The Effect of Using Multiple Intelligences on Some Basic Reading Skills of First Graders At-Risk for Reading Disabilities

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Abstract

The objective of this study was to investigate the effect of using multiple intelligences on some basic Reading skills of first graders At-Risk for reading disabilities. 40 first grade children selected from two schools located within two elementary schools in Sharkyia Educational Edara participated in this study . The participants were selected based on the results of Arabic teacher nominations, screening for reading achievement, school attendance, and parental consent. Neurological scanning results indicated that they were neurologically deficient . Children were randomly classified into two groups: experimental(n= 20 boys) and control (n= 20 boys). The two groups were matched by age, IQ, word recognition and reading comprehension skills. the effect of using multiple intelligences on some basic Reading skills of first graders At-Risk for reading disabilities was assessed using pre- post testing . Findings from this study indicated the effectiveness of the program employed in improving word recognition and reading comprehension skills in the target children.

Keywords: Multiple Intelligences, Basic Reading Skills, first graders At-Risk for Reading Disabilities

Introduction

Reading is a cornerstone for a child's success in school and, indeed, throughout life. Without the ability to read well, opportunities for personal fulfilment and job success inevitably will be lost (1985). A student's ability to master such a concept in primary grades establishes the groundwork needed for student achievement in reading and thereby in other subjects as well. If the ability to learn to read takes a prolonged time to develop, students may struggle to read in later grades (Nielsen, Winter ,Keetle& , Jackson, 2007)**.**

The concept of intelligence has been the core of interest for scholars, scientists, through scientific research area as in a way that aims to understand the reality of human intelligence and its development (Legg and Hutter, 2007, p.2). MI theory can be a new and effective method for presenting different strategies of teaching and can help students achievements ameliorated(Habib Soleimani, Ahmad Moinnzadeh, Zohreh Kassaian & Saeed Ketabi, 2012).

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.

Habib et al.(2012)investigated the effect of instruction based on Multiple intelligence (MI) theory on attitude and learning of General English course among students of Islamic Azad University, Kermanshah Branch in the second semester of educational year of 2010-2011. 61 male and female students in two different classes participated in the present study that were assigned to experimental (32 students) and control (29students) groups based on random cluster sampling. A quasi experimental method of research with a pre- and post test was used. The experimental group was taught according to the theory of MI and the control group was instructed based on the traditional method of teaching General English in eight weeks time. In order to determine the effect of MI-based instruction compared with traditional method, a researcher constructed test including 30 items were utilized. In order to assess the attitude of the learners toward English, a 15 items scale of attitude toward English Language was also employed. For analyzing data we used ANCOVA and independent sample t-test. The results of the study indicated that there was a significant difference between improving in General English course between experimental and control groups. In other words, students taught based on MI theory exceeded the traditionally instructed students both in general and in each sub-skill of learning English (vocabulary, reading comprehension, and structure). The results also indicated that attitude of students towards learning English in experimental group improved significantly.

Hasanah, Nur. (2013)discussed about improving students' motivation on reading comprehension by using Multiple Intelligences strategies. The objectives of the study are explaining 1) the problems faced by the eight graders of SMP N 1 Alian, Kebumen in reading comprehension, 2) the implementation of Multiple Intelligences strategies in motivating reading comprehension for the eight graders of SMP N 1 Alian, Kebumen, 3) how Multiple Intelligences strategies improve the motivation of the eight graders of SMP N 1 Alian, Kebumen in reading comprehension.

In order to achieve the objectives, the researcher held an action research at SMP N 1 Alian, Kebumen on 16th of March- 9th April 2013. There were 2 cycles in which 2 meetings held for each cycle. The subject of the study is the second graders of SMP N 1 Alian, Kebumen. The numbers of population are 32 students. The instruments used were observation sheet, questionnaire, and CARI. The result of the study is the problem in motivating students to read. This can be solved by using Multiple Intelligences strategies which combine students' intelligences with fun learning activities by Multiple Intelligence instruction. Based on the questionnaire, all of the students said that the strategies used were interesting. In line with the questionnaire result, the observation sheet also showed excellent result on students' study habits. There was improvement on students' comprehension, it can be seen from the mean of CARI I which was 89.06 point and CARI II which was 95.6 point.

Reem(2014)aimed at investigating the effect of using multiple intelligences (MI) on developing fifth graders' achievement in English vocabulary in the Gaza Strip. To achieve this aim, the researcher improperly used sample of (121) female and male students studying at Abdullah Ben Rawah School in the Gaza Strip. The researcher used a quasi-experimental which fitted the nature of the present study. The participants were divided into two groups. Each group was divided into control and experimental. Regarding the instruments of the study, the researcher used an achievement test and a teacher guide. The researcher used the achievement test as a pre-test to prove equivalence. It was also used as a post test to measure any possible differences between the target group due to implementation of MI. The collected data

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were analyzed and treated statistically through the use of SPSS. The following statistical methods were used: T- test and Eta square. The findings indicated that there were statistically significant differences between the two groups, in favor of the experimental one due to MI implementation and there were statistically significant differences between the male of experimental group and control group in favor of the experimental one. Additionally, there were statistically significant differences between the female of experimental group and control in favor of experimental one. Moreover, by implementing the effect size equation, the researcher discovered that MI had a large effect size in favor of the experimental group.

Amir Reza(2016) investigated the relationship between Multiple Intelligence and Reading Comprehension Abilities of Iranian EFL learners. For the purpose of study, 117 senior English students were randomly selected. After administering two types of instruments including MIDAS Adults (Shearer, 1996) and Reading Comprehension Section of TOEFL (2005, Longman), the data were collected and analyzed. The results indicated that all types of the learners' MI profile have significant relationship with the reading comprehension scores and the Verbal-Linguistic Intelligence is the most significant predictor of the learners' reading comprehension abilities, while Visual-Spatial and Interpersonal Intelligences are the second and third predictors of the learners' reading comprehension respectively. Furthermore, Intrapersonal and Kinesthetic Intelligences could not predict the reading comprehension of the learners.

Alaeddin (2017) examined the potential effect of a program based on multiple intelligences on improving the Jordanian tenth grade English as a Foreign Language (EFL) students' critical reading skills in English. The researcher claims that multiple intelligences strategies have the potential to provide a suitable resource to empower the quality of TEFL in Jordan. The study follows a quasi- experimental design in which an experimental group and a control group were purposefully chosen from AzZarqa First Directorate of Education (Jordan). In the experimental group, 30 students were taught by multiple intelligences strategies and 29 students of control group were taught by the conventional teaching method as outlined in the teacher's book. A pre-post achievement test was utilized. The findings reveal statistically significant differences at ($\alpha \leq 0.05$) between the two mean scores of experimental and control groups in the post- test in favor of experimental group.

Purpose

The purpose of this study was to investigate the effect of using multiple intelligences on some basic Reading skills of first graders At-Risk for reading disabilities

To achieve the stated objective, the following research questions were raised:

1- Are there differences in post–test scores mean between control and experimental groups on word recognition test?
2- Are there differences in post–test scores mean between control and experimental groups on reading comprehension test ?

Method

Participants

40 first grade children selected from two schools located within two elementary schools in Sharkyia Educational Edara participated in this study . The

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participants were selected based on the results of Arabic teacher nominations, screening for reading achievement, school attendance, and parental consent. Neurological scanning results indicated that they were neurologically deficient . Screening procedures of the participants included these steps:

Teacher nominations. The Arabic teachers was asked to nominate students who exhibited poor reading skills and might benefit from additional instruction.

Screening for reading achievement. All children were assessed using The Dynamic Indicators of Basic Early Literacy Skills. Based on the results of these assessments, children exhibiting poor reading skills were identified as at-risk for reading disabilities and possible participants for this study.

School attendance. Regular attendance was one of the eligibility requirements to participate in this study. Previous school attendance records were reviewed, and children with potentially poor attendance were excluded from the study.

Parent consent. A letter introducing the purpose of the study and a consent form were sent to parents of the potential participants. Written consent was obtained before beginning of the study. In addition, an oral solicitation using understandable sentences was read to the children by the researcher. Children without written consent were also excluded from the study. Children were randomly classified into two groups: experimental (n= 20 boys) and control (n= 20 boys). The two groups were matched by age, IQ, word recognition and reading comprehension skills . 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.

Table 1. *Pre-test 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	20	61.35	2.25	-.735	-
	Control	20	61.95	2.76		
IQ	Experimental	20	108.15	4.68	-.816	-
	Control	20	108.25	3.79		
Word recognition	Experimental	20	6.21	3.00	-.547	Not sig.
	Control	20	6.67	3.52		
Reading comprehension	Experimental	20	6.82	2.65	-.539	Not sig.
	Control	20	6.54	2.32		

Table 1. shows that al 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) .

Instrument

a. Mourad Ali's Basic Reading Skills Test (word recognition, and Reading Comprehension, 2007). The test consists of (44) items assessing word recognition and Reading Comprehension, 22 items each , with score ranging from 0-1 on each item and a total score of 44. The test has demonstrated high internal consistency with Cronbach's α ranging from 0.83 to 0.87.

Procedures

Participants were selected, then pretest data were collected using d recognition and reading comprehension (pre-test). The classroom MI training program was conducted by the author with the experimental class in one large group for 10 weeks with 45 minute sessions conducted three times a week. 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 MI   on word recognition and reading comprehension of first   graders At-Risk for reading disabilities were assessed using pre- post testing.

Results

Table 2 shows T. test results for the differences in post- test mean scores between experimental and control groups in word recognition test. The table shows that (t) vale was (10.112). 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 .

Table 2. *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	20	15.95	1.79	10.112	0.01
Control	20	8.65	2.13		

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 (12.004). 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 reading comprehension test in the favor of experimental group .

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

Group	N	Mean	Std. deviation	t	Sig.
Experimental	20	16.05	3.23	12.004	0.01
Control	20	7.22	5.11		

Discussion

The objective of this study was to investigate the effect of using multiple intelligences on some basic Reading skills of first graders At-Risk for reading disabilities. The findings of this study have shown that . Findings from this study indicated the effectiveness of the program employed in improving word recognition and reading comprehension skills in the target children . This goes in the same line with Hall's research (2004) which shows that teachers who have utilized multiple intelligence-based instruction in second or foreign language classrooms have observed students been more satisfied and had more positive attitudes towards learning English in experimental than the control group. Goodnoughin a case study (2001) reports that 85% of students have declared that multiple intelligence-based teaching help them enjoy the lesson and learning. Experimental group 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 in a traditional way.

Limitations and future research

Although the results of this study showed the effectiveness of the adopted strategy , it had some limitations. The first limitation was the small sample size in order to arrive at more accurate and generalizable results, similar studies can be conducted with a larger number of participants. Another limitation of this study was that lessons were not from students curriculum, so some students were not taking the sessions seriously. Future research needs to take this into consideration; that is lessons should be from students books. Despite its limitations, this study can be considered one of the many steps that need to be taken in order to plan curricula taking the different intelligence profiles of the students into consideration and embrace all the students no matter how different they are from each other.

References

Alaeddin Khaled Alqatanani (2017). Do multiple intelligences improve EFL students' critical reading skills? *Arab World English Journal* (AWEJ).8(1). Available at SSRN: https://ssrn.com/abstract=2945910

Amir Reza (2016).Multiple Intelligence and EFL Learners' Reading Comprehension *Journal of English Language Teaching and Learning*, No. 18, 199-221.

Anderson, R., Hiebert, E., Scott, J., & Wilkinson, I. (1985).*Becoming a nation of readers: The report of the commission on reading*. Washington, DC: National Institute of Education and the Center for the Study of Reading.

Goodnough, K. (2001). Multiple intelligence theory: A framework for personalizing science curricula. *School Science and Mathematics, 101*(4), 180-193.

Habib Soleimani, Ahmad Moinnzadeh, Zohreh Kassaian & Saeed Ketabi (2012). The effect of instruction based on multiple intelligences theory on the attitude and learning of general English. *English Language Teaching*; 5(9), 45-53.

Hall, H. M. (2004). Learner-centered instruction and the theory of multiple intelligence with second language learners. *Teachers College Record, 106*(1), 63-180. Retrieved January 17, 2010, from the ProQuest database.

Hasanah, Nur.(2013). *Improving students' motivation on reading comprehension by using multiple intelligences strategies (A Classroom Action Research at Second Graders of SMP N 1 Alian, Kebumen)".*Final Project, English Department, Faculty of Languages and Arts, Semarang State University. First advisor: Dr. Dwi Anggani Linggar Bharati, M. Pd. Second Advisor: DwiAnggaraAsianti, S. S., M. Pd.

Legg, S. and Hutter, M. (2007). *A Collection of definitions of intelligence*. Retrieved 19 Apr, 2014 from http://arxiv.org/pdf/0706.3639.pdf

Nielsen, D., Winter, L., Keetle, S., & Jackson, C. (2007). More than a reading intervention: Teachers working together to improve the reading achievement of students from culturally and linguistically diverse backgrounds *.Multiple Voices for Ethnically Diverse Exceptional Learners* . 10(1/2)125- 146 .

Reem Shoukri (2014). *The Effect of using multiple intelligences on developing fifth graders' achievement of vocabulary in the Gaza Strip*. Thesis Submitted to the Curricula & Teaching Methods Department in Partial Fulfillment of the Requirements for the Master Degree of Education.