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EFFECT OF A COMPUTER SOFTWARE ON DISABLED SECOND LANGUAGE LEARNERS' ORAL READING FLUENCY

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ABSTRACT

This study explored how well using computer software can affect on improving English oral reading fluency for disabled learners. It showed how a using computer can reduce the impact of disability for disabled students on oral reading fluency. The focus of this article was specifically for software (natural reader software) applications designed for computer-based instruction in reading for students with learning disabilities. A total of 20 females with a mean age of 14 years old who were attending a public school in Ardabil were subjects of this study. These students were randomly divided into two groups. Group (1) consisted of 10 disabled students with using of the software instruction (experimental group) and Group (2): consisted of 10 disabled students without using of the software (control group). The control group simply attended in their ordinary classroom without using computer software and participated in instruction programs assigned by the teacher in the classroom. The experimental group attended in the computer lab and listened to the text as it is read by natural reader. After treatment sessions the results suggested that the natural reader software group did better than non-software group in oral reading fluency.

Key Words: Disabled students, Natural reader software, Oral reading fluency.

INTRODUCTION

Manivannan (2000) said, owing to lack of knowledge, educational access and technology, disabled children were initially treated as unwanted and segregated from other children. He believes that disabled children should be accepted without any restrictions in all the educational programs meant for other children. Up until now, educators and researchers have provided little attention to the disabled students' difficulties which they addressed in second language learning. One of the most difficult problems facing middle and secondary school teachers today is that many students come to class without the necessary skills to read and comprehend the written materials placed before them (Snow, 2002).

One kind of learning disabilities is reading disability, is common in Iranian students. Reading disability is a major obstacle to learning English as a second language. Much of what happens in a second language classroom is based on the reading. The majority of students have learning disabilities in the area of reading. Reading is central to learning; children who do not learn to read print by the second grade are likely to struggle with learning throughout their lives (Stanovich, 1985). Reading is the foundation of curriculum pursuits, students unable to read with success will experience difficulty in most curriculum areas (Zoref, Glang & Hall, 1993). Unfortunately, a trend observed in classrooms in that students with reading difficulties actually read less. They have less instructional time and less practice time. (Allington etal.,1989;Allington etal.,1995). Experts (Goering & Baker, 2010; Rasinski et al) claim that oral reading is an important part of skilled reading. Roundy and Roundy (2009) posit that students who do not achieve reading fluency at a young age are at a considerable disadvantage in all of their academic pursuits henceforth. , Allington (1983) points to the notion that oral

reading fluency is often neglected in instructional reading programs, causing comprehension problems and poor overall reading development. Fluency assessment is important because it is a valid indicator of overall reading competence (Fuchs, Fuchs, Hosp, & Jenkins, 2001).

What is reading fluency?

Lambert (2007) states , reading fluency consists of three components:

- Speed of reading
- Accuracy of reading
- Prosody (reading with expression)

Accuracy refers to the ability to correctly decode words. Rate is the time it takes to decode words, and is typically measured by counting the number of words read correctly in one minute. Prosody is appropriate phrasing and expression.

Possible signs of reading fluency disability

- Difficulty with phonemic awareness
- Difficulty with accurate word recognition
- Difficulty with fluent word recognition
- Difficulty with word decoding
- Difficulty with reading rate of fluency
- Difficulty with reading comprehension

So it's important to identify disabled students in reading fluency and to help them overcome the hurdles they face. To kick these obstacles away , we should provide disabled students new methods, to deal with their learning disabilities.

The advent of computers is one solution for providing equal educational opportunity and participation for students with disabilities. For children with disabilities computer can effect on their learning opportunities previously they hadn't these opportunities. The computer is a wonderful tool for students who have difficulty in learning. Making learning easier and enjoyable for disabled students is a very important objective for teachers. Educators have since discovered new methods of teaching students with learning disabilities. Since the first half of the 1980's personal computers have been used to support the education of children with profound and multiple learning disabilities in the UK. (Blenkhorn, 1996).

A number of computer software programs have been developed specifically for students with reading fluency difficulties. There are some of the computer softwares for reading that one of them was used in this study. (Natural Reader Software) The Natural Reader Software is a great aid for children with reading disabilities. This software allows them to listen to pages on the internet, alleviating his struggle trying to read from a computer screen with a magnifying glass. It is a wonderful and affordable software for disabled students. It makes reading more fun and pleasurable. It helps students process and have a better retainment of information. The quality of voices a viable, the ability to adjust the speed of speech is brilliant. The ability to copy text from places online and create audio files to listen to on an MP3 player is fantastic. It is invaluable when it comes to proofreading the students' work. These features can enhance comprehension and attention for students with specific learning disabilities. In natural reader programs, files are copied into the program and then are spoken by the computer. Generally the user has options to select different voices (male and female), change the speed the text is processed, and increase or decrease the size of the font. It is a great way to help the students overcome those pronunciation difficulties.

RQ: What is the effect of computer software (natural reader software) on disabled students' oral reading fluency?

RH1: The application of computer software(natural reader software) will affect the disabled students' oral reading fluency.
In this study, the computer software was considered as the independent variable and disabled students' reading fluency score was regarded as the dependent one.

METHOD

Participant

On the basis of school psychologists and teachers' reports 20 disabled students were diagnosed. They were assured of anonymity and informed that their participation was entirely voluntary. Also all of these students were assessed by a physician for medical problems that could affect the students' ability to learn. All reported normal hearing and vision. A total of 20 females with a mean age of 14 years old who were attending a public school in Ardabil were subjects of this study. The students were divided into group (1) consisted of 10 students with using software (experimental group) and Group (2): consisted of 10 students without using of software (control group).

Procedure

The text was selected from their textbook in guidance school for both groups. Then, the control group simply attended in their ordinary classroom without using computer software and participated in instruction programs assigned by the teacher in the classroom. The experimental group attended in the computer lab and listened to the text as it is read by natural reader. The program comprised 2 weekly sessions lasting 30 minutes for two months for both groups.Two days before launching the treatment program a pre-test was administered. A pre-test was administered to make sure about the homogeneity of the two groups in terms of their level of oral reading proficiency.

Using software by the experimental group's teacher to read text

1. A new document was opened by clicking on the new icon
2. The text was copied and pasted into the reading window
3. It was clicked on the play arrow button to have the text read out loud.
4. It was clicked on the stop square to stop speech when it was needed.
5. In the reading window the words were highlighted as they were read.

This approach enabled students to hear the proper pronunciation of words they were unsure of how to pronounce, and in a way that was easy and allowed for infinite repetition. They were able to highlight sections of the text and repeat them over .

Experimental group read along with a software reader of the text several times. To get the most out of this step, students subvocalized quietly as they read along to make sure they weren't just listening to the software reader. Students practiced reading the text several times without the reader software. Over these treatment sessions a post test was administered to both groups.

Data analysis

To provide a statistical analysis in order to answer the research question, the collected data from posttest, were submitted to statistical analysis. The analysis consisted of a descriptive statistics and an independent t-test to compare the overall performances of two groups in order to see the effect of using natural reader software for improving disabled students' reading skill. From the scores obtained the following result was found (table 1).

Table1. Means and standard deviation obtained in post-test

	N	mean	SD
Software group	10	11.80	1.47
Non-software group	10	10.00	1.42

As the descriptive statistics in Table 1 indicates, software group had a higher mean and lower standard deviation in comparison with non-software group. This implies that in this test, software group did better than non-software group.

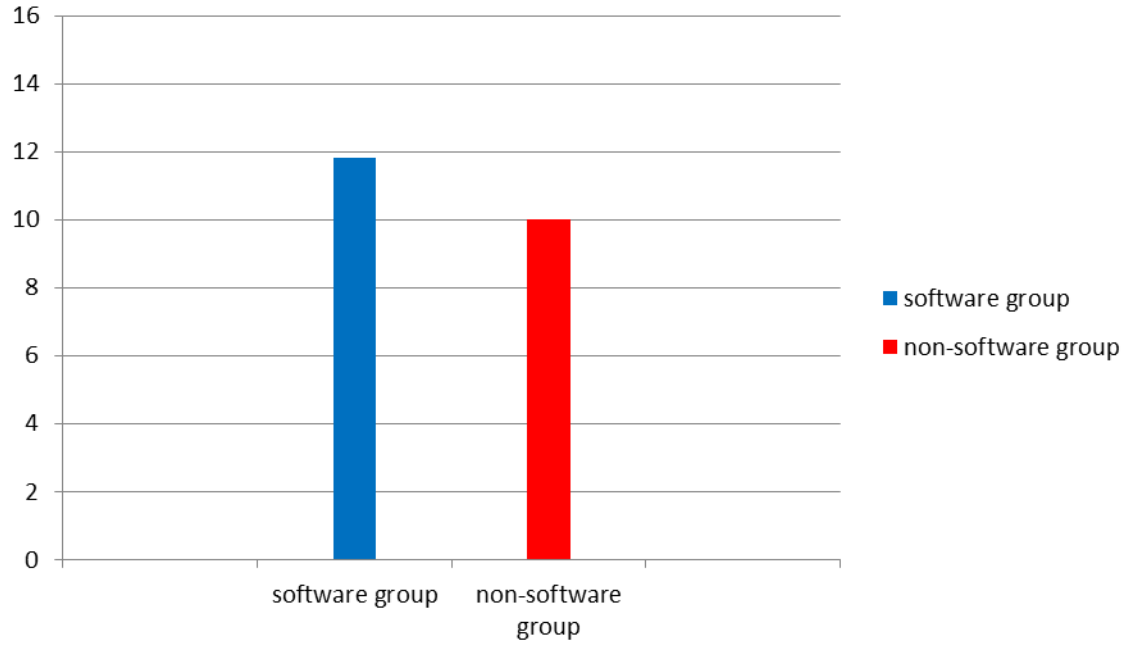

Figure1: Comparison of means obtained in post-test by two groups.

Figure 1 shows means for two participating groups on post-test. According to Figure 1, software group outperformed non-software group on post-test.

In this analysis the alpha was set at .05. Since the two-tailed significance value of .006 is less than alpha = .05, we can say there is a significant difference between the two groups.In sum, the research question was responded positively in that software program does have a significant effect on disabled students' reading fluency than ordinary method of reading fluency in the classroom.

CONCLUSION

The results of this study showed disabled students who have struggled with reading fluency for so long, benefit from reading software . Studies have found positive outcomes associated with the use of assistive technology for students with reading deficits (Balajthy, 2004, Boyle, Rosenberg, Connelly, Washburn, Brinckerhoff, & Banerjee, 2003). Fortunately , we as a teacher can provide to our disabled students several kinds of adaptive

technology program to assist learning. Students with disabilities have the right to an equal opportunity to use technology in their education. Our schools should improve their facilities to ensure equal opportunities for all students with disabilities. Our schools should open their doors to innovative thinking and using technology. Richard(2006) believes that technology offers us a means by which to make the familiar unfamiliar, to reframe and rethink our conceptions of language, communication, and society. It is through this process of analysis and reflection that we can best decide how we can and should use technology in language learning and teaching .

The computer can help disabled students compensate for challenges in second language reading and it can break down these students' barriers to learning. There are a number of questions for further research : How can we create a safe and comfortable place where these students can benefit from it? How can we guide disabled students in this type of learning. (computer-based) learning ? How we can launch some exciting and helpful program for students with disabilities to encourage more confidence and success in their academic, personal, and professional endeavors?

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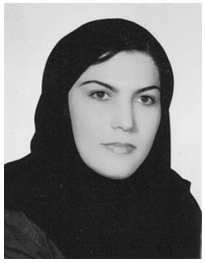

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REFERENCES

Allington, R.L. (1983). Fluency: The neglected reading goal. The Reading Teacher. 36 (6), 556-561.

Allington, R.L., & McGill-Frazen, A. (1989). School response to reading failure: Instruction for chapter 1 and special education students in grades 2, 4, and8. Elementary school Journal, 89, 529-543.

Allington, R. L., & Walmsley, S. A. (1995). Redefining and reforming instructional support programs for at risk students. In R. S. Allington& S. A. Walmsley (Eds.), No quick fix: Rethinking literacy in America's elementary schools(pp. 19 - 41). New York Teachers College Press and Newark, DE: International Reading Association.

Balajthy, E. (2004). Text-to-speech software for helping struggling readers. Reading Online. Blenkhorn, P. L. (1996). "The ROEVH project on computer assisted learning" , The British Journal of Visual Impairment, IV(3), PP. 161-163.

Boyle,E., Rosenberg, M., Connelly, V., Washburn, S., Brinckerhoff, L., Banerjee. M (2003), Effects of audio texts on the acquisition of secondary-level content by students with mild disabilities. Learning disability quarterly, 26, 2003.

Fuchs, L.S., Fuchs, D.F., 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, pp. 5, 239-256.

Goering, C., & Baker, K. (2010). "Like the whole class has reading problems": a study of oral reading fluency activities in a high intervention setting. American Secondary Education, 39 (1), 61-77.

Lambert, M (2007). A Guide to Reading Fluency and the Assessment of Specific Learning Disabilities in the Individuals with Disabilities Education Improvement Act of 2004. Wisconsin Department of Public instruction.

Manivannan, M. (2000). Associate Publication of Asia Pacific Disability Rehabilitation Friday Meeting Transactions Journal. Vol 2 No.1.National Institute of Child Health and Human Development. (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 (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.

Rasinski, T.V., Padak, N.D., McKeon, C.A., Wilfong, L.G., Friedauer, J.A., & Heim, P. (2005).Is reading fluency a key for successful high school reading? Journal of Adolescent and Adult Literacy, 49 (1), 22-27.

Roundy, A., Roundy, P. (2009). The effect of repeated reading on student fluency: does practice always make perfect? International Journal of Social Sciences, 4 (1), 54-59.

Snow, C.E. (2002) Reading for Understanding: Toward a Research and Development Program in Reading Comprehension. Rand Corp: Arlington, VA. Technology-Related Assistance for Individuals with Disabilities Act of 1988, P. L. 100-407.

Samuels, S. J. (2006). Toward a model of reading fluency. In S. J. Samuels & A. E. Farstrup (Eds.), What research has to say about fluency instruction (pp. 24-46). Newark, DE: International Reading Association.

Stanovich, K. E. (1985). Explaining the variance in reading ability in terms of psychological processes: What have we learned? *Annals of Dyslexia, 35,* 67-96.

Richard, K. (2006). Perspectives on Technology in Learning and Teaching language. TESOL QUARTERLY 40(2), 183 - 203.

Zoref, L., Glang, A., & Hall, T.E. (1993). Developing a volunteer reading program in your school: Strategies, success, and challenges; In J. Marr, G. Sugi, &G. Tindal(Eds.), The Oregon conference Monograph (pp. 15-21).