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La eficacia de un programa basado en inteligencias múltiples para mejorar habilidades de lectura en alumnos de quinto curso de Primaria con dificultades de aprendizaje

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Resumen

Introducción. Este estudio describe un proyecto de investigación diseñado para mejorar las habilidades de lectura de alumnos de 5º curso que presentan dificultades de aprendizaje.

Método. Fueron invitados a participar en el estudio un total de 60 alumnos diagnosticados con DA. La muestra fue dividida aleatoriamente en dos grupos: un grupo experimental (N = 30, 23 chicos, 7 chicas), y un grupo control (N = 30, 21 chicos, y 9 chicas). Para el análisis de datos se utilizaron análisis estadísticos de ANCOVA y de medidas repetidas.

Resultados. Los resultados obtenidos en el estudio indicaron la efectividad del programa dirigido a la mejora de las habilidades de lectura; específicamente en el reconocimiento de palabras y habilidades de comprensión lectora en los alumnos objeto del estudio.

Discusión. En base a los resultados obtenidos, el estudio apoya la efectividad de un programa basado en las inteligencias múltiples para la mejora de las habilidades de lectura del alumnado con dificultades de aprendizaje.

Palabras clave: Inteligencias Múltiples, Dificultades de Aprendizaje, Educación Primaria, Habilidades de Lectura.

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The effectiveness of a multiple intelligences- based program on improving certain reading skills in 5th-year primary learning disabled students

Abstract

Introduction. This study describes an action research project designed to improve reading skills of fifth grade learning disabled students.

Method. A total of 60 students identified with LD were invited to participate. The sample was randomly divided into two groups; experimental (n= 30, 23 boys, 7 girls) and control (n=30, 21 boys and 9 girls). ANCOVA and Repeated Measures Analyses were employed for data analysis.

Results. Findings from this study indicated the effectiveness of the program employed in improving reading skills; namely word recognition and reading comprehension skills in the target students.

Disscusion. On the basis of the findings, the study advocated for the effectiveness of the multiple intelligence-based program in improving the reading skills of Learning disabled students.

Keywords. Multiple Intelligences, learning disabilities. Primary Education. Reading skills.

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Introduction

The value of any educational system lies in its capacity to achieve its goals. Gardner notes that the superior goal of education is to prepare students for succeeding outside school. This means to prepare him/her for the skills existed in the society, that suits his abilities and attitude. Unfortunately, the curricula at all levels of learning are devoted to and depending on linguistic and logical abilities as the curricula planners believe in the g factor which is measured by the intelligence tests. This does not meet the various needs of students in a changeable world (Mourad Ali & Waleed El Said, 2006).

Multiple intelligences theory is one of the most permanent theories in the field of education nowadays.In that theory, Gardner rejects the notion of the one intelligence, ascertaining that there are a lot of somewhat independent mental abilities in man. Gardner called these abilities"Human Intelligences". His theory was based on his brain –based research and his personal interviews and developmental, cognitive and neural psychology (Fadlon, 2006).

Howard Gardner's theory of multiple intelligences has not been readily accepted within academic psychology. However, it has met with a strongly positive response from many educators.It has been embraced by a range of educational theorists and, significantly, applied by teachers and policymakers to the problems of schooling. Multiple intelligences theory, since its emergence, has a lot of implications in the educational field. Pamela (2003) describes an action research project improving student academic reading achievement.The targeted population consisted of fifth grade students in a growing suburb of a major midwestern metropolitan area. The evidence for existence of the problem included student surveys, assessments, teacher observations and checklists. Analysis of probable cause data revealed some students were not motivated to meet or exceed expectations in reading comprehension on classroom assessments, district tests, and state evaluations.The lack of students' skills to read strategically and for better comprehension was observed by the teacher.A review of solution strategies suggested by knowledgeable others, combined with an analysis of the problem setting,resulted in the selection of two major categories of intervention: multiple intelligences strategies,and guided practice of reading skills. Post-intervention data indicated an increase on reading skill tests, improved motivation to read, increased on-task behavior, and improved cooperative learning skills used with multiple intelligences strategies.

So the present study addresses the following questions:

1- Are there differences in post–test scores mean between control and experimental groups on comprehension test?
2- Are there differences in post–test scores mean between control and experimental groups on word recognition test?
3- If the programme is effective in improving reading comprehension of experimental group, is this effect still evident a month later?
4- If the programme is effective in improving word recognition skill of experimental group, is this effect still evident a month later?

Literature review

Mutliple intelligences: theoretical background.

Gardner's Psychological theory of multiple intelligences is based on scientific research ranging from psychology, anthropology, and biology. He conceived the idea that people have eight multiple intelligences including musical – rhythmic, visual – spatial, bodily – kinesthetic,interpersonal,intrapersonal,naturalist,verbal–linguistic,and logical – mathematical abilities (Fathi & Mourad, in press).

Intelligences, according to Gardner's theory, are not limited to these forms, but expanded to include twenty other forms of intelligence. For instance, interpersonal intelligence includes four distinct abilities: leadership, ability to develop relations, ability to make friends, and ability to resolve conflicts. This conceptual change in helps in giving a richer picture about child's abilities and possible successes (Hassan, 2007).

Mutliple intelligences: implication for educational field.

Multiple intelligence theory emerged as a major strategy for improving students' achievement across the curriculum even those of learning disabilities or underachievers (Fathi, 2008).Learning does not occur incidentally, but "we should go seeking it using techniques that stimulate our minds in specific ways in different fields ,including Arts, manipulations, music, body tools ,scientific stories narratives, trips….etc (Al Assar,2005:205).This is in the

line with Gaber (2003) who indicates that learning in the light of Multiple Intelligences Theory goes beyond the traditional methods used inside the classroom where students are arranged in order in their desks, whereas teacher stands in front of the class near the blackboard ,explaining the lesson, and some other times, sitting on his chair correcting students notebooks . But multiple intelligences theory meets the various needs of all students in order stimulate and activate the latent abilities (Gaber, 2003: 111). Educators gladly embrace multiple intelligences theory because it calls for us to do what we know is good for our students.We know our students become alert, become engaged, like classes , like each other more, and learn more when we include movement ,picture, music, nature, introspection and interaction as part of our instruction and curriculum .Multiple intelligence theory is providing education with a rationale for doing what we know is good for kids (Darren , 2002: 47)." the more diverse learning experiences we provide our students ,the more robust their education will be, the more ways they will learn each topic, hence the more they are prepared to succeed in a world marked by increasing diversity and accelerating change rate "(Kagan & Kagan , 1998: xxi).

Mutliple intelligences: teaching activities.

Teacher may have a preferred teaching style.He may regard this style as the best,but if he wants to innovate,he should use various teaching styles.Using various teaching styles and strategies will help meet the needs of the diverse students inside the classroom.These teaching styles and strategies should suit students' diverse abilities and attitudes.That is what multiple intelligences theory does.It provides teachers with interesting styles that can be used with different students in different lessons.The following are some activities by which each intelligence can be taught :

- Verbal / Linguistic intelligence: The useful activities involved in this form of intelligence may include reading or writing stories, enjoying listening to lectures poems, and jokes , chatting, storytelling, attending book corners, brainstorming , using vocabulary and lecturing (Fadlon , 2006 : 43).

- Logical / Mathematical intelligence: The useful activities involved in this form of intelligence may include manipulating numbers, justifying thinking, explaining natural phenomena, sequencing, solving or creating problems, logic puzzles, equations, ex-

perimenting, playing with questions, and comparisons practice (Al- Balushi, 2006: 6, Fathi , 2008: 181).

- Visual / Spatial intelligence: The useful activities involved in this form of intelligence may include drawing diagrams, painting, creating computerized pictures, using illustrations ,imagining, creating mental models, creating and using graphic organizers, concept maps, mental maps colorful and visual aids (Gaber , 2003 : 69; Fadlon , 2008 : 129).

- Bodily / Kinesthetic intelligence:The useful activities involved in this form of intelligence may include exploring tactile models,task manipulation,role play,using concrete materials,dramatizing,sequencing movements,and dancing (Fadlon , 2008 : 129).

- Musical / Rhythmic intelligence:The useful activities involved in this form of intelligence may include using musical notation,creating rhythmic patterns, repeating rhythms by moth while working,and singing songs (Fathi , 2008: 182).

- Interpersonal Intelligence:The useful activities involved in this form of intelligence may include role play,sharing strategies,assessing peer's work,participating in stimulations, peer tutoring,interacting with audience,discussing issues,and working cooperatively.

- Intrapersonal Intelligence:The useful activities involved in this form of intelligence may include writing journal,conducting self – assessment,enjoying private space, empowerment,setting goals,and reflecting on self – progress and achievement .

Mutliple intelligences and basic reading skills: what is the relation?

Comprehension is the core of reading in general. Of course, reading comprehension skill influences how much information is learnt and/ or retained from reading a text (Shapiro & Milkes, 2004). In fact,comprehension is the cognitive academic skills required in school,and the ability to understand texts is necessary throughout lifetime.However,some students do not drive the meaning from what they read.This deficit may relate to :

- inadequate understanding of the words used in the text ,
- inadequate knowledge about the domains represented in the text ,
- a lack of familiarity with the semantic and syntactic structures that help predict relationships between words ,
- a lack of knowledge about different writing conventions that are used to achieve different purposes (humor, explanation , dialogue ,etc.),
- a deficit in verbal reasoning ability that would enable the reader to read between the lines, and
- a lack of the ability to remember verbal information (Mourad Ali, 2007 : 266).

However,these students may have special abilities that do not emerge in the traditional educational system,so researchers have to search for solution strategies that can be used to help this type of students.By using Gardner's intelligences in the classroom, students are able to display their strengths and interests.Campbell (1990) explored the third grade students reactions to a multiple intelligences instructional model.The results included increased skills and positive behavior and attitudes. Pamela (2003) indicates that it is necessary to implement multiple intelligence theory in the classroom because that has a positive effect on increasing reading self- efficacy (p.38). Burman (2003) describes an action research project designed to improve reading skills of first grade students.The targeted population consisted of two elementary classrooms located in a small,rural Mid-Western town.The problem of difficulty memorizing reading vocabulary words was documented through parent and student surveys and a document analysis including classroom assessments and reading checklists.Analysis of probable cause data revealed that the majority of students exhibited non-mastery of reading vocabulary words.Library visitation and vocabulary word reading practice were areas of concern as indicated by parental surveys.Library visitation was also an area of concern as indicated by student surveys.Analysis of the literature review revealed phonics,whole language,Four-Blocks,multiple intelligences,and increased parental support as possible solutions.The researchers focused on the solutions of increasing parental support and the use of multiple intelligences in the classroom.Post intervention data showed an increase in reading skills.With the implementation of multiple intelligences and increased parental involvement,students demonstrated a substantial gain in mastery of reading vocabulary words.

The literature has helped determined multiple intelligences as a primary solution to use as a method to improve reading skills.Multiple intelligence provides a better opportunity for students to find out and rely on their strengths in order to achieve their goals .

Method

Participants

60 students participated in the present study. Participants were initially identified by their teachers as having reading disabilities. Students were randomly classified into two groups: experimental (n= 30, 23 boys, 7 girls) and control (n= 30, 21 boys and 9 girls).

The two groups were matched on age, IQ, word recognition and reading comprehension. Table 1.shows means, standard deviations, t- value, and significance level for experimental and control groups on age (by month), IQ, word recognition and reading comprehension (pre-test).

Table 1. Pretest Scores. Means, standard deviations, t-value and significance level for experimental and control groups on age (by month), IQ, word recognition and reading comprehension.

Variable	Group	N	M	SD	T	Sig.
Age	Experimental	30	132.24	1.96	-.121	-
	Control	30	132.41	2.01		
IQ	Experimental	30	111.34	4.45	-.221	-
	Control	30	111.89	4.24		
Word recognition	Experimental	30	6.21	3.00	-.547	-
	Control	30	6.67	3.52		
Reading comprehension	Experimental	30	6.82	2.65	-.539	-
	Control	30	6.54	2.32		

Table 1. Shows that all t- values did not reach significance level. This indicated that the two groups did not differ in age, IQ, word recognition and reading comprehension (pre-test).

Instruments

a. Word recognition test. The test was developed to assess reading disabled children's skills in word recognition. It was based on the features of word recognition realized by Mourad Ali (2005, 2006, 2007a) , and Mourad Ali's Basic Reading Skills Test (2007b) . The

test consists of (22) items assessing word recognition , with score ranging from 0-1 on each item and a total score of 22. The test has demonstrated high internal consistency with Cronbach's α ranging from 0.83 to 0.87.

b. Reading comprehension test. The test was developed to assess reading disabled children 's skills in reading comprehension . It was based on the features of comprehension skills recognized by Mourad Ali (2005, 2006, 2007a) , and Mourad Ali's Basic Reading Skills Test (2007b) . The test consists of (22) items assessing word recognition , with score ranging from 0-1 on each item and a total score of 22. The test has demonstrated high internal consistency with Cronbach's α ranging from 0.86 to 0.89.

Setting

The study took place in a primary school in Baltim sector, Kafr El Sheik Governorate, Egypt. The target students were taught in "Technology Room ".

Procedure

Experimental – group students were taught in the "Technology Room " at EL Waheba primary school after the school day ended . First the instructor (the first author) gave students an idea about the MI theory and how it is useful in helping them achieve their lessons in different school subjects in general , and in reading skills in particular .

The MI program comprised 3 weekly sessions lasting between 40 and 45 min, and several homework tasks .The program lasted for 2 months. Over these sessions the students completed a total of twelve basic reading sub skills, namely similar words recognition skill, opposite word recognition skill, odd word recognition skill, correct word recognition skill, relational sentences skill, answering questions skill, plausible and implausible sentences recognition skill, recognizing the message conveyed by the text skill, characterization skill, titling skill, cause – effect relation recognition skill.

During sessions, students were allowed to work together, and the instructor (the first author) gave help and modeling , if necessary. The seven intelligences were employed in all sessions. Employing verbal / linguistic intelligence requires students to brainstorm , use new

vocabulary, and tell the story in their own words. While using logical / mathematical intelligence requires that students asking and answering questions about the text, and explain their answers. Students employed visual / spatial intelligence through illustrations, and using pictures of the new vocabulary. They also used role play, body movements, and concrete materials while learning the new word as part of bodily / kinesthetic intelligence. Musical / Rhythmic intelligence was employed by students. They created rhythmic patterns, and sang songs. Students shared work with one another, assessed peer's work, and worked collaboratively as part of their interpersonal intelligence. Additionally, each student had a space to work individually and reflect on his/her progress and achievement as part of his/her intrapersonal intelligence.

Design and Analysis

The effects of implementing the MI program on students' basic reading skills were assessed using a repeated-measures design, pre- post- and sequential testing.

Results

The first question in this study concerned the differences in post–test scores mean between control and experimental groups on comprehension test. In order to verify this hypothesis , we used ANCOVA analysis.

The second table shows data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in reading comprehension test. The table shows that the (F) value was (128.009) and it was significant value at the level (0.01).

Table 2. ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in comprehension test

Source	Type 111 Sum of squares	df	Mean square	F	Sig.
Pre	1.725	1	1.725		
Group	217.276	1	217.276	128.009	0.01
Error	317.340	57	5.567		
Total	1067.933	59			

In order to examine the direction of this significance, we used 't test'.The next table (Table 3) shows T. test results for the differences in post- test mean scores between experimental and control groups in reading comprehension test. The table shows that (t) vale was (11.67). This value is significant at the level (0.01) in the favor of experimental group . The table also shows that there are differences in post- test mean scores between experimental and control groups in comprehension test in the favor of experimental group, and this indicated that training using multiple intelligence activities were effective with experrimental group. This group achieved more gains in comprehension test, compared to control group.

Table 3. T-test results for the differences in post- test mean scores between experimental and control groups in comprehension test

Group	N	Mean	Std. deviation	T	Sig.
Experimental	30	13.50	1.10	11.67	0.01
Control	30	6.43	3.12		

The second question in this study concerned the differences in post–test scores mean between control and experimental groups on word recognition. In order to verify this hypothesis, we used ANCOVA analysis. In the table 4 data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in word recognition test are observed. The table shows that the (F) value was (246.608) and it was significant value at the level (0.01).

Table 4. ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in word recognition test

Source	Type 111 Sum of squares	df	Mean square	F	Sig.
Pre	10.148	1	10.148		
Group	401.575	1	401.575		0.01
Error	92.818	57	1.628	246.608	
Total	648.983	59			

In order to examine the direction of this significance, we used t test. The next table (table 5) shows that (t) value was (17. 53). This value is significant at the level (0.01) in the

favor of experimental group . The table also shows that there are differences in post- test mean scores between experimental and control groups in word recognition test in the favor of experimental group and this indicated that training using multiple intelligence activities were effective with experimental group. This group achieved more gains in comprehension test, compared to control group.

Table 5 .T-test results for the differences in post- test mean scores between experimental and control groups in word recognition test

Group	N	Mean	Std.deviation	T	Sig.
Experimental	30	13.200	1.349	17. 53	0.01
Control	30	7.166	1.315		

The third question concerned whether the programme is effective in improving reading comprehension of experimental group, if so, is this effect still evident a month later? In order to verify this hypothesis, we used 'repeated measure'. Table 6 shows data on repeated measures analysis for reading comprehension test. The table shows that there are statistical differences between measures (pre- post- sequential) at the level (0.01).

Table 6 . Repeated measures analysis for comprehension test.

Source	Type 111 sum of squares	df	Mean square	F	Sig.
Between groups	661.250	1	661.250		0.01
Error 1	105.611	58	1.821	363.148	
Between Measures	794.978	2	794.978	193.121	0.01
Measuresx Groups	596.933	2	298.467	145.011	0.01
Error 2	238.756	116	2.058		

In order to know the direction of significance, we used Scheffe test. The data on Scheffe test for multi-comparisons in reading comprehension test are showed in the table below (Table 7). The table shows that there are statistical differences between pre and post measures in favor of post test, and between pre and sequential measures in favor of sequential test , but no statistical differences between post and sequential test .

Table 7. Scheffe test for multi- comparisons in comprehension test

Measure	Pre M= 6.76	Post M= 13.20	Sequential M= 12.86
Pre	--	--	--
Post	8.43*	--	--
Sequential	8.10*	.33	--

The last two tables show data on repeated measures analysis for word recognition test (Table 8) pointing out that there are statistical differences between measures (pre- post- sequential at the level (0.01), and, data on Scheffe test for multi-comparisons in word recognition test (Table 9). This analysis reveal that there are statistical differences between pre and post measures in favor of post test, and between pre and sequential measures in favor of sequential test , but no statistical differences between post and sequential test.

Table 8 . Repeated measures analysis for word recognition test

Source	Type 111 sum of squares	Df	Mean square	F	Sig.
Between groups	1150.139	1	1150.139	348.305	0.01
Error 1	191.522	58	3.302		
Between Measures	1019.478	2	509.739	164.199	0.01
Measuresx Groups	469.078	2	234.539	75.550	0.01
Error 2	360.111	116	3.104		

Table 9. Scheffe test for multi- comparisons in word recognition test

Measure	Pre M= 5.76	Post M=13.50	Sequential M= 12.83
Pre	--	--	--
Post	8.73*	--	--
Sequential	8.06*	.66	--

Discussion

The main objective of the present study was to explore whether there were differences in post – test scores mean between control and experimental groups on basic reading skills, namely reading comprehension and word recognition.The study also examined If the programme was effective, if this effect was still evident a month later.

The results of this study as revealed in tables 3, 5, 7, 9 show that the MI program was effective in improving the reading comprehension and word recognition skills of students in experimental group, compared to the control group whose individuals were left to be taught conventially.

Participants of this study fall into the minimum IQ of 90, nevertheless, they have learning disability. Thus IQ score cannot account for learning disabilities.The results of the present study support that conclusion with evidence that students who participated in the study do not fall into the low IQ range,however they have learning disabilities.When designing a program based on Multiple intelligences strategies, they had statistical increase in word recognition and comprehension skills. This goes in line with what Mourad Ali et al (2006) notes that there is one problem " students who are identified as learning disabled often cover any special abilities and talents,so their weakness becomes the focus of their teachers and peers , ignoring their abilities. Mourad Ali (2007a) , however, notes that " learning disabled , as well as gifted students can master the same contents and school subjects ", but they need to do that in a way that is different from that used in our schools .

Nieto (2004) confirmed that children with reading disabilities showed adequate knowledge of onset and rime in words, and they had good segmenting skills, but they presented difficulties in applying this knowledge to the process of word recognition. Nevertheless, experimental group in this study, gained better scores in word recognition and comprehension tests than did control groups in post-tests though there were no statistical differences between the two groups in pre- test. This is due to the program which met the experimental group's needs and interests. On the contrary, the control group was left to be taught traditionally. This goes in line with our adopted perspective which indicates that traditional methods used in our schools do not direct students as individual toward tasks and materials , and do not challenge their abilities.This may lead students to hate all subjects and the school in general.

On the contrary, when teachers adopt a theory (such as multiple intelligences theory) that suits students interests and challenge their abilities with its various modalities .

This indicates that " as we learn more about the scope and complexity of individual differences and how they affect academic progress,we become increasingly convinced that many individuals who do not read well do not because the instructional methods used to teach them does not complement preferred styles to learn, thus,we should seek strategies that help these students and match their strengths.

Worth mentioning is that students in the experimental group retained the learnt information for a long time even after the period of the program finished,and this indicates the training effect.

Implications

Multiple intelligences theory has some very important implications for both teachers and students.Teacher may have a preferred teaching style. He may regard this style as the best , but if he wants to innovate , he should use various teaching styles . Using various teaching styles and strategies will help meet the needs of the diverse students inside the classroom .These teaching styles and strategies should suit students' diverse abilities and attitudes. That is what multiple intelligences theory does. It provides teachers with interesting styles that can be used with different students in different lessons.

Students with learning disabilities may have special abilities that do not emerge in the traditional educational system. By using Gardner's intelligences in the classroom , students will be able to display their strengths and interests.

References

Al Assar , S. (2005). *Mind and its magic trees.* Cairo , Dar El Fekr El Arabi .

Al- Balushi , S. (2006).Enhancing multiple intelligences in children who are blind :A guide to improving curricular activities . *Paper presented at the ICEVI World Conference (12th, Kuala Lumpur, Malaysia, Jul 16-21, 2006).*

Burman , T. (2005). *Improving reading skills through multiple intelligences and increased parental Involvement* **.** Master of Arts Action Research Project. Saint Xavier University and skylight professional Development Field- based Master Programs .

Campbell , B (1990) .The research results of Multiple Intelligences Classroom. (electronic Version) . New Horizon for learning Electronic Journal . P7: 254. Retrieved February10, 2002, from http://www.newhorizon.org/.

Darren , G. (2002) . *Improving student performance in reading comprehension through the use of multiple intelligences* .Master of Arts Action Research Project. Saint Xavier University and skylight professional Development Field- based Master Programs .

Fadlon, S. (2006). *The effectiveness of a multiple intelligence-based program on improving secondary school students achievement in grammar*. Philosophical Disertation. Zagazig University.

Fadlon , S. (2008) .*Multiple intelligence and academic achievement* **.** Alexandria , Dar El Wafaa .

Fathi, A. (2008). The effectiveness of a multiple intelligence-based program on improving reading comprehension of learning disabled students. *Zagazig Journal of Education, 26*(3), 229-251.

Fathi, A. Mourad, Ali (In press).*Multiple Intelligences and school learning* . Alexandria , Dar El Wafaa .

Gaber, A. (2003). *Multiple intelligences and comprehension.* Cairo: Dar El Fekr El Arabi.

Gaber , A (2005). *Structural and differential classroom* . Cairo , Alam El Kutob .

Hassan , E. (2007). Discovering gifted students based on multiple Intelligences strategies , *Assiut Journal of education , 23(1) , 2-87*

Kagan , S. & Kagan , M (1998) : Multiple intelligences : The complete MI Book . San Clemente , CA : Kagan Cooperative learning.

Mourad Ali (2005) . *The effectiveness of a program based on the Dunn& Dunn learning styles model on improving reading comprehension of preparatory school poor readers students* . Doct. Diss., Zagazig University .

Mourad Ali (2007a) . *How the reading disabled brain learns* . Alexandria , Dar El Wafaa .

Mourad Ali (2007b) . *Basic Reading Skills Test* .Alexandria , Dar El Wafaa .

Mourad Ali , Waleed El sayed , Ahmed Gomaa (2006) . *Computer and learning disabilities , theory and practice* . Alexandria , Dar El Wafaa .

Mourad Ali and Waleed El Said ,(2006). *Multiple intelligences and learning styles* . Alexandria , Dar El Wafaa .

Nieto , J. (2004). Analysis of difficulties In understanding and applying the alphabetic principle. *Electronic Journal of Research in Educational Psychology, 2(2), 75-104.*

Pamela , U (2003) . *Improving student academic reading achievement through the use of multiple intelligence teaching strategies* . Master of Arts Action Research Project. Saint Xavier University and skylight professional Development Field- based Master Programs .

Shapiro, A. & Milkes, A. (2004). Skilled readers make better use of Anphora: A study of the repeated- name penalty on text comprehension. *Electronic Journal of Research in Educational Psychology, 2(2), 161-180.*