemik dan IWB. Hasil kajian mencadangkan beberapa implikasi pedagogi untuk penggubal kurikulum dan guru-guru Bahasa Inggeris. Ini termasuk memberi latihan kepada para guru warga Jordan untuk menggabungkan penggalan fonemik dan IWB dalam pengajaran dan pembelajaran membaca.

**Kata kunci:** Kemahiran penggalan fonemik, Papan putih interaktif, Pembaca peringkat awal bahasa Inggeris sebagai bahasa asing, Pengecaman perkataan, Jordan

## Abstract

Developing effective reading skills is essential among primary learners of English given that this will create many types of awareness, in particular, phonemic awareness. In Jordan, studies have revealed that there is a weak performance in the skill of reading among primary school students and young learner's word-reading ability. Studies have also shown that the ability to segment words into phonemes is considered as the most powerful predictor of future reading skill. However, little is known about how phonemic segmentation skill affects word recognition among Jordanian English as a foreign language (EFL) beginning readers using the interactive whiteboard (IWB). This study investigated the effect of phonemic segmentation skill on word recognition among Jordanian EFL beginning readers by using IWB. It also examined their teachers' perception towards the use of phonemic segmentation and the use of IWB. The instruments used were word recognition test and cross-sectional questionnaire. The independent sample paired t-test, dependent t-test, descriptive statistics, and one way ANOVA were employed to analyse the data. The pre-tests and post-tests of word recognition were administered to 41 beginning readers in the experimental and control groups. The experimental group received the treatment for four weeks using IWB, whereas the control group was taught using the chalkboard. Meanwhile, the questionnaires were distributed to 86 teachers. The findings showed a significant difference in word recognition test scores between the experimental and control groups. The results also indicated that there was no statistically significant difference in the perceptions of EFL teachers of beginning readers based on gender and teaching experience in relation to the use of phonemic segmentation and IWB. The findings revealed that the EFL teachers provided positive support towards using phonemic segmentation and IWB. The findings propose some pedagogical implications for curriculum designers and English teachers. This includes training Jordanian teachers to integrate phonemic segmentation and IWB in the teaching and learning of reading.

**Keywords:** Phonemic segmentation skill, Interactive whiteboard, EFL Beginning readers, Word recognition, Jordan

## Acknowledgement

In the name of Allah, the most Beneficent, the most Merciful. All Praises are to Allah the Almighty and the Creator of the universe and all that exist. Prayers and blessings are sent on His Prophet, the seal of all prophets peace be upon them.

I could hardly find the words to express my sincere appreciation and gratitude for my supervisor Assoc. Prof. Dr. Ahmad Affendi Shabdin who was very patient and supportive, nourishing and cherishing. I am grateful to him for his tremendous assistance, invaluable comments, and permanent guidance throughout my time at UUM University. In addition, I would like to express my thanks to Dr. Hariharan Krishnasamy and Dr. Sarimah Shaik for their constructive comments and fruitful suggestions during the proposal defense session

I would also like to extend my gratitude to Jerash Directorate of Education and Jerash Basic School for Boys for permission to conduct this research.

I am grateful to my parents, my brothers (Hussein and Hamzah), my sister (Bashira) and my sons (Malek, Albaraa, and Ward). They were always encouraging and supporting me with their prayers and best wishes. I would also like to thank my father-in-law (Mohamed Nizar) and mother-in-law for their support and assistance.

Last, but not least, I would like to give a very special thanks to my mother and wife who spent a great deal of time and effort to support and encourage me through my intellectual journey.

## Table of Contents

Permission to Use.....	i
Abstrak .....	ii
Abstract .....	<b>Error! Bookmark not defined.</b>
Acknowledgement.....	iv
Table of Contents .....	v
List of Tables.....	x
List of Figures .....	xii
List of Appendices .....	xiii
List of Abbreviations.....	xiv
<b>CHAPTER ONE INTRODUCTION .....</b>	<b>1</b>
1.1 Overview of the Study.....	1
1.2 Background of the Study .....	3
1.2.1 The History of English Language in Jordan .....	4
1.2.2 The Status of English Language in Jordan .....	6
1.2.3 The Educational System in Jordan .....	7
1.2.3.1 Primary Schools in Jordan .....	10
1.2.4 Reading among Primary School Students .....	11
1.2.5 The Incorporation of the Interactive Whiteboard in EFL Classrooms .....	13
1.3 Statement of the Problem .....	14
1.4 Research Objectives .....	20
1.5 Research Questions .....	21
1.6 Research Hypotheses.....	21
1.7 Significance of the Study .....	22
1.8 Scope of the Study.....	24
1.9 Definition of Terms .....	25
1.10 Organization of the Thesis .....	26
1.11 Summary .....	26
<b>CHAPTER TWO REVIEW OF THE LITERATURE .....</b>	<b>28</b>
2.1 Introduction .....	28
2.2 What is Reading?.....	29
2.2.1 Pillars of Reading Success.....	31



2.2.1.1 Phonics .....	32
2.2.1.2 Phonological Awareness, Phonemic Awareness and Phonemic Segmentation .....	35
2.2.1.3 Word Recognition .....	37
2.2.1.4 Reading Comprehension .....	39
2.2.1.5 Reading Fluency.....	41
2.2.2 Skills in Reading.....	44
2.2.3 Strategies in Reading .....	45
2.2.4 Issues in Reading .....	47
2.2.4.1 Impact of the First Language on the Reading of the Foreign Language .....	48
2.2.4.2 Cross- Language Transfer Between the First Language and the Foreign Language.....	49
2.3 The Relationship between Reading and Word Recognition.....	52
2.4 The Relationship between Learning to Read and Phonemic Awareness .....	55
2.4.1 Phonemic Awareness and Learning to Read .....	55
2.4.2 Phonemic Segmentation Skill.....	60
2.5 The Relationship between Reading and Technology .....	68
2.5.1 What is Interactive Whiteboard (IWB)? .....	69
2.5.2 Advantages of the Use of IWB .....	69
2.5.2.1 Interactive Feature.....	71
2.5.2.2 Integration .....	71
2.5.2.3 Positive Attitudes .....	72
2.5.2.4 Duration of Time.....	73
2.5.3 Interactive Whiteboard and Student's learning to Read .....	74
2.6 Related Studies .....	76
2.6.1 Beginning Readers' Phonemic Segmentation Skill.....	76
2.6.2 Studies Employed the Questionnaire Instrument.....	81
2.6.3 Studies Employed the Instructional Technologies .....	87
2.7 Teachers' Perception towards the Use of the Phonemic Segmentation and the Use of IWB .....	94
2.7.1 Demographic Variables .....	94
2.7.1.1 Gender .....	95
2.7.1.2 Teaching Experience .....	96

2.8 Theoretical Framework .....	99
2.8.1 Developmental Models of Word Recognition .....	101
2.8.1.1 Frith's Developmental Model of Word Recognition .....	104
2.8.1.2 Chall's Stages of Reading Development.....	106
2.8.1.3 Ehri's Phases of Word Recognition .....	109
2.8.2 The Theory of Multimedia Learning .....	112
2.9 Conceptual Framework .....	115
2.10 Summary .....	118
<b>CHAPTER THREE METHODOLOGY .....</b>	<b>120</b>
3.1 Introduction .....	120
3.2 Research Design .....	120
3.3 Conceptual Framework of the Variables of the Current Study .....	123
3.4 Sample of the Study .....	124
3.5 Instrumentation.....	126
3.6 Pilot study.....	127
3.6.1 Objectives of the Instruments of the Pilot Study .....	128
3.6.2 Reasons for Using the Cross-Sectional Questionnaire .....	128
3.6.3 Content Validity.....	129
3.6.3.1 Panel of Six Judges .....	129
3.6.3.2 Doing the Amendments .....	130
3.6.4 Piloting the Study and the Reliability of the Instruments.....	130
3.6.4.1 Quasi-Experimental Study .....	131
3.6.4.2 The Questionnaire .....	132
3.6.5 Summary of the Findings of the Pilot Study .....	133
3.7 The Research Instruments of the Main Study .....	134
3.7.1 Word Recognition Test.....	134
3.7.2 The Cross-Sectional Questionnaire .....	135
3.8 Data Collection Procedure of the Main Study.....	137
3.8.1 Permission.....	137
3.8.2 The Training Session .....	138
3.8.3 Pre-Test Session.....	139
3.8.4 Intervention Session.....	140
3.8.4.1 Instructional Implementation of the Experimental Group .....	143

3.8.4.2 Instructional Implementation of the Control Group.....	146
3.8.5 Post-Test Session .....	148
3.9 Data Analysis .....	151
3.10 Ethics and Participants' Rights.....	153
3.11 Summary .....	154
<b>CHAPTER FOUR FINDINGS .....</b>	<b>156</b>
4.1 Introduction .....	156
4.2 Findings of the Quantitative Data.....	156
4.2.1 Findings of Research Question 1 .....	157
4.2.1.1 Group Statistics of Pre – Word Recognition Tests of the Two Groups .....	158
4.2.1.2 Comparison between the Two Groups in the Word Recognition Pre-tests.....	158
4.2.1.3 Comparison between the Two Groups in the Word Recognition Post-tests.....	159
4.2.1.4 Results of the Experimental Group in Pre- and Post- Word Recognition Tests .....	160
4.2.1.5 Results of the Control Group in Pre- and Post- Word Recognition Tests .....	160
4.2.1.6 Descriptive Analysis of Individual Words of the Word Recognition Post-Test.....	161
4.2.2 Findings of Research Question 2 .....	164
4.2.2.1 Demographic Characteristics .....	165
4.2.3 Findings of Research Question 3 (Items 1-16 of the Questionnaire) .....	171
4.2.4 Findings of Research Question 4 (Items 17-26 of the Questionnaire) ....	177
4.3 Summary .....	181
<b>CHAPTER FIVE DISCUSSION AND CONCLUSION .....</b>	<b>183</b>
5.1 Introduction .....	183
5.2. The Discussion of the Results of the First Research Question.....	183
5.3. The Discussion of the Results of the Second Research Question .....	187
5.3.1 Gender.....	188
5.3.2 Teaching Experience .....	189
5.4. Discussion of the Results of the Third Research Question .....	190
5.5 Discussion of the Results of the Fourth Research Question .....	196

5.6 Strengths of the Study .....	200
5.7 Implications of the Study .....	201
5.8 Limitations of the Study .....	203
5.9 Recommendations for Further Studies .....	204
5.10 Conclusion of the Study.....	206
<b>REFERENCES .....</b>	<b>208</b>



## List of Tables

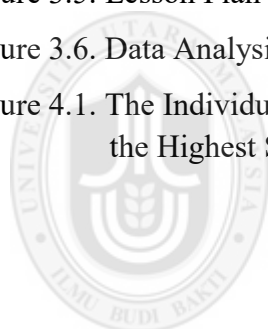
Table 1.1	The Structure of the Educational System in Jordan .....	8
Table 1.2	Enrolment Statistics in Primary and Secondary Education .....	9
Table 2.1	The Four Different Levels of Segmenting the Word “pony” .....	62
Table 2.2	A Summary of Studies that Used a Questionnaire Survey .....	82
Table 2.3	A Summary of Studies that used the Instructional Technologies .....	88
Table 2.4	A Summary of the Relationship between Different Stages or Phase Theories of Reading Development .....	102
Table 3.1	Research Experimental Design.....	122
Table 3.2	Krejcie and Morgan’s (1970) Table of Determining the Sample Size.....	126
Table 3.3	Data Collection Instruments.....	127
Table 3.4	Reliability Check of the Word Recognition Test.....	131
Table 3.5	Reliability Check of the Questionnaire of the Pilot Study .....	133
Table 3.6	The Intervention Procedure.....	141
Table 3.7	Data Collection Stages .....	150
Table 4.1	Group Statistics of Pre- Word Recognition Tests of the Two Groups....	158
Table 4.2	Independent Sample T-test Results of Pre- Word Recognition Tests of the Two Groups.....	159
Table 4.3	Independent Sample T-test Results of Post Word Recognition Tests of the Two Groups.....	159
Table 4.4	Paired Sample T-test Results of Pre- and Post-Word Recognition Tests of the Experimental Group.....	160
Table 4.5	Paired Sample T-test Results of Pre- and Post-Word Recognition Tests of the Control Group.....	161
Table 4.6	Students’ Results on the Individual Words of the Word Recognition Post-Test in the Experimental Group .....	162
Table 4.7	Raw Score, Mean and Standard Deviation for Individual Words of the Word Recognition Post-Test (Experimental Group) .....	163
Table 4.8	Demographic Characteristics of Teachers of Beginning Readers in the Survey.....	165
Table 4.9	The Effect of Gender on the Teachers’ Perceptions towards the Use of Phonemic Segmentation and Interactive Whiteboard by Using Independent Sample T-Test.....	167

Table 4.10 Teachers' Perceptions towards Using the Skill of Phonemic Segmentation and Interactive Whiteboard in Relation to the Academic Degree.....	168
Table 4.11 Teachers' Perceptions towards Using the Skill of Phonemic Segmentation and Interactive Whiteboard in Relation to the Teaching Experience.....	169
Table 4.12 Teachers' Perceptions towards Using the Skill of Phonemic Segmentation and Interactive Whiteboard in Relation to the Age Group .....	170
Table 4.13 Perceptions of EFL Teachers towards the Use of Phonemic Segmentation Skill.....	172
Table 4.14 Perceptions of EFL Teachers towards the Use of the Interactive Whiteboard.....	178



## List of Figures

Figure 1.1. Map of the Hashemite Kingdom of Jordan .....	4
Figure 2.1. The Combination of Three Critical Skills within the Process of Learning to Read .....	28
Figure 2.2. Continuum of Phonological Awareness Complexity .....	36
Figure 2.3. An Illustration of Ehri's (2005a) Phases of Word Recognition Development.....	109
Figure 2.4. The Conceptual Framework.....	117
Figure 3.1. Research Design .....	121
Figure 3.2. Conceptual Framework for the Variables.....	123
Figure 3.3. Flow Chart of Data Collection Procedures.....	138
Figure 3.4. Lesson Plan (Experimental Group) .....	146
Figure 3.5. Lesson Plan (Control Group).....	148
Figure 3.6. Data Analysis of the Current Study .....	151
Figure 4.1. The Individual Words of the Word Recognition Post-Test and the Highest Score Gained in the Experiment Group.....	164



Universiti Utara Malaysia

## List of Appendices

Appendix A: Letter to the School Superintendent .....	236
Appendix B: Letter to the School Principal.....	237
Appendix C: Letter to the School Participating Teacher .....	238
Appendix D: Consent Form - Parents.....	239
Appendix E: Letter of Consent - Students .....	240
Appendix F: Letters to the Referees.....	241
Appendix G: Arbitration Commission .....	242
Appendix H: Recommendations of Arbitration Commission .....	243
Appendix I: Word Test Score Sheet .....	244
Appendix J : Questionnaire before Reviewing .....	245
Appendix K: Questionnaire after Reviewing.....	252
Appendix L: Results of the Questionnaire in the Pilot Study.....	259
Appendix M: Sample of Lesson Plan of the Experimental Group .....	265
Appendix N: Sample of Lesson Plan of the Control Group.....	278
Appendix O: Interactive Whiteboard (IWB).....	291
Appendix P: A Lesson on IWB.....	292
Appendix Q: Cover page of Action Pack 1.....	294



## **List of Abbreviations**

IWB:	Interactive Whiteboard
L1:	First Language
L2:	Target Language
ANOVA:	Analysis of Variance
EFL:	English as a Foreign Language



# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Overview of the Study**

Reading is a vital skill that influences children's educational aspect in life. Recent research has proved that developing strong reading skills forms a critical cornerstone in the life of children in their beginning years of schools (Kucukoglu, 2013; Suggate, Schaughency, & Reese, 2013; Kern & Friedman, 2008) and leads to good academic outcomes (Senechal & LeFevre, 2002; Kern & Friedman, 2008; Stainthorp & Hughes, 2004). Research has also found that reading in English language is a complicated system of skills and knowledge in which all parts of that system work together and enhance one another (Senechal & LeFevre, 2002; Adams, 1994). For example, studies in the USA have found that this complicated system needs to have phonemic awareness, word recognition, background knowledge, fluency, comprehension strategies, and a motivation to read (Snow, Burns & Griffin, 1998; International Reading Association, 1999).

Thus, three considerable skills that will be addressed in this study work together within the process of learning to read in order to have better readers. These skills encompass phonemic awareness, word recognition (International Reading Association, 1999) and integrating interactive whiteboard as an instructional tool of technology (Ishtaiwa & Shana, 2011).

The first skill, phonemic awareness, refers to the ability to hear and manipulate the sounds in words and the ability to understand that these oral words and their syllables are made up of a series of sounds (Yopp, 1992). Phonemic awareness falls

The contents of  
the thesis is for  
internal user  
only

## REFERENCES

- Aarnoutse, C., van Leeuwe, J., & Verhoeven, L. (2005). Early literacy from a longitudinal perspective. *Educational Research and Evaluation*, 11(3), 253–275.
- Abshire, S. A. (2006). *Exploring Implicit Versus Explicit Methods of Teaching Phonemic Awareness Instruction to Kindergarten Students* (Doctoral dissertation, Northwestern State University).
- Abu-Rabia, S. (1997). Reading in Arabic orthography: The effect of vowels and context on reading accuracy of poor and skilled native Arabic readers. *Reading and Writing: An Interdisciplinary Journal* 9(1), 65-78.
- Abu-Rabia, S. (1999). The effect of Arabic vowels on the reading comprehension of second-and sixth-grade native Arab children. *Journal of psycholinguistic research*, 28(1), 93-101.
- Abuhmaid, A. (2014). Teachers' perspectives on interactive whiteboards as instructional tools in four Jordanian schools. *Contemporary Educational Technology*, 5(1), 73-89.
- Adams, M. J. (1994). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
- Alhumsi, M. H. & Shabdin, A. A. (2014). Beginning readers have no prior experience with sound segmentation. *Journal of Education and Practice*, 5(11), 32-41.
- Alhumsi, M. H. & Shabdin, A. A. (2016). The relationship between phonemic segmentation skill and EFL word recognition- A review of literature. *International Journal of Linguistics*, 8(2), 31-46.
- Al-Ghazo, A. & Smadi, O. M. (2013) A content analysis of the English reading text's authenticity in student's book of action pack eleven in Jordan. *European Scientific Journal October*, 9(29), 342-359.
- Al-Hazza, T. C., Fleener, C., & Hager, J. (2008). Primary teachers' knowledge and knowledge calibration of early literacy practices. *Reading Matrix*, 8(1), 1-11
- Al-Omari, T. A., Bataineh, R. F., & Smadi, O. M. (2015). Potential inclusion of multiple intelligences in Jordanian EFL textbooks. *Bellaterra journal of teaching and learning language and literature*, 8(1), 60-80.

- Al Otaiba, S., Connor, C., Lane, H., Kosanovich, M. L., Schatschneider, C., Dyrland, A. K., ... & Wright, T. L. (2008). Reading First kindergarten classroom instruction and students' growth in phonological awareness and letter naming–decoding fluency. *Journal of School Psychology, 46*(3), 281-314.
- Al Otaiba, S., Kosanovich, M. L., & Torgesen, J. K. (2012). Assessment and instruction in phonemic awareness and word recognition skills. In A. G. Kamhi & H. W. Catts (Eds.), *Language and reading disabilities* (3rd ed., pp. 112-145). Upper Saddle River, NJ: Pearson Education Inc.
- Alshaboul, Y., Asassfeh, S., Alshboul, S., & Alodwan, T. (2014). The contribution of L1 phonemic awareness into L2 reading: The case of Arab EFL readers. *International education studies, 7*(3), 99-111.
- Al-Shaboul, Y. M., Assasfeh, S. M., Alshboul, S. S., & Almomani, H. S. (2013). Are Jordanian students phonemically aware? : A descriptive study. *Journal of Educational & Psychological Sciences, 14*(2), 37-53.
- Al-Shaboul, Y. M., Asassfeh, S. M., Alshboul, S. S., & Al Tamimi, Y. A. (2014). Arabic phonemic awareness (pa): The need for an assessment tool. *Asian social science, 10*(1), 200-208.
- Al-Tamimi, Y. & Rababaah, G. (2007). The relationship between phonological awareness and word reading. *Poznan studies in contemporary linguistics, 43*(2), 5–21.
- Anthony, J. L., & Lonigan, C. J. (2004). The nature of phonological awareness: converging evidence from four studies of preschool and early grade school children. *Journal of Educational Psychology, 96*(1), 43-55.
- Archibald, L. M., & Gathercole, S. E. (2007). Nonword repetition in specific language impairment: More than a phonological short-term memory deficit. *Psychonomic Bulletin & Review, 14*(5), 919-924.
- Ary, D., Jacobs, L. C., Sorenson, C., & Razaviah, A. (2010). *Introduction to research in education*, (8th ed.) CA: Belmont
- Backman, J. (1983). The role of psycholinguistic skills in reading acquisition: A look at early readers. *Reading Research Quarterly, 18*(4), 466-479.
- Baddeley, A. (2007). *Working memory, thought and action*. New York: Oxford University Press
- Baddeley, A., Gathercole, S., & Papagno, C. (1998). The phonological loop as a language learning device. *Psychological Review, 105*(1), 158-173.
- Bakr, S. (2011). Attitudes of Egyptian teachers towards computers. *Contemporary Educational Technology, 2*(4), 308-318.

- Bal, G., Misirli, G., Orhan, N., Yucel, K., & Sahin, Y. G. (2010, June). Teachers' expectations from computer technology and interactive whiteboard: A survey. In *Education Technology and Computer (ICETC), 2010 2nd International Conference on* (Vol. 3, pp. V3-153). IEEE.
- Ball, E. W., & Blachman, B. A. (1988). Phoneme segmentation training: Effect on reading readiness. *Annals of Dyslexia*, 38(1), 208-225.
- Ball, E. W., & Blachman, B. A. (1991). Does phoneme awareness training in kindergarten make a difference in early word recognition and developmental spelling? *Reading Research Quarterly*, 26(1), 49-66.
- Balta, N., & Duran, M. (2015). Attitudes of students and teachers towards the use of interactive whiteboards in elementary and secondary school classrooms. *TOJET: The Turkish Online Journal of Educational Technology*, 14(2), 15-21.
- Barone, D. & Wright, T. E. (2008). Literacy instruction with digital and media technologies. *Reading Teacher*, 62(4), 292-302.
- Beauchamp, G. & Kennewell, S. (2008). The influence of ICT on the interactivity of teaching. *Education and Information Technologies*, 13(4), 305-315.
- Beauchamp, G. & Parkinson, J. (2005). Beyond the 'wow' factor: developing interactivity with the interactive whiteboard. *School Science Review*, 86(316), 97-103.
- Becta (British Education Communication Technology Agency). (2003). What the research says about interactive whiteboards. Retrieved on 27 September 2015 from [http://www.hpedsb.on.ca/ec/services/cst/elementary/math/documents/whiteboards\\_research.pdf](http://www.hpedsb.on.ca/ec/services/cst/elementary/math/documents/whiteboards_research.pdf)
- Beecher, C. C. (2011). *A latent growth curve analysis of reading achievement for an at-risk population* (Doctoral dissertation, Washington State University, USA).
- Beeland, W. D. (2002, July). *Student engagement, visual learning and technology: Can interactive whiteboards help?* In Annual Conference of the Association of Information Technology for Teaching Education, Trinity College, Dublin.
- Below, J. L., Skinner, C. H., Fearington, J. Y., & Sorrell, C. A. (2010). Gender differences in early literacy: Analysis of kindergarten through fifth-grade dynamic indicators of basic early literacy skills probes. *School Psychology Review*, 39(2), 240-257.
- Bennett, S & Lockyer, L (2008). A study of teachers' integration of interactive whiteboards into four Australian primary school classrooms. *Learning, Media and Technology*, 33(4), 289-300.

- Berg, M., & Stegelman, T. (2003). The critical role of phonological and phonemic awareness in reading success: A model for early literacy in rural schools. *Rural Special Education Quarterly*, 22(4), 47–51.
- Berninger, V. W., Abbott, R. D., Vermeulen, K., & Fulton, C. M. (2006). Paths to reading comprehension in at-risk second-grade readers. *Journal of Learning Disabilities*, 39(4), 334-351.
- Bhattacharya, A., & Ehri, L. C. (2004). Graphosyllabic analysis helps adolescent struggling readers read and spell words. *Journal of Learning Disabilities*, 37(4), 331- 348.
- Bialystok, E. (2007). Acquisition of literacy in bilingual children: A framework for research. *Language Learning*, 57(1), 45-77.
- Bird, D. K. (2009). The use of questionnaires for acquiring information on public perception of natural hazards and risk mitigation—a review of current knowledge and practice. *Natural Hazards and Earth System Sciences*, 9(4), 1307-1325.
- Blackwell, R. & Laman, S. (2013). Strategies to teach sight words in an elementary classroom. *International Journal of Education*, 5(4), 37- 47.
- Block, M. K., & Duke, N. K. (2015). Letter names can cause confusion and other things to know about letter-sound relationships. *YC Young Children*, 70(1), 84-91.
- Bodrova, E., & Leong, D. J. (1998). Scaffolding emergent writing in the zone of proximal development. *Literacy, Teaching and Learning*, 3(2), 1-18.
- Bos, C., Mather, N., Dickson, S., Podhajski, B., & Chard, D. (2001). Perceptions and knowledge of preservice and inservice educators about early reading instruction. *Annals of Dyslexia*, 51(1), 97-120.
- Boyer, N. E. (2010). *Phonemic awareness instruction: Effects of letter manipulation and articulation training on learning to read and spell* (Doctoral dissertation, The City University of New York). Retrieved from <http://search.proquest.com/docview/762212913>
- Bradford, S., Shippen, M. E., Alberto, P., Houchins, D. E., Flores, M. (2006). Using systematic instruction to teach decoding skills to middle school Students with moderate intellectual disabilities. *Education and Training in Developmental Disabilities*, 41(4), 333–343
- Bradley, L., & Bryant, P. E. (1983). Categorizing sounds and learning to read: A causal connection. *Nature*, 301(5899), 419–421.
- Brantlinger, E., Jimenez, R., Klingner, J., Pugach, M., & Richardson, V. (2005). Qualitative studies in special education. *Exceptional children*, 71(2), 195-207.

- Brink, H., Van der Walt, C., & Van Rensburg, G. (2006). *Fundamentals of research methodology for health care professionals*. Cape Town. JUTA and Company Ltd.
- Bromley, K. (2007). Nine things every teacher should know about words and vocabulary instruction. *Journal of Adolescent and Adult Literacy*, 50(7), 528-537.
- Brown, C. S. (2014). Language and literacy development in the early years: Foundational skills that support emergent readers. *Language and Literacy Spectrum*, 24, 35-49.
- Brown, T. L. & Haynes, M. (1985). Literacy background and reading development in a second language. *New Directions for Child and Adolescent Development*, 1985(27), 19-34.
- Bulmer, M. (2009). Survey research and sociology. *Sociologisk Forskning*, 46(1), 90-95.
- Burke, M. D., Hagan-Burke, S., Kwok, O., & Parker, R. (2009). Predictive validity of early literacy indicators from the middle of kindergarten to second grade. *The Journal of Special Education*, 42(4), 209-226.
- Bursuck, W. D., Smith, T., Munk, D., Damer, M., Mehlig, L., & Perry, J. (2004). Evaluating the impact of a prevention-based model of reading on children who are at risk. *Remedial and Special Education*, 25(5), 303-313.
- Buy, B. N. (1992). *Three instructional strategies for teaching phonemic segmentation to kindergarten children*. (Doctoral dissertation, University of Florida. USA)
- Campregher, S. (2010). *Effects of the Interactive Whiteboard (IWB) in the Classroom, Experimental Research in Primary School*. In International Conference The Future of Education, University of Bolzano (Italy). Recuperado el (Vol. 12, No. 01, p. 2014). Retrieved June 2014 from [http://conference.pixelline.net/edu\\_future/common/download/Paper\\_pdf/ENT34-Campregher.pdf](http://conference.pixelline.net/edu_future/common/download/Paper_pdf/ENT34-Campregher.pdf).
- Cardenas-Hagan, E., Carlson, C. D., & Pollard-Durodola, S. D. (2007). The cross-linguistic transfer of early literacy skills: The role of initial L1 and L2 skills and language of instruction. *Language, speech, and hearing services in schools*, 38(3), 249-259.
- Cardoso-Martins, C. (1995). Sensitivity to rhymes, syllables, and phonemes in literacy acquisition in Portuguese. *Reading research quarterly*, 30(4), 808-828.



- Carson, K. L., Gillon, G. T., & Boustead, T. M. (2013). Classroom phonological awareness instruction and literacy outcomes in the first year of school. *Language, Speech, and Hearing Services in Schools*, 44(2), 147-160.
- Castiglioni-Spalten, M. L. & Ehri, L. C. (2003). Phonemic awareness instruction: Contribution of articulatory segmentation to novice beginners' reading and writing. *Scientific Studies of Reading*, 7(1), 25-52.
- Chall, J. (1984, January). *New views on developing basic skills with adults*. Paper presented at the National Adult literacy Conference, Washington, D.C. Retrieved March 20, 2015 from <http://files.eric.ed.gov/fulltext/ED240299.pdf>
- Chambers, B., Abrami, P., Slavin, R. & Madden, N. (2011). A three-tier model of reading instruction supported by technology. *International Journal of Innovation and Learning*, 9(3), 286–297.
- Chambers, B., Slavin, R., Madden, N., Abrami, P., Karanzalis, M., & Gifford, R. (2011). Small-group, computer-assisted tutoring to improve reading outcomes for struggling first and second grades. *The Elementary School Journal*, 111(4), 625–640
- Chapman, M. L. (2003). Phonemic awareness: Clarifying what we know. *Literacy Teaching and Learning*, 7(1 & 2), 91-114.
- Chard, D. J., & Dickson, S. V. (1999). Phonological awareness: Instructional and assessment guidelines. *Intervention in School and Clinic*, 34(5), 261-270.
- Cheesman, E. A. (2004). *Teacher education in phonemic awareness instruction* (Doctoral dissertation, University of Connecticut U. S. A).
- Cheung, A. C. & Slavin, R. E. (2011). The effectiveness of education technology for enhancing reading achievement: A meta-analysis. Best Evidence Encyclopedia. MD: Center for Research and Reform in Education. Retrieved April 8, 2014 from [http://www.bestevidence.org/word/tech\\_read\\_Feb\\_24\\_2011.pdf](http://www.bestevidence.org/word/tech_read_Feb_24_2011.pdf)
- Cheung, H. (1996). Nonword span as a unique predictor of second-language vocabulary learning. *Developmental Psychology*, 32(5), 867–873.
- Chiappe, P., Siegel, L. S., & Wade-Woolley, L. (2002). Linguistic diversity and the development of reading skills: A longitudinal study. *Scientific Studies of Reading*, 6(4), 369-400.
- Chou, C. P., Wang S., Ching, G. S. (2012). Balanced reading instructions: An action research on elementary cram school students. *International Journal of Research Studies in Language Learning*, 1(1), 3-20.

- Cihon, T. M., Gardner, R., Morrison, D., & Paul, P. V. (2008). Using visual phonics as a strategic intervention to increase literacy behaviors for kindergarten participants at-risk for reading failure. *Journal of Early and Intensive Behavior Intervention*, 5(3), 138-155.
- Cisero, C. A. & Royer, J. M. (1995). The development and cross-language transfer of phonological awareness. *Contemporary Educational Psychology*, 20(3), 275-303.
- Clay, M. M. (1979). *The early detection of reading difficulties* (3rd ed.). Portsmouth, NH: Heinemann.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6<sup>th</sup> ed.). Routledge. NY
- Comeau, L., Cormier, P., Grandmaison, E., & Lacroix, D. (1999). A longitudinal study of phonological processing skills in children learning to read in a second language. *Journal of Educational Psychology*, 91(1), 29-43.
- Cortese, M. J., & Simpson, G. B. (2000). Regularity effects in word naming: What are they? *Memory and Cognition*, 28(8), 1269-1276.
- Craig, S. A. (2006). The effects of an adapted interactive writing intervention on kindergarten children's phonological awareness, spelling, and early reading development: A contextualized approach to instruction. *Journal of Educational Psychology*, 98(4), 714-731.
- Creswell, J. (2003). *Research design: Qualitative, quantitative, and mixed method approaches*. Thousand Oaks, CA: Sage Publications.
- Creswell, J. (2008). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. (3rd ed.). Thousand Oaks, CA: SAGE Publications
- Creswell, J. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson.
- Creswell, J. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.) Thousand Oaks, CA: Sage Publications.
- Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research*, 49(2), 222-251.
- Cunningham, A. E. (1990). Explicit vs. implicit instruction in phonemic awareness. *Journal of Experimental Child Psychology*, 50(3), 429-444.

- Cunningham, A. E., Perry, K. E., Stanovich, K. E., & Stanovich, P. J. (2004). Disciplinary knowledge of K-3 teachers and their knowledge calibration in the domain of early literacy. *Annals of dyslexia*, 54(1), 139-167.
- Dahmer, M. (2010). *Phonological awareness in the kindergarten classroom: How do teachers perceive this essential link from oral communication to reading skill development* (Doctoral dissertation, Liberty University, U. S. A)
- Davoudi, M. (2005). Inference generation skill and text comprehension. *The Reading Matrix*, 5(1), 106-123.
- Dehaene, S. & Naccache, L. (2001). Towards a cognitive neuroscience of consciousness: basic evidence and a workspace framework. *Cognition*, 79(1), 1-37.
- De Jong, P., & Leseman, P. (2001). Lasting effects of home literacy on reading achievement in school. *Journal of School Psychology*, 39(5), 389-414.
- Denton, C., Ciancio, D., & Fletcher, J. (2006). Validity, reliability, and utility of the observation survey of early literacy. *Reading Research Quarterly*, 4(1), 8-34.
- Diakidoy, I., Stylianou, P., Karefillidou, C., & Papageorgiou, P. (2005). The relationship between listening and reading comprehension on different types of texts at increasing grade levels. *Reading Psychology*, 26(1), 55-80.
- Digregorio, P. & Sobel-Lojeski, K. (2010). The Effects of Interactive Whiteboards (IWBs) on Student Performance and Learning: A Literature Review. *Journal of Educational Technology Systems*, 38(3), 255-312.
- Dilorenzo, K., Rody, C., Bucholz, J., & Brady, M. (2011). Teaching letter-sound connections with picture mnemonics: Itchy's alphabet and early decoding. *Preventing School Failure*, 55(1), 28-34.
- Dornyei, Z. & Taguchi, T. (2010). *Questionnaires in second language research: Construction, administration, and processing*. (2<sup>nd</sup> ed.). Routledge.NY
- Drbseh, M. (2013). The spread of English language in Jordan. *International Journal of Scientific and Research Publications*, 3(9), 1-5.
- Drudy, S. (2008). Gender balance/ gender bias: the teaching profession and the impact of feminisation. *Gender and Education* , 20 (4), 309-323.
- Durgunoglu, A. Y. (2002). Cross-linguistic transfer in literacy development and implications for language learners. *Annals of Dyslexia*, 52(1), 189 -204.
- Durgunoglu, A. Y., & Oney, B. (2000). Literacy development in two languages: Cognitive and sociocultural dimensions of cross-language transfer. In *A research symposium on high standards in reading for students from diverse language groups: Research, practice and policy* (pp. 78-99).

- Durgunoglu, A. Y., Nagy, W. E., & Hancin-Bhatt, B. J. (1993). Cross-Language transfer of phonological awareness. *Journal of Educational Psychology*, 85(3), 453-465.
- Ebert, A. A. (2009). *Developmental spelling and word recognition: A validation of Ehri's model of word recognition development*. (Doctoral dissertation, The University of Virginia, U.S.A).
- Edelen-Smith, P. J. (1997). How now brown cow: Phoneme awareness activities for collaborative classrooms. *Intervention in School and Clinic*, 33(2), 103-111.
- Ehri, L. C. (2005a). Development of sight word reading: Phases and findings. In M. J. Snowling & C. Hulme (Eds.), *The science of reading: A handbook* (pp. 135–154). Malden, MA: Blackwell.
- Ehri, L. C. (2005b). Learning to read words: Theory, findings, and issues. *Scientific Studies of Reading*, 9(2), 167–188.
- Ehri, L. C. (2014) Orthographic mapping in the acquisition of sight word reading, spelling memory, and vocabulary learning. *Scientific Studies of Reading*, 18(1), 5-21.
- Ehri, L. C. & McCormick, S. (1998) Phases of word learning: Implications for instruction with delayed and disabled readers. *Reading and Writing Quarterly*, 14(2), 135–163.
- Ehri, L. C., Nunes, S. R., Willows, D. M., Schuster, B. V., Yaghoub-Zadeh, Z. & Shanahan, T. (2001). Phonemic awareness instruction helps children learn to read: Evidence from the national reading panel panel's meta -analysis. *Reading Research Quarterly*, 36(3), 250-287.
- Ehri, L. C. & Rosenthal, J. (2007). Spellings of words: A neglected facilitator of vocabulary learning. *Journal of literacy research*, 39(4), 389–409.
- Ehri, L. C. & Snowling, M. J. (2004). Developmental variation in word recognition. In C. A. Stone, E.R. Silliman, B. J. Ehren, & K. Apel (Eds.), *Handbook of language and literacy: Development and disorders* (pp. 433–460). New York: Guilford.
- Ehri, L. C. & Wilce, L. S. (1983). Development of word identification speed in skilled and less skilled beginning readers. *Journal of Educational Psychology*, 75(1), 3-18.
- Ehri, L. C. & Wilce, L. S. (1987). Cipher versus cue reading: An experiment in decoding acquisition. *Journal of Educational Psychology*, 79(1), 3-13.

- Englert, C. S., Zhao, Y., Collings, N., & Romig, N. (2005). Learning to read words: The effects of Internet-based software on the improvement of reading performance. *Remedial and Special Education, 26*(6), 357-371.
- Farrokhi, F., & Hamidabad, A. (2012). Rethinking convenience sampling: Defining quality criteria. *Theory and practice in language studies, 2*(4), 784-792.
- Fender, M. (2003). English word recognition and word integration skills of native Arabic and Japanese- speaking learners of English as a second language. *Applied Psycholinguistics, 24*(2), 289-315.
- Flanigan, K. (2007). A concept of word in text: A pivotal event in early reading acquisition. *Journal of Literacy Research, 39*(1), 37-70.
- Fletcher, J. M., Lyon, G. R., Fuchs, L. S., & Barnes, M. A. (2007). *Learning disabilities: From identification to intervention*. New York: Guilford.
- Foorman, B. R. & Liberman, D. (1989). Visual and phonological processing of words: A comparison of good and poor readers. *Journal of Learning Disabilities, 22*(6), 349-355.
- Foorman, B. R., & Moats, L. C. (2004). Conditions for sustaining research-based practices in early reading instruction. *Remedial and Special Education, 25*(1), 51-60.
- Foy, J. G., & Mann, V. (2006). Changes in letter sound knowledge are associated with development of phonological awareness in pre-school children. *Journal of Research in Reading, 29*(2), 143-161.
- Fraenkel, J. R., & Wallen, N. E. (2009). *How to design and evaluate research in education*, 7th ed. New York, NY: McGraw Hill.
- Francis, B., Skelton, C., Carrington, B., Hutchings, M., Read, B., & Hall, I. (2008). A perfect match? Pupils' and teachers' views of the impact of matching educators and learners by gender. *Research Papers in Education, 23*(1), 21-36.
- Frith, U. (1985). Beneath the surface of developmental dyslexia. In K. E. Paterson, J. C. Marshall, & M. Coltheart (Eds.), *Surface dyslexia: Neuropsychological and cognitive studies of phonological reading* (pp. 301-330). London: Lawrence Erlbaum.
- Frost, J., Madsbjerg, S., Niedersoe, J., Olofsson, A., & Sorensen, P. M. (2005). Semantic and phonological skills in predicting reading development: From 3-16 years of age. *Dyslexia, 11*(2), 79-92.
- Frost, S., Landi, N., Mencl, W., Sandak, R., Fulbright, R., Tejada, E., ... Pugh, K. (2009). Phonological awareness predicts activation patterns for print and speech. *Ann Dyslexia, 59*(1), 78-97.

- Fuchs, L. S., Fuchs, D., Hosp, M. K., & Jenkins, J. R. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading*, 5(3), 239-56.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2003). *Educational research: An introduction*. (7<sup>th</sup> ed.) Pearson Education. Boston, U.S.A.
- Ganske, K., Monroe, J. K., & Strickland, D. S. (2003). Questions teachers ask about struggling readers and writers. *The Reading Teacher*, 57(2), 118-128.
- Gartrell, D. (2013). *A guidance approach for the encouraging classroom*. (5th ed.). Cengage Learning. Belmont, CA
- Gathercole, S. E. & Baddeley, A. D. (1990). The role of phonological memory in vocabulary acquisition: A study of young-children learning new names. *British Journal of Psychology*, 81(4), 439-454.
- Gathercole, S. E., Willis, C. S., Emslie, H., & Baddeley, A. D. (1992). Phonological memory and vocabulary development during the early school years: A longitudinal study. *Developmental Psychology*, 28(5), 887-898.
- Geer, R. & Sweeney, T. A. (2012). Students' voices about learning with technology. *Journal of social sciences*, 8(2), 294-303.
- Gilakjani, A. P., Lai-Mei, L., & Ismail, H. N. (2013). Teachers' use of technology and constructivism. *International Journal of Modern Education and Computer Science*, 5(4), 49-63.
- Glenberg, A. M., Goldberg, A. B., & Zhu, X. (2011). Improving early reading comprehension using embodied CAI. *Instructional Science: An International Journal of the Learning Sciences*, 39(1), 27-39.
- Glover, D., Miller, D., Averis, D., & Door, V. (2007). The evolution of an effective pedagogy for teachers using the interactive whiteboard in mathematics and modern languages: An empirical analysis from the secondary sector. *Learning, Media and Technology*, 32(1), 5-20.
- Good, R. H., Simmons, D. C., & Smith, S. B. (1998). Effective academic interventions in the United States: Evaluating and enhancing the acquisition of early reading skills. *School psychology review*. 27(1), 45-56.
- Goswami, U. (2001). Rhymes are important: A comment on Savage. *Journal of Research in Reading*, 24(1), 19-29.
- Gough, P. B. (1996). How children learn to read and why they fail. *Annals of Dyslexia*, 46(1), 1-20.
- Gough, P. B., & Hillinger, M. L. (1980). Learning to read: An unnatural act. *Bulletin of the Orton Society*, 30(1), 179-196.

- Gough, P. B. & Tunmer, W. E. (1986). Decoding, reading and reading disability. *Remedial and Special Education*, 7(1), 6–10.
- Gove, A. & Cvelich, P. (2010). Early reading: Igniting education for All. A report by the early grade learning community of practice. Research Triangle Park, NC: Research Triangle Institute.
- Gray, A., & McCutchen, D. (2006). Young readers' use of phonological information: phonological awareness, memory, and comprehension. *Journal of Learning Disabilities*, 39(4), 325–333.
- Gray, C., Hagger-Vaughan, L., Pilkington, R., & Tomkins, S. A. (2005). The pros and cons of interactive whiteboards in relation to the key stage 3 strategy and framework. *Language Learning Journal*, 32(1), 38-44.
- Griffith, P. L. & Olson, M. W. (1992). Phonemic awareness helps beginning readers break the code. *The Reading Teacher*, 45(7), 516-523.
- Gyovai, L. K., Cartledge, G., Kourea, L., Yurick, A., & Gibson, L. (2009). Early reading intervention: Responding to the learning needs of young at-risk English language learners. *Learning Disability Quarterly*, 32(3), 143-162.
- Haddad, N. A. & Fakhoury, L. A. (2012, April). *Formal educational curricula and cultural heritage: The case of the Jordanian national curricula*. Proceedings of the 1st International Conference on Best Practices in World Heritage: Archaeology Menorca, Spain.
- Hall, I. & Higgins, S. (2005). Primary school students' perceptions of interactive whiteboards. *Journal of Computer Assisted Learning*, 21(2), 102-117.
- Halpern, D.F. (1997). Sex differences in intelligence: Implications for education. *American Psychologist*, 52(1), 1091-1102.
- Hammer, C. S & Miccio, A. W. (2006). Early language and reading development of bilingual preschoolers from low-income families. *Topics in Language Disorders*, 26(4), 322-337.
- Hatcher, P. J. & Hulme, C. (1999). Phonemes, rhymes, and intelligence as predictors of children's responsiveness to remedial reading instruction: Evidence from a longitudinal intervention study. *Journal of experimental child psychology*, 72(2), 130-153.
- Hecht, S. A., & Close, L. (2002). Emergent literacy skills and training time uniquely predict variability in responses to phonemic awareness training in disadvantaged kindergarteners. *Journal of Experimental Child Psychology*, 82(2), 93-115.
- Higgins, S., Beauchamp, G., & Miller, D. (2007). Reviewing the literature on interactive whiteboards. *Learning, Media and technology*, 32(3), 213-225.

- Hogan, T. P., Catts, H. W., & Little, T. D. (2005). The relationship between phonological awareness and reading: Implications for the assessment of phonological awareness. *Language, Speech, and Hearing Services in Schools*, 36(4), 285–293.
- Hong, K., & Koh, C. (2002). Computer anxiety and attitudes toward computers among rural secondary school teachers: A Malaysian perspective. *Journal of Research on Technology in Education*, 35(1), 27-46.
- Hook, P. E., & Jones, S. D. (2002). The importance of automaticity and fluency for efficient reading comprehension. Perspectives. *The International Dyslexia Association*, 28(1), 9-14.
- Hoover, W. A. (2002). The importance of phonemic awareness in learning to read. *SEDL Letter*, 14(3), 9-12.
- Howitt, D. & Cramer, D. (2005). *First steps in research and statistics: A practical workbook for psychology students*. LONDON. Routledge.
- Hulme, C., Bowyer-Crane, C., Carroll, J. M., Duff, F. J., & Snowling, M. J. (2012). The Causal role of phoneme awareness and letter-sound knowledge in learning to read: Combining intervention studies with mediation analyses. *Psychological Science*, 23(6), 572–577.
- Hulme, C., Muter, V. & Snowling, M. (1998). Segmentation does predict early progress in learning to read better than rhyme: A reply to Bryant. *Journal of Experimental Child Psychology*, 71(1), 39-44.
- Hulme, C., Nash, H. M., Gooch, D., Lervag, A., & Snowling, M. J. (2015) The foundations of literacy development in children at familial risk of dyslexia. *Psychological Science* 26(12) 1877–1886.
- International Reading Association. (1999). Using multiple methods of beginning reading instruction: A position statement of the International Reading Association. Newark, Delaware.
- International Reading Association Leadership Academy. (2014). Using multiple methods of beginning reading instruction: A position statement of the International Reading Association. Newark. *Query*, 44(1), 1-33.
- Ishtaiwa, F. F. & Shana, Z. (2011). The use of interactive whiteboard (IWB) by pre-service teachers to enhance Arabic language teaching and learning. *Learning and Teaching in Higher Education: Gulf Perspectives*, 8(2), 1-18.
- Jafar, F. (2008). The use of English in internet communication by Jordanian students. *Al Basaer Journal*, 12(2), 9-34.
- Jaradat, F., Akrabawi, S., & Al-Kharoof, R. (2002). An evaluation of English teaching for the first and second primary grades in public schools. *Risalat AL-Mu'allim*, 41(1), 46-51.



- Jenkins, J. R., Fuchs, L. S., Van Den Broek, P., Espin, C., & Deno, S. L. (2003). Accuracy and fluency in list and context reading of skilled and RD groups: Absolute and relative performance levels. *Learning Disabilities Research & Practice, 18*(4), 237-245.
- Johnson, S D. (2012). *The effect of integrating interactive whiteboards on reading achievement*. (Doctoral dissertation, Walden University, USA). Retrieved April 6, 2014 from <http://search.proquest.com/docview/1220486293>
- Jordan Education Initiative (JEI) (2010). SMART Interactive White Board Utilization in Al-Shifaa Bint Ouf School: A Case Study. Retrieved April, 2015 from [http://downloads01.smarttech.com/media/research/international\\_research/middleeast/al\\_shifaa\\_school.pdf](http://downloads01.smarttech.com/media/research/international_research/middleeast/al_shifaa_school.pdf)
- Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology, 80*(4), 437-447.
- Juel, C. (1991). Beginning reading. In R. Barr, M. L. Kamil, P. B. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research* (Vol. 2, pp. 759-788). New York: Longman.
- Juel, C., Griffith, P. L., & Gough, P. B. (1986). Acquisition of literacy: A longitudinal study of children in first and second grade. *Journal of Educational Psychology, 78*(4), 243-253.
- Jwaifell, M. & Gasaymeh, A. M. (2013). Using the diffusion of innovation theory to explain the degree of English teachers' adoption of interactive whiteboards in the modern systems school in Jordan: A case study. *Contemporary Educational Technology, 4*(2), 138-149.
- Kelley, K., Clark, B., Brown, V., & Sitzia, J. (2003). Good practice in the conduct and reporting of survey research. *International Journal for Quality in Health Care, 15*(3), 261-266.
- Kendeou, P., van den Broek, P., White, M. J., & Lynch, J. S. (2009). Predicting reading comprehension in early elementary school: The independent contributions of oral language and decoding skills. *Journal of Educational Psychology, 101*(4), 765-778.
- Kennedy, M. J. & Deshler, D. D. (2010). Literacy instruction, technology, and students with learning disabilities: Research we have, research we need. *Learning Disability Quarterly 33*(4), 289-298.

- Kennewell, S. & Morgan, A. (2003, July). Student teachers' experiences and attitudes towards using interactive whiteboards in the teaching and learning of young children. In *Proceedings of the international federation for information processing working group 3.5 open conference on Young children and learning technologies-Volume 34* (pp. 65-69). Australian Computer Society, Inc.
- Kern, M. L., & Friedman, H. S. (2008). Early educational milestones as predictors of lifelong academic achievement, midlife adjustment, and longevity. *Journal of Applied Developmental Psychology, 30*(4), 419-430.
- Keung, Y. C. & Ho, C. S. H. (2009). Transfer of reading-related cognitive skills in learning to read Chinese (L1) and English (L2) among Chinese elementary school children. *Contemporary Educational Psychology, 34*(2), 103-112.
- Kim, Y. S. (2009). Crosslinguistic influence on phonological awareness for Korean–English bilingual children. *Reading and Writing, 22*(7), 843-861.
- Kim, D., Kim, W., & Lee, K. (2007). The relationship between phonological awareness and early reading for first grade Korean language learners with reading difficulties. *Asia Pacific Education Review, 8*(3), 426-434.
- Kindervater, T. M. (2012). *A Case Study of Teaching Phonemic Awareness to Parents and Children: Scaffolded Preschool Tutoring with Kinesthetic Motions for Phonemes* (Doctoral dissertation, Kent State University).
- Konza, D. (2014). Teaching reading: Why the “Fab Five” should be the “Big Six”. *Australian Journal of Teacher Education, 39* (12), 153-169.
- Krejcie, R. V. & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*, 607-610.
- Kucukoglu, H. (2013). Improving reading skills through effective reading strategies. *Procedia- Social and Behavioral Sciences, 70*, 709 – 714.
- Kuhn, M. R. & Stahl, S. A. (2003). Fluency: A review of developmental and remedial practices. *Journal of educational psychology, 95*(1), 3-21
- Landauer, T. K., & Dumais, S. T. (1997). A solution to Plato’s problem: The Latent Semantic Analysis theory of acquisition, induction, and representation of knowledge. *Psychological Review, 104* (2), 211–240.
- Lane, H. B., Pullen, P. C., Eisele, M. R., & Jordan, L. (2002). Preventing reading failure: Phonological awareness assessment and instruction. *Preventing School Failure, 46*(3), 101-110.
- Larson-Hall, J. (2008). Weighing the benefits of studying a foreign language at a younger starting age in a minimal input situation. *Second Language Research, 24*(1), 35-63.

- Leafstedt, J. M., & Gerber, M. M. (2005). Crossover of Phonological Processing Skills. A Study of Spanish-Speaking Students in Two Instructional Settings. *Remedial and Special Education*, 26(4), 226-235.
- Leafstedt, J. M., Richards, C. R., & Gerber, M. M. (2004). Effectiveness of Explicit Phonological-Awareness Instruction for At-Risk English Learners. *Learning Disabilities Research & Practice*, 19(4), 252-261.
- Lee, J. H. (2012). Experimental methodology in English teaching and learning: Method features, validity issues, and embedded experimental design. *English Teaching*, 11(2), 25-43.
- Lenhard, W., Baier, H., Endlich, D., Schneider, W., & Hoffmann, J. (2011). Rethinking strategy instruction: direct reading strategy instruction versus computer-based guided practice. *Journal of Research in Reading*, 00(00), 1-18.
- Liberman, I. Y. (1971). Basic research in speech and lateralization of language: Some implications for reading disability. *Bulletin of the Orton Society*, 21(1), 71-87.
- Liberman, I. Y. (1973). Segmentation of the spoken word and reading acquisition. *Bulletin of the Orton Society*, 23(1), 65-76.
- Liberman, I. Y., Shankweiler, D., Fischer, F. W., & Carter, B. (1974). Explicit syllable and phoneme segmentation in the young child. *Journal of Experimental Child Psychology*, 18(2), 201-212.
- Linan-Thompson, S., & Vaughn, S. (2007). *Research-based methods of reading instruction for English language learners, Grades K-4*. ASCD. Alexandria, VA.
- Littleton, K., Wood, C., & Chera, P. (2006). Interactions with talking books: Phonological awareness affects boys' use of talking books. *Journal of Computer Assisted Learning*, 22(5), 382-390.
- Lonigan, C., Schatschneider, C., & Westberg, L. (2008). Results of the national early literacy panel research synthesis: Identification of children's skills and abilities linked to later outcomes in reading, writing, and spelling. In *Developing early literacy: Report of the National Early Literacy Panel* (pp. 55-106). Washington, DC: National Institute for Literacy.
- Lundberg, I., Olofsson, A., & Wall, S. (1980). Reading and spelling skills in the first school year predicted from phonemic awareness skills in kindergarten. *The Scandinavian Journal of Psychology*, 21(1), 159-173.
- Lundberg, I., Frost, J., & Petersen, O. P. (1988). Effects of an extensive program for stimulating phonological awareness in preschool children. *Reading Research Quarterly*, 23(3), 263-284.

- Manning, M. (2005). Phonemic awareness: As kids learn how to read and write, their phonemic awareness will gradually develop. *Teaching K-8*, 36(3), 68-69.
- Manyak, P. C. (2008). Phonemes in use: multiple activities for a critical process. *The Reading Teacher*, 61(8), 659-662.
- Map of Jordan (2016) Department of Foreign Affairs and Trade, Australian Government. Retrieved April 30, 2016 from <https://smartraveller.gov.au/countries/jordan#modal-country>
- Mason, J. (1980). When do children begin to read: An exploration of four year old children's letter and word reading competencies. *Reading Research Quarterly*, 15, 203-227.
- Masonheimer, P. E., Drum, P. A., & Ehri, L. C. (1984). Does environmental print identification lead children into word reading? *Journal of Reading Behavior*, 16(4), 257-271.
- Masoura, E. V., & Gathercole, S. E. (1999). Phonological short-term memory and foreign language learning. *International Journal of Psychology*, 34(5/6), 383-388.
- Mather, N., Bos, C., & Babur, N. (2001). Perceptions and knowledge of preservice and inservice teachers about early literacy instruction. *Journal of learning disabilities*, 34(5), 472-482.
- Mathes, P. G., & Torgesen, J. K. (1998). All children can learn to read: Critical care for students with special needs. *Peabody Journal of Education*, 73(3&4), 317-340.
- Mathews-Aydinli, J., & Elaziz, F. (2010). Turkish students' and teachers' attitudes toward the use of interactive whiteboards in EFL classrooms. *Computer Assisted Language Learning*, 23(3), 235-252.
- Mayer, R. E. (1997). Multimedia learning: Are we asking the right questions? *Educational Psychologist*, 32(1), 1-19.
- Mayer, R. E. (2003). The promise of multimedia learning: Using the same instructional design methods across different media. *Learning and Instruction*, 13(2), 125-139.
- McCarthy, P. A. (2008). Using sound boxes systematically to develop phonemic awareness. *The Reading Teacher*, 62(4), 346-349.
- McKay, S. L. (2006). *Researching second language classrooms*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- McInnis, A. (2008) *Phonemic awareness and sight word reading in toddlers*. (Doctoral dissertation, Louisiana State University, U.S.A).

- McIntyre-Brown, C. (2011). Understanding the next wave of technology innovation in education: Futuresource Consulting Ltd. UK. Retrieved February 6, 2015 from [https://classtechnology.files.wordpress.com/2011/02/2011-01\\_futuresource-uk\\_understandingnext\\_wavetechnology.pdf](https://classtechnology.files.wordpress.com/2011/02/2011-01_futuresource-uk_understandingnext_wavetechnology.pdf)
- McTigue, E. M. (2009). Does multimedia learning theory extend to middle school students? *Contemporary Educational Psychology*, 34(2), 143-153.
- Miller, E. M., Lederberg, A. R., & Easterbrooks, S. R. (2013). Phonological awareness: Explicit instruction for young deaf and hard-of-hearing children. *Journal of Deaf Studies and Deaf Education*, 18(2), 206-227.
- Ministry of Education (MOE). (2004). The development of education: National report of the Hashemite Kingdom of Jordan. 47th Session of the International Conference on Education. Geneva, Switzerland. Retrieved April 29, 2016 from: <http://www.ibe.unesco.org/International/ICE47/English/Natreps/reports/jordan.pdf>
- Ministry of Education. (2010). Educational system. (Online) Retrieved April 6, 2014 from <http://www.moe.gov.jo>.
- Mizza, D. (2014). The First Language (L1) or Mother Tongue Model Vs. The Second Language (L2) Model of Literacy Instruction. *Journal of Education and Human Development*, 3(3), 101-109.
- Moats, L. C. (1999). Teaching reading is rocket science: What expert teachers of reading should know and be able to do. Washington, DC: American Federation of Teachers. Retrieved April 20, 2015 from <http://files.eric.ed.gov/fulltext/ED445323.pdf>
- Moats, L. C. (2000). *Whole language lives on: The illusion of "balanced" reading instruction*. Washington, DC. Thomas, B. Fordham Foundation
- Moats, L. C. (2001). When older students can't read. *Educational Leadership*, 58(6), 36-40. Retrieved April 20, 2015 from <http://www.ldonline.org/article/8025/>
- Montgomery, J. (2008). What exactly is visual phonics? *Communication Disorders Quarterly*, 29(3), 177-182.
- Morris, D. (1993). The relationship between children's concept of word in text and phoneme awareness in learning to read: A longitudinal study. *Research in the Teaching of English*, 27(2), 133-154.
- Morris, D., Bloodgood, J. W., Lomax, R. G., & Perney, J. (2003). Developmental steps in learning to read: A longitudinal study in kindergarten and first grade. *Reading Research Quarterly*, 38(3), 302-328.

- Nachimuthu K., Vijayakumari G. (2012). Perceptions on Multimedia technology by College of Education Teachers. *Journal of Education and Learning* 6 (3), 167-176.
- NAEYC. (2012). Technology and interactive media as tools in early childhood programs serving children from birth through age 8. Washington, DC: NAEYC. Retrieved March 20, 2015 from [http://www.naeyc.org/files/naeyc/PS\\_technology\\_WEB.pdf](http://www.naeyc.org/files/naeyc/PS_technology_WEB.pdf)
- Nag S., Chiat S., Torgerson C., Snowling M. J. (2014) Literacy, foundation learning and assessment in developing countries: Final Report. Education rigorous literature review. Department for International Development.
- National Reading Panel. (2000). Report of the National Reading Panel: Teaching children to read. An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. Retrieved May 20, 2015 from <https://www.nichd.nih.gov/publications/pubs/nrp/pages/smallbook.aspx>
- Nation, K. & Hulme, C. (1997). Phonemic segmentation, not onset-rime segmentation, predicts early reading and spelling skills. *Reading Research Quarterly*, 32(2), 154-167.
- Neuman, S. B. (1996). Children engaging in storybook reading: The influence of access to print resources, opportunity, and parental interaction. *Early Childhood Research Quarterly*, 11(4), 495-513.
- Northcote, M., Mildenhall, P., Marshall, L. & Swan, P. (2010). Interactive whiteboards: Interactive or just whiteboards? *Australasian Journal of Educational Technology*, 26(4), 494-510.
- Nutbrown, C. (1997). *Recognising early literacy development: Assessing children's achievements*. Sage Publications. London
- Oakhill, J. V., Cain, K., & Bryant, P. E. (2003). The dissociation of word reading and text comprehension: Evidence from component skills. *Language and Cognitive Processes*, 18(4), 443-468.
- Oney, B., & Durgunoğlu, A. Y. (1997). Beginning to read in Turkish: A phonologically transparent orthography. *Applied psycholinguistics*, 18(01), 1-15.
- Ouellette, G., & Senechal, M. (2008). Pathways to literacy: A study of invented spelling and the role in learning to read. *Child Development*, 79(4), 899-913.
- OZ, H. (2014). Teachers' and Students' Perceptions of Interactive Whiteboards in the English as a Foreign Language Classroom. *TOJET: The Turkish Online Journal of Educational Technology*, 13(3), 156-177.

- Paris, S. G. (2005). Reinterpreting the development of reading skills. *Reading Research Quarterly*, 40(2), 184-202.
- Paris, A. H., & Paris, S. G. (2003). Assessing narrative comprehension in young children. *Reading Research Quarterly*, 38(1), 36-76.
- Parr, J. M., & Ward, L. (2011). The teacher's laptop as a hub for learning in the classroom. *Journal of Research on Technology in Education*, 44(1), 53-73.
- Perfetti, C. (2007). Reading ability: Lexical quality to comprehension. *Scientific Studies of Reading*, 11(4), 357-383.
- Perfetti, C. A., & Marron, M. A. (1998). Learning to read: Literacy acquisition by children and adults. In D.A. Wagner (Ed.). *Advances in adult literacy research and development*. Hampton Press.
- Pikulski, J. J., & Chard, D. J. (2005). Fluency: Bridge between decoding and comprehension. *The Reading Teacher*, 58(6), 510-519.
- Powers, S. & Price-Johnson, C. (2006). Evaluation of the Waterford Early Reading Program in Kindergarten 2005-2006. Tucson, AZ: Creative Research Associates. Retrieved from: <http://www.eric.ed.gov/PDFS/ED501576.pdf>
- Rangel, E. S. (2013) *Implementing and evaluating a professional development program on phonemic awareness instruction for teachers of k-2 English language learners* (Doctoral dissertation, University of Pittsburgh, U S A). Retrieved October 18, 2015 from [http://d-scholarship.pitt.edu/18755/1/Rangel\\_Dissertation\\_May2013.pdf](http://d-scholarship.pitt.edu/18755/1/Rangel_Dissertation_May2013.pdf)
- Rapp, D. N., & van den Broek, P. (2005). Dynamic text comprehension: An integrative view of reading. *Current Directions in Psychological Science*, 14(5), 276-279.
- Rasinski, T. V. (1990). Effects of repeated reading and listening while reading on reading fluency. *Journal of Educational Research*, 83(3), 147-150.
- Rasinski, T. V., & Padak, N. D. (1998). How elementary students referred for compensatory reading instruction perform on school-based measures of word recognition, fluency, and comprehension. *Reading Psychology: An International Quarterly*, 19(2), 185-216.
- Rasinski, T. V., & Hoffman, J. V. (2003). Theory and research into practice: Oral reading in the school literacy curriculum. *Reading Research Quarterly*, 38(4), 510-522.
- Rasinski, T., Homan, S., & Biggs, M. (2009). Teaching reading fluency to struggling readers: Method, materials, and evidence. *Reading and Writing Quarterly*, 25(2-3), 192-204.



- Rayner, K., Foorman, B. R., Perfetti, C. A., Pesetsky, D., & Seidenberg, M. S. (2001). How psychological science informs the teaching of reading. *Psychological Science in the Public Interest*, 2(2), 31-74.
- Read, C., Yun-Fei, Z., Hong-Yin, N., & Bao-Qing, D. (1986). The ability to manipulate speech sounds depends on knowing alphabetic writing. *Cognition*, 24(1-2), 31-44.
- Reading, S. & van Deuren, D. (2007). Phonemic awareness: When and how much to teach? *Reading Research and Instruction*, 46(3), 267-285.
- Reedy, G. B. (2008). Powerpoint, interactive whiteboards, and the visual culture of technology in schools. *Technology, Pedagogy and Education*, 17(2), 143-162.
- Rocco, T. S., & Plakhotnik, M. S. (2009). Literature reviews, conceptual frameworks, and theoretical frameworks: Terms, functions, and distinctions. *Human Resource Development Review*, 8(1), 120-130.
- Rose, J. (2009). *Men among boys: The characteristics, qualifications and academic impact of male kindergarten teachers in America* (Doctoral dissertation, University of North Carolina at Chapel Hill).
- Roth, F. P., Speece, D. L., & Cooper, D. H. (2002). A longitudinal analysis of the connection between oral language and early reading. *Journal of Educational Research*, 95(5), 259-272.
- Runge, T. J. & Watkins, M. W. (2006). The structure of phonological awareness among kindergarten students. *School Psychology Review*, 35(3), 370-386.
- Ryan, A. & Meara, P. (1991). The case of the invisible vowels: Arabic speakers reading English words. *Reading in a foreign language*, 7(2), 531-540.
- Samuel, R. J. & Zaitun, A. B. (2007). Do Teachers have Adequate ICT Resources and the Right ICT Skills in Integrating ICT Tools in the Teaching and Learning of English Language in Malaysian Schools? *The Electronic Journal of Information Systems in Developing Countries*, 29(2), 1-15
- Savage, R., & Carless, S. (2005). Phoneme manipulation not onset-rime manipulation ability is a unique predictor of early reading. *Journal of Child Psychology and Psychiatry*, 46(12), 1297-1308.
- Schuele, C. M., & Boudreau, D. (2008). Phonological awareness intervention: Beyond the basics. *Language, Speech, and Hearing Services in Schools*, 39(1), 3-20.
- Sekaran, U. (2003). *Research methods for business: A skill building approach* (4<sup>th</sup> ed.). NY. John Wiley & Sons.



- Sekel, P. P. (2003) *The phonemic awareness knowledge and skills of first-grade teachers: A Sound investment?* (Doctoral dissertation, The University of Texas, U S A).
- Senechal, M. & LeFevre, J. (2002). Parental involvement in the development of children's reading skills: A five year longitudinal study. *Child Development*, 73(2), 445–460.
- Shankweiler, D. (1999). Words to meanings. *Scientific Studies of Reading*, 3(2), 113-127.
- Shankweiler, D. & Fowler, A. E. (2004). Questions people ask about the role of phonological processes in learning to read. *Reading and Writing: An Interdisciplinary Journal* 17(5), 483–515.
- Shankweiler, D., Lundquist, E., Katz, L., Stuebing, K. K., Fletcher, J. M., Brady, S., ... Shaywitz, B. A. (1999). Comprehension and decoding: Patterns of association in children with reading difficulties. *Scientific Studies of Reading*, 3(1), 69-94.
- Share, D. L. & Gur, T. (1999). How reading begins: A study of preschoolers' print identification strategies. *Cognition and Instruction*, 17(2), 177-213.
- Shaughnessy, A., Sanger, D., Matteucci, C., & Ritzman, M. (2004). Early childhood language and literacy: Survey explores kindergarten teacher's perceptions. *The American Speech-Language-Hearing Association (ASHA) Leader*, 9(2), 2-18.
- Shenton, A. & Pagett, L. (2007). From 'bored' to screen: the use of the interactive whiteboard for literacy in six primary classrooms in England. *Literacy*, 41(3), 129-136.
- Siebenberg, M. S. (1992). *Beyond orthographic depth in reading: Equitable division of labor*. In R. Frost & L. Katz (Eds.), *Orthography, phonology, morphology and meaning*. Amsterdam: North-Holland.
- Singh, T. & Mohammed, A. (2012). Secondary students' perspectives on the use of the Interactive. Whiteboard for teaching and learning of Science in Malaysia. *Journal of education and Practice*, 3(7), 9-15.
- Slavin, R. E, Lake, C., Chambers, B., Cheung, A., & Davis, S. (2009) Effective reading programs for the elementary grades: A best-evidence synthesis. *Review of Educational Research*, 79(4), 1391-1466.
- Smith, F., Hardman, F., & Higgins, S. (2006). The impact of interactive whiteboards on teacher–pupil interaction in the National Literacy and Numeracy Strategies. *British educational research journal*, 32(3), 443-457.

- Smith, H. J., Higgins, S., Wall, K., & Miller, J. (2005). Interactive whiteboards: Boon or bandwagon? A critical review of the literature. *Journal of Computer Assisted Learning*, 21(2), 91-101.
- Smith, S., Simmons, D., & Kame'enui, E. (1998). Phonological awareness: Instructional and curricular basics and implications. In D. C. Simmons & E. J. Kame'enui (Eds.), *What reading research tells us about children with diverse learning needs: Bases and basics* (pp. 129-140). Mahwah, NJ: Lawrence Erlbaum.
- Snow, C. E. (1991). The theoretical basis for relationships between language and literacy in development. *Journal of Research in Childhood Education*, 6(1), 5-10.
- Snow, C. E., Burns, M. S., & Griffin, P (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Solvie, P. A. (2004). The digital whiteboard: A tool in early literacy instruction. *The Reading Teacher*, 57(5), 484-487.
- Stahl, S. A., & Fairbanks, M. M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. *Review of Educational Research*, 56(1), 72-110.
- Stahl, S. A., & Kuhn, M. R. (2002). Making it sound like language: Developing fluency. *The Reading Teacher*, 55(6), 582-584.
- Stainthorp, R. & Hughes, D. (2004). What happens to precocious readers' performance by the age eleven? *Journal of Research in Reading*, 27(4), 357-372.
- Stanovich, K. E. (1986). Matthew effects in reading: some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21(4), 360-407.
- Stanovich, K. E., Nathan, R. G., & Zolman, J. E. (1988). The developmental lag hypothesis in reading: Longitudinal and matched reading-level comparisons. *Child Development*, 59(1), 71-86.
- Stuart, M. (1995). Prediction and qualitative assessment of five- and six-year old children's reading: A longitudinal study. *British Journal of Educational Psychology*, 65(3), 287-296.
- Stuart, M., & Coltheart, M. (1988). Does reading develop in a sequence of stages? *Cognition*, 30(2), 139-181.
- Stuart, M., Stainthorp, R., & Snowling, M. (2008). Literacy as a complex activity: Deconstructing the simple view of reading. *Literacy*, 42(2), 59-66.

- Suggate, S. P., Schaughency, E. A., & Reese, E. (2013). Children learning to read later catch up to children reading earlier. *Early Childhood Research Quarterly*, 28(1), 33–48.
- Sylva, K., & Hurry, J. (1996). Early intervention in children with reading difficulties: An evaluation of Reading Recovery and a phonological training. *Literacy, Teaching and Learning*, 2(2), 49-68.
- Tahaine, Y & Daana, H. (2013). Jordanian undergraduates' motivations and attitudes towards learning English in EFL context. *International Review of Social Sciences and Humanities*, 4(2), 159-180.
- Tajuddin, E. D., & Shah, P. B. (2015). Teachers; knowledge of phonemic awareness and its instruction in ESL learning. *International Journal of Technical Research and Applications*, Special issue 22, 72-79.
- Tellier, A., & Roehr-Brackin, K. (2013). The development of language learning aptitude and metalinguistic awareness in primary-school children: A classroom study. *Essex Research Reports in Linguistics*, 62(1), 1-28.
- Thabane, L., Ma, J., Chu, R., Cheng, J., Ismaila, A., Rios, L. P., ... & Goldsmith, C. H. (2010). A tutorial on pilot studies: the what, why and how. *BMC medical research methodology*, 10(1), 1-10.
- Thajakan, N. & Sucaromana, U. (2014). Enhancing English phonemic awareness of Thai grade one students through multimedia computer-assisted language learning. *Theory and Practice in Language Studies*, 4(11), 2294-2300.
- The National Report on Adult Education in Jordan (NRAEJ). (2006). *The Sixth International Conference on Adult Education*, Retrieved March 19, 2014 from [http://www.unesco.org/fileadmin/MULTIMEDIA/INSTITUTES/UII/conf/n tea/pdf/National\\_Reports/Arab States/Jordan.pdf](http://www.unesco.org/fileadmin/MULTIMEDIA/INSTITUTES/UII/conf/n tea/pdf/National_Reports/Arab States/Jordan.pdf).
- Therrien, W. J. (2004). Fluency and comprehension gains as a result of repeated reading a meta-analysis. *Remedial and special education*, 25(4), 252-261.
- Therrien, W. J., & Kubina, R. M. (2006). Developing reading fluency with repeated reading. *Intervention in school and clinic*, 41(3), 156-160.
- Torgesen, J. K. (2002). The prevention of reading difficulties. *Journal of School Psychology*, 40(1), 7-26.
- Torgesen, J. K. (2004). Avoiding the devastating downward spiral: The evidence that early intervention prevents reading failure. *American Educator*, 28(3), 6-19. Retrieved October 10, 2014 from <http://www.aft.org/periodical/american-educator/fall-2004/avoiding-devastating-downward-spiral>

- Torgesen, J. K., Alexander, A. W., Wagner, R. K., Rashotte, C. A., Voeller, K. K., & Conway, T. (2001). Intensive remedial instruction for children with severe reading disabilities: Immediate and long-term outcomes from two instructional approaches. *Journal of Learning Disabilities*, 34(1), 33-58, 78.
- Torgesen, J. K., & Hudson, R. F. (2006). Reading fluency: critical issues for struggling readers. In S.J. Samuels and A. Farstrup (Eds.). *Reading fluency: The forgotten dimension of reading success*. Newark, DE: International Reading Association.
- Treiman, R., & Bourassa, D. C. (2000). The development of spelling skill. *Topics in language disorders*, 20(3), 1-18.
- Troia, G. A., Roth, F. P., & Yeni-Komshian, G. H. (1996). Word frequency and age effects in normally developing children's phonological processing. *Journal of Speech, Language, and Hearing Research*, 39(5), 1099-1108.
- Tunmer, W. E., & Nesdale, A. R. (1985). Phonemic segmentation skill and beginning reading. *Journal of educational Psychology*, 77(4), 417-427.
- Turel, Y. K., & Johnson, T. E. (2012). Teachers' belief and use of interactive whiteboards for teaching and learning. *Educational Technology & Society*, 15(1), 381-394.
- Turley, S., Powers, K., & Nakai, K. (2006). Beginning teachers' confidence before and after induction. *Action in Teacher Education*, 28(1), 27-39.
- Uhry, J. K., & Shepherd, M. J. (1993). Segmentation/spelling instruction as part of a first-grade reading program: Effects on several measures of reading. *Reading Research Quarterly*, 28(3), 219-233.
- van Bysterveldt, A. K. (2009). *Speech, phonological awareness and literacy in New Zealand children with down syndrome* (Doctoral dissertation, University of Canterbury, New Zealand)
- van den Broek, P., Kendeou, P., Kremer, K., Lynch, J. S., Butler, J., White, M. J., & Lorch, E. P. (2005). Assessment of comprehension abilities in young children. In S. Stahl & S. Paris (eds.), *Children's Reading Comprehension and Assessment*, (pp.107-130). Mahwah, NJ: Erlbaum.
- Vaughn, S., Hughes, M. T., Moody, S. W., & Elbaum, B. (2001). Instructional Grouping for Reading for Students with LD Implications for Practice. *Intervention in School and Clinic*, 36(3), 131-137.
- Vaughn, S., & Linan-Thompson, S. (2004). *Research-based methods of reading instruction: Grades K-3*. Alexandria, VA: Association for Supervision and Curriculum Development.

- Vellutino, F. R., & Scanlon, D. M. (1987). Phonological coding, phonological awareness, and reading ability: evidence from a longitudinal and experimental study. *Merrill-Palmer Quarterly*, 33(3), 321-363.
- Vellutino, F. R., & Scanlon, D. M. (1998, April) *Research in the Study of Reading Disability: What Have We Learned in the Past Four Decades?* Paper presented at the annual conference of the American Educational Research Association Meeting, San Diego, CA. Retrieved May 20, 2014 from <http://files.eric.ed.gov/fulltext/ED419347.pdf>
- Villaume, S. K., & Brabham, E. G. (2003). Phonics instruction: Beyond the debate. *The Reading Teacher*, 56(5), 478-482.
- Wang, A. H. (2008). A pre-kindergarten achievement gap? Scope and implications. *Online Submission*, 5(9), 23-31.
- Wagner, R. K., & Torgesen, J. K. (1987). The nature of phonological processing and its causal role in the acquisition of reading skills. *Psychological Bulletin*, 101(2), 192-212.
- Wagner, R. K., Torgesen, J. K., Rashotte, C. A., Hecht, S. A., Barker, T. A., Burgess, S. R., ... Garon, T. (1997). Changing relations between phonological processing abilities and word-level reading as children develop from beginning to skilled readers: A 5-year longitudinal study. *Developmental Psychology*, 33(3), 468-479.
- Wall, K., Higgins, S., & Smith, H. (2005). The visual helps me understand the complicated things: Pupil views of teaching and learning with interactive whiteboards. *British Journal of Educational Technology*, 36(5), 851-867.
- Walliman, N. (2011). *Research methods: The basics*. NY. Routledge.
- Walsh, R. (2009). Word games: the importance of defining phonemic awareness for professional discourse. *Australian Journal of Language and Literacy*, 32(3) 211-225.
- Warrington, S. D. (2006). Building automaticity of word recognition for less proficient readers. *The Reading Matrix*, 6(1), 52-65.
- Westwood, P. (2001). *Reading and Learning Difficulties: approaches to teaching and assessment*. Victoria, Australia, ACER Press.
- Williams, J. S. (2012). *Teachers' perceptions and pedagogical content knowledge of phonological awareness, phonics, and dyslexia* (Doctoral dissertation.) Walden University, U. S. A.
- Wilson, J. & Colmar, S. (2008). Re-evaluating the significance of phonemic awareness and phonics in literacy teaching: The shared role of school counsellors and teachers. *Australian Journal of Guidance and Counselling*, 18 (2), 89-105.

- Wolter, I., Braun, E., & Hannover, B. (2015). Reading is for girls!? The negative impact of preschool teachers' traditional gender role attitudes on boys' reading related motivation and skills. *Frontiers in psychology*, 6, 1-11.
- Woods, C. S. (2003). Phonemic awareness: A crucial bridge to reading. *Montessori Life*, 15(2), 37-39.
- Wood, C. L., Mustian, A. L., & Lo, Y. Y. (2013). Effects of supplemental computer-assisted reciprocal peer tutoring on kindergarteners' phoneme segmentation fluency. *Education and Treatment of Children*, 36(1), 33-48.
- Wood, R. & Ashfield, J. (2008). The use of the interactive whiteboard for creative teaching and learning in literacy and mathematics: A case study. *British Journal of Educational Technology*, 39(1), 84-96.
- Wright, C., Conlon, E. G., Wright, M., & Dyck, M. H. (2011). An open, pilot study of the understanding words reading intervention program. *SAGE Open*, 1-11.
- Xu, H. L., & Moloney, R. (2011). It makes the whole learning experience better: Student feedback on the use of the interactive whiteboard in learning Chinese at tertiary level. *Asian Social Science*, 7(11), 20-34.
- Yaworski, J. (2000). Using computer-based technology to support the college reading classroom. *Journal of College Reading and Learning*, 31(1), 19-41.
- Yeh, S. S. (2003). An evaluation of two approaches for teaching phonemic awareness to children in head start. *Early Childhood Research Quarterly*, 18(4), 513-529.
- Yeh, S. S., & Connell, D. B. (2008). Effects of rhyming, vocabulary, and phonemic awareness instruction on phonemic awareness. *Journal of Research in Reading*, 31(2), 243-256.
- Yeung, S. S., Siegel, L. S., & Chan, C. K. (2013) Effects of a phonological awareness program on English reading and spelling among Hong Kong Chinese ESL children. *Reading and Writing*, 26(5), 681-704.
- Yilmaz-Soylu, M. & Akkoyunlu, B. (2009). The effect of learning styles on achievement in different learning environments. *The Turkish Online Journal of Educational Technology*, 8(4), 43-50. Retrieved April 2, 2014 from <http://www.tojet.net/articles/v8i4/844.pdf>
- Yopp, H. K. (1988). The validity and reliability of phonemic awareness tests. *Reading Research Quarterly*, 23(2), 159-177.
- Yopp, H. K. (1992). Developing phonemic awareness in young children. *The Reading Teacher*, 45(9), 696-703.

- Yopp, H. K. (1995). A test for assessing phonemic awareness in young children. *The Reading Teacher*, 49(1), 20–30.
- Yopp, H. K. & Stapleton, L. (2008). Conciencia Fonemica en Espanol (Phonemic awareness in Spanish). *The Reading Teacher*, 61(5), 374-82.
- Yopp, H. K. & Yopp, R. H. (2000). Supporting phonemic awareness development in the classroom. *The Reading Teacher*, 54(2), 130-143.
- Yopp, H. K. & Yopp, R. H. (2009). Phonological awareness is child's play! *YC Young Children*, 64(1), 12-21.
- Zhang, L. J., & Anual, S. B. (2008). The role of vocabulary in reading Comprehension: The case of secondary school students learning English in Singapore. *RELC Journal*, 39(1), 52-77.
- Ziegler, J. C., & Goswami, U. (2005) Reading acquisition, developmental dyslexia, and skilled reading across languages: A psycholinguistic grain size theory. *Psychological Bulletin*, 131(1), 3–29.
- Zughoul, M. R. (2003). Globalization and EFL/ESL pedagogy in the Arab World. *Journal of Language and Learning*, 1(2), 106-146.



UUM  
Universiti Utara Malaysia

## **APPENDIX A**

### **LETTER TO THE SCHOOL SUPERINTENDENT**

Mohammad Husam. A. Alhumsi

College of Arts and Sciences  
Universiti Utara Malaysia  
06010 UUM Sintok  
Kedah-MALAYSIA

February 2, 2015

Dear Superintendent,

I am a full-time Ph.D. candidate in the School of Education and Modern Languages Department at Universiti Utara Malaysia. I have completed my coursework and am continuing my dissertation research for a doctorate in applied linguistics. My major field of study is in working with students who are beginning readers.

I am requesting permission to conduct research for my study. The research involves students who are in the first grade. This investigation will commence in February 2015, second semester, at Jarash Primary School in the city of Jarash. This study will run for 4 weeks and will involve two intact first grade groups. I have already received approval from the school principal and the participating teacher.

I welcome the opportunity to discuss my research with you and answer any questions that you may have.

Respectfully yours,

Mohammad Husam. A. Alhumsi

[Husam\\_1001@yahoo.com](mailto:Husam_1001@yahoo.com)



## **APPENDIX B**

### **LETTER TO THE SCHOOL PRINCIPAL**

Mohammad Husam. A. Alhumsi

College of Arts and Sciences  
Universiti Utara Malaysia  
06010 UUM Sintok  
Kedah-MALAYSIA

February 2, 2015

Dear Principal,

I am a full-time Ph.D. candidate in the School of Education and Modern Languages Department at Universiti Utara Malaysia. I have completed my coursework and am continuing my dissertation research for a doctorate in applied linguistics. My major field of study is in working with students who are beginning readers.

I am requesting permission to conduct research for my study. The research involves students who are in the first grade. This investigation will commence in February 2015 second semester at Jarash Primary School in the city of Jarash. This study will run for 4 weeks and will involve two intact first grade groups. I have already received approval from the participating teacher.

I welcome the opportunity to discuss my research with you and answer any questions that you may have.

Respectfully yours,

Mohammad Husam. A. Alhumsi

[Husam\\_1001@yahoo.com](mailto:Husam_1001@yahoo.com)

## **APPENDIX C**

### **LETTER TO THE SCHOOL PARTICIPATING TEACHER**

Mohammad Husam. A. Alhumsi

College of Arts and Sciences  
Universiti Utara Malaysia  
06010 UUM Sintok  
Kedah-MALAYSIA

February 2, 2015

Dear Teacher,

I am a full-time Ph.D. candidate in the School of Education and Modern Languages Department at Universiti Utara Malaysia. I have completed my coursework and am continuing my dissertation research for a doctorate in applied linguistics. My major field of study is in working with students who are beginning readers.

I am requesting permission to conduct research for my study. This investigation will commence in February 2015, second semester, at Jarash Primary School in the city of Jarash. This study will run for 4 weeks and will involve two intact first grade groups. I have already received approval from your principal.

I welcome the opportunity to discuss my research with you and answer any questions that you may have.

Respectfully yours,

Mohammad Husam. A. Alhumsi

[Husam\\_1001@yahoo.com](mailto:Husam_1001@yahoo.com)

## **APPENDIX D**

### **CONSENT FORM – PARENTS**

Mohammad Husam. A. Alhumsi

College of Arts and Sciences  
Universiti Utara Malaysia  
06010 UUM Sintok  
Kedah-MALAYSIA

February 12, 2015

Dear Parents,

I am a full-time Ph.D. candidate in the School of Education and Modern Languages Department at Universiti Utara Malaysia. I have completed my coursework and am continuing my dissertation research for a doctorate in applied linguistics. My major field of study is in working with students who are beginning readers.

I am requesting permission to conduct research for my study. This investigation will commence in February 2015, second semester, at Jarash Primary School in the city of Jarash. This study will run for 4 weeks and will involve two intact first grade groups. I have already received approval from the superintendent, the school principal and a participating teacher.

Your child's class will be involved in an educational experiment over a four-week period. During this time, there will be a pretest and posttest of beginning readers' word recognition. In an effort to protect your child's confidentiality and anonymity, groups will be identified as either Group A or Group B.

I welcome the opportunity to discuss my research with you and answer any questions that you may have.

Respectfully yours,  
Mohammad Husam. A. Alhumsi

[Husam\\_1001@yahoo.com](mailto:Husam_1001@yahoo.com)

**APPENDIX E**  
**LETTER OF CONSENT – STUDENTS (ARABIC SCRIPT)**

Group#: \_\_\_\_\_ Date: February 8, 2015

I \_\_\_\_\_ agree to participate in this dissertation project.

Student Name

الفيق لفي المشارك في مشروع اطروحة الدكتوراة



**UUM**  
Universiti Utara Malaysia

## **APPENDIX F**

### **LETTER TO THE REFEREES**

Dear Sir,

I am a full-time Ph.D. candidate in the School of Education and Modern Languages Department at Universiti Utara Malaysia. I am conducting a research entitled **THE EFFECT OF PHONEMIC SEGMENTATION SKILL ON JORDANIAN EFL BEGINNING READERS' WORD RECOGNITION**. I would be more grateful if you could provide me with your valuable suggestions or modifications you think they could be appropriate regarding the questionnaire and the lesson plans in order to achieve the current goal of the study. With regard to the questionnaire, it should be noted that the answer alternatives paragraphs are (Strongly Disagree, Disagree /Undecided/Agree / Strongly Agree). Finally, lesson plans involve 12 sessions for experimental group and the same number of sessions is for control group.

Your kind cooperation and assistance are appreciated

Thank you

Best Regards

Mohammad Husam A. Alhumsy

---

**Comments:**

## APPENDIX G

### ARBITRATION COMMISSION

No.	Name	Specialization	University / Directorate of Education
1.	Abdulla Sawalha	Applied Linguistics	Jerash Private University musa2000ca@yahoo.co.uk
2.	Mohammad Bataineh	Applied Linguistics	Jerash Private University
3.	Salem Shirah	Applied Linguistics	Jerash Private University
4.	Manar Almomani	Linguistics	Irbid National University Manar.almomani@gmail.com
5.	Basma Momani	Supervisor of English Language	Jerash Directorate of Education <a href="mailto:Md.Jerash@moe.gov.jo">Md.Jerash@moe.gov.jo</a>
6.	Asma Almomani	Supervisor of English Language	<a href="mailto:Md.Jerash@moe.gov.jo">Md.Jerash@moe.gov.jo</a>

## APPENDIX H

### RECOMMENDATIONS OF ARBITRATION COMMISSION

Appendix H shows the recommendations of the judges in relation to the questionnaire and lesson plan before and after reviewing.

Research Instrument	Recommendations and suggestions
1-Questionnaire	Add a definition to interactive whiteboard in the cover page.
	Strongly Disagree should be changed into Strongly Agree as a reference to No.5.
	Add item 22-25 in the beginning in relation to Age.
	–A ticking one” changes to a tick in one.
2- Lesson Plan	Change experimental group to control group with respect to the introduction of the lesson No. 9 in the control group session.
	Change first session to second session in the introduction of the lesson No.9 in the control group session.

# APPENDIX I

## WORD TEST SCORE SHEET

WORD READING SCORE SHEET Use any one list of words		
Name: _____		Date: _____
Age: _____	Date of birth: _____	TEST SCORE: <div style="border: 1px solid black; padding: 2px 10px; display: inline-block;">/15</div>
Recorder: _____		STANINE GROUP: <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div>
Record incorrect responses beside word		
LIST A	LIST B	LIST C
I mother are here me shouted am with car children help not too meet away	and to will look he up like in where Mr going big go let on	father come for a you at school went get we they ready this boys please

COMMENT:



## **APPENDIX J**

### **QUESTIONNAIRE BEFORE REVIEWING**





APRIL 2015

**Investigating the significant use of phonemic segmentation skill and the interactive whiteboard as an instructional tool in improving Jordanian EFL beginning readers' word recognition**

**Dear EFL beginning reader's teacher,**

You are invited to participate in this research about the effect of the use of phonemic segmentation skill on Jordanian EFL beginning readers' word recognition through the use of the interactive whiteboard. You have been selected as you are a teacher of EFL beginning readers.

**The purpose of this research** is to examine the significant use of phonemic segmentation skill and the interactive whiteboard as an instructional tool in improving EFL beginning readers' word recognition. Three terms should be clarified in this survey. First, *phonemic segmentation skill* is the ability to divide words into its individual sounds. Second, *Beginning readers* is a term used to refer to students who enroll in the first grade to which this research is involved. Finally, *word recognition* refers to the ability to recognize printed words.

Your contribution to this research is valuable and appreciated. There is no "right" or "wrong" answers to any of these items. Please note that your response will be private, anonymous and confidential. Individual respondents will not be identified in any data or reports and there will be no risk or discomfort if you agree to take part in this research and the returned questionnaire will be kept confidential. Once the research submitted and approved, all the questionnaires will be destroyed.

You may ask the researcher any question you are interested in. The researcher's name is Mohammad Husam Alhums. You may contact the researcher himself by phone: 0786904298 or via e-mail: [husam\\_1001@yahoo.com](mailto:husam_1001@yahoo.com). You can contact his advisor, Dr. Ahmad Affendi in the School of Education & Modern Languages at University Utara Malaysia by-email: [affendi@uum.edu.my](mailto:affendi@uum.edu.my), if you have any further concern and have the will to contact someone rather than the researcher.

Thank you for your assistance in completing this survey. Your prompt response is appreciated.

Best Regards,

Mohammad Husam Alhums

PhD Candidate, School of Education & Modern Languages, College of Arts and Sciences, University Utara Malaysia.

### First Grade Teacher Survey

Reading is a necessary skill that influences learning in the future. As a first grade teacher, you have an important role in affecting the beginning reading of a child. Thank you for helping our children enter the realm of literacy and become literate citizens. Kindly answer this questionnaire survey as accurately as possible. Once have completed, return it to the principal's office, please.

#### I. Demographic Information:

Name (Optional)					
Degree	<input type="checkbox"/> Bachelor	<input type="checkbox"/> Diploma	<input type="checkbox"/> Master	<input type="checkbox"/> PhD	<input type="checkbox"/> Other
Years of Experience	<input type="checkbox"/> Less than 5	<input type="checkbox"/> 5-10	<input type="checkbox"/> 11-15	<input type="checkbox"/> 16-20	<input type="checkbox"/> More than 20
Age	<input type="checkbox"/> 25-34	<input type="checkbox"/> 35-44	<input type="checkbox"/> 45-55	<input type="checkbox"/> over 55	
Gender	<input type="checkbox"/> Male	<input type="checkbox"/> Female			

#### II. Perceptions of the significant use of phonemic segmentation skill

In this section, please indicate your response to the following statements by putting a ticking one of the boxes or by circling the number which rates your level of agreement from 1 to 5. Number 1 means you strongly disagree and number 5 means you strongly agree.

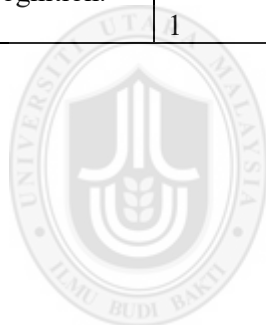
	Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Agree 5
1. Phonemic segmentation skill is essential in developing EFL beginning readers' word recognition in the first grade.	1	2	3	4	5
2. Daily phonemic segmentation instruction is useful for predicting future reading difficulties.	1	2	3	4	5
3. Phonemic segmentation instruction can be used to prevent future reading difficulties.	1	2	3	4	5
4. Difficulties in word recognition in grade one are often the result of the lack of phonemic segmentation instructions.	1	2	3	4	5
5. EFL beginning readers should informally and incidentally learn phonemic segmentation skill in the first grade.	1	2	3	4	5
6. EFL beginning readers who experience difficulties in word recognition would benefit from phonemic segmentation instructions.	1	2	3	4	5
7. Teaching phonemic segmentation skill should come first before phonemic blending or manipulation skills.	1	2	3	4	5
8. Difficulties in word recognition cannot be inhibited in grade one.	1	2	3	4	5

9. Explicit phonemic segmentation instruction can decrease or eliminate early word recognition difficulties.	1	2	3	4	5
10. Phonemic segmentation instruction does not help learners recognize the printed words.	1	2	3	4	5
11. Difficulties in word recognition ability cannot be identified until grade two or later grades.	1	2	3	4	5
12. Daily phonemic segmentation instruction help young learners recognize words in print.	1	2	3	4	5
13. Phonemic segmentation instruction in grade one has an impact on word recognition in the later grades.	1	2	3	4	5
14. Phonemic segmentation skills should be explicitly taught with formal lessons to improve students' word recognition.	1	2	3	4	5
15. Word recognition involves segmenting sounds to say words.	1	2	3	4	5
16. Phonemic segmentation skill is easier than phoneme blending skill in learning word recognition.	1	2	3	4	5

III. Perceptions of the significant use of the interactive whiteboard					
For the following section, please indicate the extent to which you agree with the following statements by putting a tick in one of the boxes or by circling the number which rates your level of agreement from 1 to 5.					
	Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Disagree 5
17. Using an interactive whiteboard enhances EFL beginning readers' motivation in word recognition.	1	2	3	4	5
18. Using a traditional white board enhances EFL beginning readers' motivation in word recognition.	1	2	3	4	5
19. Word recognition will be more fun if an interactive whiteboard is used.	1	2	3	4	5
20. Using an interactive whiteboard helps EFL beginning readers participate more in improving their word recognition.	1	2	3	4	5
21. Teachers may waste time when using an interactive whiteboard to improve EFL beginning readers' word recognition.	1	2	3	4	5
22. EFL beginning readers' word recognition should only be improved through an interactive white board instead of a traditional whiteboard.	1	2	3	4	5

23. Improving EFL beginning readers' word recognition requires teachers to do ongoing training when using an interactive whiteboard.	1	2	3	4	5
24. Improving EFL beginning readers' word recognition through using a traditional white board is easier than using an interactive whiteboard.	1	2	3	4	5
25. Using an interactive whiteboard reinforces EFL beginning readers' word recognition.	1	2	3	4	5
26. Using an interactive whiteboard may not suit the need of EFL beginning readers' word recognition.	1	2	3	4	5

THANK YOU



UUM  
Universiti Utara Malaysia

## **APPENDIX K**

### **Questionnaire after Reviewing**







APRIL 2015

**Investigating the significant use of phonemic segmentation skill and the interactive whiteboard as an instructional tool in improving Jordanian EFL beginning readers' word recognition**

**Dear EFL beginning reader's teacher,**

You are invited to participate in this research about the effect of the use of phonemic segmentation skill on Jordanian EFL beginning readers' word recognition through the use of the interactive whiteboard. You have been selected as you are a teacher of EFL beginning readers.

**The purpose of this research** is to examine the significant use of phonemic segmentation skill and the interactive whiteboard as an instructional tool in improving EFL beginning readers' word recognition. Three terms should be clarified in this survey. First, *phonemic segmentation skill* is the ability to divide words into its individual sounds. Second, *Beginning readers* is a term used to refer to students who enroll in the first grade to which this research is involved. Third, *word recognition* refers to the ability to recognize printed words. Finally, *Interactive whiteboard* is a large touch-sensitive board which is linked to a computer and a digital projector.

Your contribution to this research is valuable and appreciated. There is no "right" or "wrong" answers to any of these items. Please note that your response will be private, anonymous and confidential. Individual respondents will not be identified in any data or reports and there will be no risk or discomfort if you agree to take part in this research and the returned questionnaire will be kept confidential. Once the research submitted and approved, all the questionnaires will be destroyed.

You may ask the researcher any question you are interested in. The researcher's name is Mohammad Husam Alhums. You may contact the researcher himself by phone: 0786904298 or via e-mail: [husam\\_1001@yahoo.com](mailto:husam_1001@yahoo.com). You can contact his advisor, Dr. Ahmad Affendi in the School of Education & Modern Languages at University Utara Malaysia by-email: [affendi@uum.edu.my](mailto:affendi@uum.edu.my), if you have any further concern and have the will to contact someone rather than the researcher.

Thank you for your assistance in completing this survey. Your prompt response is appreciated.

Best Regards,

Mohammad Husam Alhums

PhD Candidate, School of Education & Modern Languages, College of Arts and Sciences, University Utara Malaysia.

### First Grade Teacher Survey

Reading is a necessary skill that influences learning in the future. As a first grade teacher, you have an important role in affecting the beginning reading of a child. Thank you for helping our children enter the realm of literacy and become literate citizens. Kindly answer this questionnaire survey as accurately as possible. Once have completed, return it to the principal's office, please.

#### I. Demographic Information:

Name (Optional)					
Degree	<input type="checkbox"/> Bachelor	<input type="checkbox"/> Diploma	<input type="checkbox"/> Master	<input type="checkbox"/> PhD	<input type="checkbox"/> Others
Years of Experience	<input type="checkbox"/> Less than 5	<input type="checkbox"/> 5-10	<input type="checkbox"/> 11-15	<input type="checkbox"/> 16-20	<input type="checkbox"/> More than 20
Age	<input type="checkbox"/> 22-24	<input type="checkbox"/> 25 -34	<input type="checkbox"/> 35-44	<input type="checkbox"/> 45-55	<input type="checkbox"/> over 55
Gender	<input type="checkbox"/> Male	<input type="checkbox"/> Female			

## II. Perceptions of the significant use of phonemic segmentation skill

In this section, please indicate your response to the following statements by putting a tick in one of the boxes or by circling the number which rates your level of agreement from 1 to 5. Number 1 means you Strongly Disagree and number 5 means you Strongly Agree.

	Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Agree 5
1. Phonemic segmentation skill is essential in developing EFL beginning readers' word recognition in the first grade.	1	2	3	4	5
2. Daily phonemic segmentation instruction is useful for predicting future reading difficulties.	1	2	3	4	5
3. Phonemic segmentation instruction can be used to prevent future reading difficulties.	1	2	3	4	5
4. Difficulties in word recognition in grade one are often the result of the lack of phonemic segmentation instructions.	1	2	3	4	5
5. EFL beginning readers should informally and incidentally learn phonemic segmentation skill in the first grade.	1	2	3	4	5
6. EFL beginning readers who experience difficulties in word recognition would benefit from phonemic segmentation instructions.	1	2	3	4	5

7. Teaching phonemic segmentation skill should come first before phonemic blending or manipulation skills.	1	2	3	4	5
8. Difficulties in word recognition cannot be inhibited in grade one.	1	2	3	4	5
9. Explicit phonemic segmentation instruction can decrease or eliminate early word recognition difficulties.	1	2	3	4	5
10. Phonemic segmentation instruction does not help learners recognize the printed words.	1	2	3	4	5
11. Difficulties in word recognition ability cannot be identified until grade two or later grades.	1	2	3	4	5
12. Daily phonemic segmentation instruction help young learners recognize words in print.	1	2	3	4	5
13. Phonemic segmentation instruction in grade one has an impact on word recognition in the later grades.	1	2	3	4	5
14. Phonemic segmentation skills should be explicitly taught with formal lessons to improve students' word recognition.	1	2	3	4	5
15. Word recognition involves segmenting sounds to say words.	1	2	3	4	5

16. Phonemic segmentation skill is easier than phoneme blending skill in learning word recognition.

1 2 3 4 5

### III. Perceptions of the significant use of the interactive whiteboard

For the following section, please indicate the extent to which you agree with the following statements by putting a tick in one of the boxes or by circling the number which rates your level of agreement from 1 to 5.

	Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Agree 5
17. Using an interactive whiteboard enhances EFL beginning readers' motivation in word recognition.	1	2	3	4	5
18. Using a traditional white board enhances EFL beginning readers' motivation in word recognition.	1	2	3	4	5
19. Word recognition will be more fun if an interactive whiteboard is used.	1	2	3	4	5
20. Using an interactive whiteboard helps EFL beginning readers participate more in improving their word recognition.	1	2	3	4	5

21. Teachers may waste time when using an interactive whiteboard to improve EFL beginning readers' word recognition.

1 2 3 4 5

22. EFL beginning readers' word recognition should only be improved through an interactive white board instead of a traditional whiteboard.

1 2 3 4 5

23. Improving EFL beginning readers' word recognition requires teachers to do ongoing training when using an interactive whiteboard.

1 2 3 4 5

24. Improving EFL beginning readers' word recognition through using a traditional white board is easier than using an interactive whiteboard.

1 2 3 4 5

25. Using an interactive whiteboard reinforces EFL beginning readers' word recognition.

1 2 3 4 5

26. Using an interactive whiteboard may not suit the need of EFL beginning readers' word recognition.

1 2 3 4 5

THANK YOU



## **APPENDIX L**

### **Results of the Questionnaire in the Pilot Study**

### Descriptive Statistics

Items	N	Minimum	Maximum	Mean	Std. Deviation
1-Phonemic segmentation skill is essential in developing EFL beginning readers' word recognition in the first grade.	30	2	5	3.97	.809
2-Daily phonemic segmentation instruction is useful for predicting future reading difficulties.	30	2	5	4.20	.761
3-Phonemic segmentation instruction can be used to prevent future reading difficulties.	30	3	5	4.10	.759
4-Difficulties in word recognition in grade one are often the result of the lack of phonemic segmentation instructions.	30	2	5	3.93	.785
5-EFL beginning readers should informally and incidentally learn phonemic segmentation skill in the first grade.	30	1	4	2.57	.935



6-EFL beginning readers who experience difficulties in word recognition would benefit from phonemic segmentation instructions.	30	2	5	4.20	.847
7-Teaching phonemic segmentation skill should come first before phonemic blending or manipulation skills.	30	3	5	4.20	.551
8-Difficulties in word recognition cannot be inhibited in grade one.	30	1	5	2.63	.928
9-Explicit phonemic segmentation instruction can decrease or eliminate early word recognition difficulties.	30	2	5	3.97	.890
10-Phonemic segmentation instruction does not help learners recognize the printed words.	30	2	4	2.70	.837
11-Difficulties in word recognition ability cannot be identified until grade two or later grades.	30	2	4	2.50	.820
12-Daily phonemic segmentation instruction helps young learners recognize words in print.	30	2	5	4.10	.803

13-Phonemic segmentation instruction in grade one has an impact on word recognition in the later grades.	30	2	5	3.80	.997
14-Phonemic segmentation skills should be explicitly taught with formal lessons to improve students' word recognition.	30	2	5	4.00	.871
15-Word recognition involves segmenting sounds to say words.	30	3	5	4.27	.691
16-Phonemic segmentation skill is easier than phoneme blending skill in learning word recognition.	30	2	5	4.00	.910
17-Using an interactive whiteboard enhances EFL beginning readers' motivation in word recognition.	30	2	5	4.07	.980
18-Using a traditional white board enhances EFL beginning readers' motivation in word recognition.	30	1	5	2.27	.785
19-Word recognition will be more fun if an interactive whiteboard is used.	30	3	5	4.33	.606

20-Using an interactive whiteboard helps EFL beginning readers participate more in improving their word recognition.	30	2	5	4.33	.711
21-Teachers may waste time when using an interactive whiteboard to improve EFL beginning readers' word recognition.	30	1	5	2.63	.999
22-EFL beginning readers' word recognition should only be improved through an interactive white board instead of a traditional whiteboard.	30	2	5	3.47	.900
23-Improving EFL beginning readers' word recognition requires teachers to do ongoing training when using an interactive whiteboard.	30	3	5	4.23	.728
24-Improving EFL beginning readers' word recognition through using a traditional white board is easier than using an interactive whiteboard.	30	2	5	3.53	.937
25-Using an interactive whiteboard reinforces EFL beginning readers' word recognition.	30	2	5	4.07	.944

26-Using an interactive whiteboard may not suit the need of EFL beginning readers' word recognition.	30	1	5	2.90	.960
--	----	---	---	------	------

Valid N	30
---------	----

---



## **APPENDIX M**

### **Lesson Plans of the Experimental Group**



Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: February 17 <sup>th</sup> , 2015	Lesson No. 1  Number of students: 21 (Experimental Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade First Session
---	--	---

The objectives of the lesson:

- 1-Students will be able to identify the initial, middle and final sounds of the given words.
- 2-To encourage students to recognize the concept of phonemic segmentation

The structure of the lesson:

Time:       10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	
	-The teacher uses the Elkonin boxes provided on the interactive whiteboard.	
	Procedures of the lesson:	
	a-Introduce the lesson: identifying the initial, middle and final sound in the provided words 1- The teacher explains the sound parts in words. 2- The teacher explains that words are made up of sounds and it is important to learn to hear the sound parts in words. 3- The teacher introduces the concept of phonemic segmentation and illustrates how it will help us learn to read. 4- The teacher lets the students listen carefully to hear the initial, middle and final sounds in words. For example, /d/, /u/and /k/ sounds represent the word “ <i>duck</i> ”. b- The teacher uses the interactive whiteboard to illustrate the activity of identifying initial, middle and final sounds in given words illustrated by the Elkonin boxes.	
	Closure ( Assessment):  At the end of the Power Point Presentation on the interactive whiteboard, some activities will be given in which the students have to identify the initial, middle and final sound of the given word.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: February 18 <sup>th</sup> , 2015	Lesson No. 2  Number of students: 21 (Experimental Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade First Session
---	---	---

The objective of the lesson:

1- Students will be able to identify the sounds of the given words.

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	
	-The teacher uses the Elkonin boxes provided on the interactive whiteboard.	
	Procedures of the lesson:	
	a-Introduce the lesson: identifying sound parts in words 1- The teacher lets the students begin learning about sound parts in words. 2- The teacher lets them learn that words are made up of sounds and it is important to learn to hear the sound parts in words. 3- The teacher lets the students listen carefully to hear the sound parts in words. For example, ff aa nn <i>fan</i> b- The teacher uses the interactive whiteboard to illustrate the activity of identifying sounds parts in given words by the help of Elkonin boxes. 4- The teacher shows them how to do the activities.	
	Closure ( Assessment):	
	At the end of the Power Point Presentation on the interactive whiteboard, some activities will be given in which the students have to identify the right sound from the given picture.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: February 19 <sup>th</sup> , 2015	Lesson No. 3  Number of students: 21 (Experimental Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade First Session
---	---	---

The objective of the lesson:

1- Students will be able to pronounce a target word slowly, stretching it out by sound.

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Interactive whiteboard</li> <li>-List of words: bed-man-pin</li> <li>-Laptop</li> <li>-Data Show</li> </ul>
	-The teacher uses the Elkonin boxes provided on the interactive whiteboard.	
	Procedures of the lesson:	
	1- The teacher begins: Today we are going to do this on your own. I am going to give you a word and I want you to say the word slowly, so that you hear all the sounds. Some words will be easy and some may be a little tricky, but I know you can do it. It's going to be just like we did together just now. 2- The students click on one box then draw one box for each sound. After that, they insert the letter(s) for each sound. 3-There are lists of words. When I'm reading I want to be able to sound out the words and be able to break the word down into different sounds. I am going to say a word such as "pin." I am going to use these three boxes right here to segment the word into the different sounds. When I sound out the word I notice there are three sounds, /p/ /i/ /n/. As I'm slowly sounding out the word I click on the given three boxes.	
	Closure ( Assessment):	
	At the end of the Power Point Presentation on the interactive whiteboard, I will then have a little activity in which the students have to pick out a word in a picture to stretch out the word slowly. Then I will have the students say different words on the interactive whiteboard.	



Topic: Phonemic segmentation training	Lesson No. 4	Duration: 10 minutes
Lesson Title: segmenting individual sounds	Number of students: 21 (Experimental Group)	Age: 7 years old
Date: February 24 <sup>th</sup> , 2015		Grade: 1 <sup>st</sup> Grade
		First Session

The objective of the lesson:

1- Students will be able to segment the individual sounds in each word.

The structure of the lesson:

Time: 10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Interactive whiteboard</li> <li>-List of words: fish-man-cat</li> <li>-Laptop</li> <li>-Data Show</li> </ul>
	-The teacher uses the Elkonin boxes provided on the interactive whiteboard.	
	Procedures of the lesson:	
	1- The teacher uses the interactive whiteboard to introduce the phoneme segmentation to some words. He shows some pictures. He also has some activities for the students to go to the interactive board and do these activities by giving them the right directions. E.g. <i>cat</i> kkk aaa ttt	
	2- The teacher gives a student a word and then he segments the phonemes while stretching out the word aloud and then he gives others a few more words. The amount of words given will depend on the timing and how well they are doing.	
	3- The teacher explains to the student that he does very well and he is very proud of all of his smart thinking.	
	4- The teacher tells the student that he can use this strategy when he is in class, doing homework, or reading independently.	
	5- The teacher repeats the whole steps with other students.	
	6- The teacher shows them how to do the exercise.	
	Closure ( Assessment):	
	At the end of the Power Point Presentation on the interactive whiteboard, I will then have some activities in which the students have to pick out a word in a picture to stretch out the word slowly using the interactive whiteboard.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: February 25 <sup>th</sup> , 2015	Lesson No. 5  Number of students: 21 (Experimental Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade First Session
---	---	---

The objective of the lesson:

1-Students will be able to recognize individual sounds in different words.

The structure of the lesson:

Time:    10 min	Introduction:	Teaching Materials:
	- Greet the students. -The teacher uses the Elkonin boxes provided on the interactive whiteboard.	
	Procedures of the lesson:	
	1- The teacher lets the students see some pictures given on the interactive whiteboard. 2-The teacher lets them guess what these pictures are by saying the words they represent. 3-The teacher lets them listen to these sounds and see if they can figure out the word I'm saying: e.g. horse 4-The teacher asks them to identify the first sound. 5- The teacher shows his students how to do the exercise	
	Closure ( Assessment):	
	The students will do the given exercise on the interactive whiteboard.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: February 26 <sup>th</sup> , 2015	Lesson No. 6  Number of students: 21 (Experimental Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade First Session
---	---	---

The objective of the lesson:

1-Students will be able to count the sounds in a word.

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Interactive whiteboard</li> <li>-Laptop</li> <li>-Data Show</li> <li>-List of words: horse-van-water-cat-bed-fun-sat-sister—bike-clock</li> </ul>
	-The teacher uses the Elkonin boxes provided on the interactive whiteboard.	
	Procedures of the lesson:	
	1-The teacher pronounces a target word slowly, stretching it out by sound. 2-The teacher asks the student to repeat the word. 3-The teacher drags "boxes" on the interactive whiteboard to match each particular box for each phoneme. 4-The teacher lets the student count the number of phonemes in the word, not necessarily the number of letters. For example, <i>van</i> has three phonemes and will use three boxes. /v/, /a/, /n/ 5-The teacher directs the student to drag one colored circle or corresponding letter in each cell of the Elkonin box as he repeats the word. 6-The teacher shows them how to do the exercise.	
	Closure ( Assessment):	
	At the end of the Power Point Presentation on the interactive whiteboard, the students can correctly segment words into the appropriate boxes illustrated in the interactive whiteboard.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: March 3 <sup>rd</sup> , 2015	Lesson No. 7  Number of students: 21 (Experimental Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade First Session
---	---	---

The objectives of the lesson:

- 1-Students will be able to identify the initial, middle and final sounds of the given words.
- 2- Students will be able to segment the individual sounds in each word using Elkonin boxes given on the interactive white board.

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	
	-The teacher uses the Elkonin boxes provided on the interactive whiteboard.	
	Procedures of the lesson:	
	1-The teacher revises the previous lessons by having students saying the sounds parts in words. 2- The teacher lets students learn that words are made up of sounds and it is important to learn to hear the sound parts in words. 3- The teacher lets students learn that segment parts of words will help us learn to read as well as helping us figure out new words. e.g. <i>cat</i> kkk aaa ttt 4- The teacher lets students listen carefully to hear the sound parts in words. 5- The teacher shows them how to do the exercise.	
	Closure ( Assessment):	
	The students will practice doing the appropriate exercises given on the interactive board using Elkonin boxes.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: March 4 <sup>th</sup> , 2015	Lesson No. 8  Number of students: 21 (Experimental Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade First Session
---	---	---

The objective of the lesson:

1-The students will be able to build the concept of phonemic segmentation.

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Interactive whiteboard</li> <li>-Laptop</li> <li>-Data Show</li> <li>-List of words: man-fish-dog-bed-egg-cat-wet-pet-red-ten-pen-nest-medal</li> </ul>
	-The teacher uses the Elkonin boxes provided on the interactive whiteboard.	
	Procedures of the lesson:	
	1- The teacher lets students say the sound parts in words by repeating after the teacher. 2- The teacher lets students practice some words. For example, medal-wet-pet-bed 3- The teacher introduces other words that have few sounds such as these words, e.g. —carnest- cat- egg-dog” 4- The teacher lets the students put sounds together to make words. For example, mmmmaaannn: man 5- The teacher lets the students use the Elkonin boxes that contain one sound per box on the interactive board.	
	Closure ( Assessment):	
	At the end of the Power Point Presentation on the interactive whiteboard, The students will go to the interactive whiteboard and click on the right picture	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: March 5 <sup>th</sup> , 2015	Lesson No. 9  Number of students: 21 (Experimental Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade First Session
---	---	---

The objective of the lesson:

1-The students will be able to listen to sound parts in words.

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Interactive whiteboard</li> <li>-List of words: pin-cat-man-cap</li> <li>-Laptop</li> <li>-Data Show</li> </ul>
	-The teacher uses the Elkonin boxes provided on the interactive whiteboard.	
	Procedures of the lesson:	
	1- The teacher reminds students that words are made of sounds. 2- The teacher lets them listen to sound parts in words. For example, pppiiinnn by using slow stretched pronunciation. 3- The teacher lets the students practice other words such as kkk aaatttt, mmm aaa nnn, kkk aaa rrr, kkk aaa ppp 4- The teacher shows them how to do the exercise.	
	Closure ( Assessment):	
	At the end of the Power Point Presentation on the interactive whiteboard, some activities will have been given in which the students click to the right pictures and say the words orally.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: March 10 <sup>th</sup> , 2015	Lesson No. 10  Number of students: 21 (Experimental Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade First Session
--	--	---

The objective of the lesson:

1-The students will be able to listen to more sound parts in words.

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Interactive whiteboard</li> <li>-List of words: sheep-bag-cat-man-dog-cap-car</li> <li>-Laptop</li> <li>-Data Show</li> </ul>
	-The teacher uses the Elkonin boxes provided on the interactive whiteboard.	
	Procedures of the lesson:	
	1- The teacher lets his students listen to more sound parts in words. For example, the word bag /bbb aaa ggg/. The teacher uses slow stretched pronunciation and then students repeat after him.	
	2- The teacher lets them practice other words such as sh sh sh ee ppp, kkk aaa tttt, mmm aaa nnn, kkk aaa rrr, kkk aaa ppp, ddd ooo ggg.	
	3- The teacher lets them repeat after him slow movement in saying words.	
	Closure ( Assessment):	
	At the end of the Power Point Presentation on the interactive whiteboard, The students match the right pictures with right word. Then they say the words orally.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: March 11 <sup>th</sup> , 2015	Lesson No. 11  Number of students: 21 (Experimental Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade First Session
--	--	---

The objective of the lesson:

1-The students will be able to figure out the oral and printed word.

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Interactive whiteboard</li> <li>-List of words: can-dog-horse-lorry-desk-doll-deer-sun-man</li> <li>-Laptop</li> <li>-Data Show</li> </ul>
	-The teacher uses the Elkonin boxes provided on the interactive whiteboard.	
	Procedures of the lesson:	
	1-The teacher lets the students use the Elkonin boxes that contain one sound per box illustrated in the interactive whiteboard	
	2-The teacher lets them practice using the different sounds in words.	
	3-The teacher lets them figure out the new sound parts in words. For example, kkk aaa nnn /k/a/n/	
	4-The teacher lets them to use the slow stretched pronunciation for the given words.	
	5-The teacher shows them how to do the exercise.	
	Closure ( Assessment):	
	The students do the given exercises illustrated in the interactive whiteboard to expand the word orally to hear all the separate phonemes by using the Elkonin boxes.	



Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: March 12 <sup>th</sup> , 2015	Lesson No. 12  Number of students: 21 (Experimental Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade First Session
--	--	---

The objective of the lesson:

1-The students will be able to figure out the oral and printed word. Revision

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Interactive whiteboard</li> <li>-List of words: bee-can-sheep-horse-doll-dog-duck-fan-bus-fish</li> <li>-Laptop</li> <li>-Data Show</li> </ul>
	-The teacher uses the Elkonin boxes provided on the interactive whiteboard.	
	Procedures of the lesson:	
	1-The teacher reminds the students that words are made of sounds.	
	2- The teacher lets them the Elkonin boxes that contain one sound per box illustrated in the interactive whiteboard	
	3- The teacher lets them practice using the different sounds in words.	
	4- The teacher lets them figure out the new sound parts in words. For example, /b/ /ee/, /k/ /a/ /n/	
	5- The teacher shows them how to do the exercise.	
	Closure ( Assessment):	
	At the end of the Power Point Presentation on the interactive whiteboard, The students do the given exercises illustrated in the interactive whiteboard to say the word orally.	

## **APPENDIX N**

### **Lesson Plans of the Control Group**



Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: February 17th , 2015	Lesson No. 1  Number of students: 20 (Control Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade Second Session
---	--	--

The objectives of the lesson:

- 1-Students will be able to identify the initial, middle and final sounds of the given words.
- 2-To encourage students to recognize the concept of phonemic segmentation

The structure of the lesson:

Time:       10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Traditional board</li> <li>-List of words: cat-bed-ball-bat- Bed-clock-lorry-desk-fan-ball-sun</li> </ul>
	-The teacher uses the Elkonin boxes provided on the traditional board.	
	Procedures of the lesson:	
	a-Introduce the lesson: identifying the initial, middle and final sound in the provided words	
	1- The teacher explains the sound parts in words.	
	2- The teacher explains that words are made up of sounds and it is important to learn to hear the sound parts in words.	
	3- The teacher introduces the concept of phonemic segmentation and illustrates how it will help us learn to read.	
	4- Let the students listen carefully to hear the initial, middle and final sounds in words. For example, /k/, /a/and /t/ sounds represent the word “cat”.	
	b- The teacher will use the traditional board to illustrate the activity of identifying initial, middle and final sounds in given words illustrated by the Elkonin boxes.	
	Closure ( Assessment):	
	At the end of the lesson, some activities will be given in which the students have to identify the initial, middle and final sound of the given word.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: February 18 <sup>th</sup> , 2015	Lesson No. 2  Number of students: 20 (Control Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade Second Session
---	--	--

The objective of the lesson:

1- Students will be able to identify the sounds of the given words.
---

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	Elkonin boxes -Traditional board -List of words: cat-bed-ball-bat- Bed-clock-lorry-desk-fan-ball-sun-man
	-The teacher uses the Elkonin boxes provided on the traditional board.	
	Procedures of the lesson:	
	a-Introduce the lesson: identifying sound parts in words 1- Let the students begin learning about sound parts in words. 2- Let them learn that words are made up of sounds and it is important to learn to hear the sound parts in words. 3- Let the students listen carefully to hear the sound parts in words. For example, man /mmm aaa nnn/	
	b- The teacher uses the traditional board to illustrate the activity of identifying sounds parts in given words by the help of Elkonin boxes. 4- Show them how to do the activities.	
	Closure ( Assessment): The students have to identify the right sound from the given word on the traditional board.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: February 19 <sup>th</sup> , 2015	Lesson No. 3  Number of students: 20 (Control Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade Second Session
---	---	--

The objective of the lesson:

- 1- Students will be able to pronounce a target word slowly, stretching it out by sound.

The structure of the lesson:

Time:       10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	Elkonin boxes -Traditional board -List of words :cat-cup-cow-dog-doll-ball
	-The teacher uses the Elkonin boxes provided on the traditional board.	
	Procedures of the lesson:	
	1- The teacher begins: Today we are going to do this on your own. I am going to give you a word and I want you to say the word slowly, so that you hear all the sounds. Some words will be easy and some may be a little tricky, but I know you can do it. It's going to be just like we did together just now.	
	2- The students point at one box that represents the sound. After that, they say each sound.	
	3-There are lists of words. When I'm reading I want to be able to sound out the words and be able to break the word down into different sounds. I am going to say a word such as —dog' I am going to use these three boxes right here to segment the word into the different sounds. When I sound out the word I notice there are three sounds, /d/ /o/ /g/.	
	Closure ( Assessment):	
	The students have to stretch out the word slowly. Then the teacher will have the students say different words on the traditional board.	

Topic: Phonemic segmentation training	Lesson No. 4	Duration: 10 minutes
Lesson Title: segmenting individual sounds	Number of students: 20 (Control Group)	Age: 7 years old
Date: February 24 <sup>th</sup> , 2015		Grade: 1 <sup>st</sup> Grade Second Session

The objective of the lesson:

1- Students will be able to segment the individual sounds in each word.

The structure of the lesson:

Time: 10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	Elkonin boxes -Traditional board -List of words: dog-doll-duck-feet-cat-cow-corn-cup
	-The teacher uses the Elkonin boxes provided on the traditional board.	
	Procedures of the lesson:	
	1- The teacher uses the traditional board to introduce the phonemic segmentation to some words. He draws the boxes. He also has some activities for the students to go to the board and do these activities by giving them the right directions. E.g. <i>cat</i> kkk aaa tt	
	2- The teacher gives a student a word and then he segments the phonemes while stretching out the word aloud and then he gives others a few more words. The amount of words given will depend on the timing and how well they are doing.	
	3- The teacher explains to the student that he does very well and he is very proud of all of his smart thinking.	
	4- The teacher tells the student that he can use this strategy when he is in class, doing homework, or reading independently.	
	5- The teacher repeats the whole steps with other students.	
	6- The teacher shows them how to do the exercise.	
	Closure ( Assessment):	
	The students have to stretch out the word slowly by doing some activities.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: February 25 <sup>th</sup> , 2015	Lesson No. 5  Number of students: 20 (Control Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade Second Session
---	--	--

The objective of the lesson:

1-Students will be able to recognize individual sounds in different words.

The structure of the lesson:

Time:    10 min	Introduction:	Teaching Materials:    Elkonin boxes -Traditional board -List of words: dog-doll-duck-feet-cat-cow-corn-cup-dog
	- Greet the students. -The teacher uses the Elkonin boxes provided on the traditional board.	
	Procedures of the lesson:	
	1- The teacher let the students see some words given on the traditional board. 2-The teacher lets them guess the sounds of the given words. 3-The teacher lets them listen to these sounds and see if they can figure out the word I'm saying: e.g. duck 4-The teacher asks them to repeat the words orally. 5- The teacher shows his students how to do the exercise	
	Closure ( Assessment):	
	The students will do the given exercise on the traditional board.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: February 26 <sup>th</sup> , 2015	Lesson No. 6  Number of students: 20 (Control Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade Second Session
---	--	--

The objective of the lesson:

1-Students will be able to count the sounds in a word.
--

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	Elkonin boxes -Traditional board -List of words: dog-doll-duck-feet-pen-nut-ring-sun-tent-bed-bat-ant-ball
	-The teacher uses the Elkonin boxes provided on the traditional board.	
	Procedures of the lesson:	
	1-The teacher pronounces a target word slowly, stretching it out by sound. 2-The teacher asks the student to repeat the word. 3-The teacher draws the circles that represent each single sound to match each particular box for each phoneme (sound). 4-The teacher lets the student count the number of phonemes in the word, not necessarily the number of letters. For example, ball has three phonemes (sounds) and will use three boxes. /b/, /a/, /l/ 5-The teacher directs the student to draw one circle or corresponding letter in each cell of the Elkonin box as he repeats the word.(circle the first sound. 6-The teacher shows them how to do the exercise.	
	Closure ( Assessment):	
	The students are able to correctly segment words into the appropriate boxes illustrated in the traditional board.	



Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: March 3 <sup>rd</sup> , 2015	Lesson No. 7  Number of students: 20 (Control Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade Second Session
---	--	--

The objectives of the lesson:

- 1-Students will be able to identify the initial, middle and final sounds of the given words.
- 2- Students will be able to segment the individual sounds in each word using Elkonin boxes given on the traditional board.

The structure of the lesson:

Time:       10 min	Introduction:	Teaching Materials:       Elkonin boxes -Traditional board -List of words: bed-ball-moon-ball
	-Warm up – Greet students	
	-The teacher uses the Elkonin boxes provided on the traditional board.	
	Procedures of the lesson:	
	1-The teacher revises the previous lessons by having students saying the sounds parts in words. 2- Let students learn that words are made up of sounds and it is important to learn to hear the sound parts in words. 3- Let students learn that segment parts of words will help us learn to read as well as helping us figure out new words. e.g. <i>bed</i> bbb eee ddd 4-Let students listen carefully to hear the sound parts in words. 5- Show them how to do the exercise.	
	Closure ( Assessment):	
	The students will practice doing the appropriate exercises given on the traditional board using Elkonin boxes.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: March 4 <sup>th</sup> , 2015	Lesson No. 8  Number of students: 20 (Control Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade Second Session
---	--	--

The objective of the lesson:

1-The students will be able to build the concept of phonemic segmentation.
--

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Traditional board</li> <li>-List of words: dog-doll-duck-feet-pen-nut-ring-sun-tent-bed-bat-ant-ball-red</li> </ul>
	-The teacher uses the Elkonin boxes provided on the traditional board.	
	Procedures of the lesson:	
	1- The teacher lets students say the sound parts in words by repeating after the teacher. 2- The teacher lets students practice some words 3- The teacher introduces other words that have few sounds such as these words, e.g. —ddl bed- ball-red” 4- The teacher lets the students put sounds together to make words. For example, mmmmaaannn: man 5- The teacher lets the students use the Elkonin boxes that contain one sound per box on the traditional board.	
	Closure ( Assessment):	
	At the end the lesson, the students will go to the traditional board and point to the right sound of the given word.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: March 5 <sup>th</sup> , 2015	Lesson No. 9  Number of students: 20 (Control Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade Second Session
---	--	--

The objective of the lesson:

1-The students will be able to listen to sound parts in words.

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Traditional board</li> <li>-List of words: goat-cow-cup-pen-pot-fish-cat-frog</li> </ul>
	-The teacher uses the Elkonin boxes provided on the traditional board.	
	Procedures of the lesson:	
	1- The teacher reminds students that words are made of sounds. 2- The teacher lets them listen to sound parts in words. For example, pppiiinnn by using slow stretched pronunciation. 3- The teacher lets the students practice other words such as kkk aaatttt, fff iii sh, kkk aaa ttt, ppp eee nnn 4- The teacher shows them how to do the exercise.	
	Closure ( Assessment):	
	The students say the words orally.	

Topic: Phonemic segmentation training Lesson Title: segmenting individual sounds Date: March 10 <sup>th</sup> , 2015	Lesson No. 10  Number of students: 20 (Control Group)	Duration: 10 minutes  Age: 7 years old Grade: 1 <sup>st</sup> Grade Second Session
--	---	--

The objective of the lesson:

1-The students will be able to listen to more sound parts in words.

The structure of the lesson:

Time:  10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Traditional board</li> <li>-List of words: nut-pen-pot-dog-doll-duck-feet</li> </ul>
	-The teacher uses the Elkonin boxes provided on the traditional board.	
	Procedures of the lesson:	
	1- The teacher lets his students listen to more sound parts in words. For example, the word dog /ddd ooo ggg/. The teacher uses slow stretched pronunciation and then students repeat after him. 2- The teacher lets them practice other words such as ddd ooo ggg, ppp ooo ttt, ppp eee nnn, ddd ooo lll, nnn uuu ttt. 3- The teacher lets them repeat after him slow movement in saying words.	
	Closure ( Assessment):	
	The students match the right sounds with the right word. Then they say the words orally.	

Topic: Phonemic segmentation training	Lesson No. 11	Duration: 10 minutes
Lesson Title: segmenting individual sounds	Number of students: 20 (Control Group)	Age: 7 years old
Date: March 11 <sup>th</sup> , 2015		Grade: 1 <sup>st</sup> Grade
		Second Session

The objective of the lesson:

1-The students will be able to figure out the oral and printed word.

The structure of the lesson:

Time: 10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Traditional board</li> <li>-List of words: bee-boat-book-bell-bus-box-sun-can-hat-bake</li> </ul>
	-The teacher uses the Elkonin boxes provided on the traditional board.	
	Procedures of the lesson:	
	1-The teacher lets the students use the Elkonin boxes that contain one sound per box illustrated in the traditional board.	
	2-The teacher lets them practice using the different sounds in words.	
	3-The teacher lets them figure out the new sound parts in words. For example, bbb ooo kkk /b/o/k/	
	4-The teacher lets them to use the slow stretched pronunciation for the given words.	
	5-The teacher shows them how to do the exercise.	
	Closure ( Assessment):	
	The students do the given exercises illustrated in the traditional board to hear all the separate phonemes by using the Elkonin boxes.	

Topic: Phonemic segmentation training	Lesson No. 12	Duration: 10 minutes
Lesson Title: segmenting individual sounds	Number of students: 20 (Control Group)	Age: 7 years old
Date: March 12 <sup>th</sup> , 2015		Grade: 1 <sup>st</sup> Grade
		Second Session

The objective of the lesson:

1-The students will be able to figure out the oral and printed word. Revision

The structure of the lesson:

Time: 10 min	Introduction:	Teaching Materials:
	-Warm up – Greet students	<ul style="list-style-type: none"> <li>-Elkonin boxes</li> <li>-Traditional board</li> <li>-List of words: cat-corn-cow-pot</li> </ul>
	-The teacher uses the Elkonin boxes provided on the traditional board.	
	Procedures of the lesson:	
	1-The teacher reminds the students that words are made of sounds.	
	2- The teacher lets them the Elkonin boxes that contain one sound per box illustrated in the traditional board.	
	3- The teacher lets them practice using the different sounds in words.	
	4- The teacher lets them figure out the new sound parts in words. For example, /p/ /o/ /t/: pot	
	5- The teacher shows them how to do the exercise.	
	Closure ( Assessment):	
	The students do the given exercises illustrated in the traditional board to say the word orally given on a sheet of paper.	

## APPENDIX O

### INTERACTIVE WHITEBOARD (IWB)



## APPENDIX P

### A LESSON ON IWB







Universiti Utara Malaysia

**APPENDIX Q**  
**COVER PAGE OF ACTION PACK 1**

