

EFFECTIVENESS OF VISUAL TRAINING IMPROVE THE PERFORMANCE OF WRITING (SPELLING) STUDENTS WITH LEARNING DISABILITIES

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ABSTRACT

The purpose of the present research is determine effectiveness of visual training on writing performance improvement of male students at 2nd grade of primary school with learning disability. The method is quasi-experimental study with pretest/posttest experimental and control group. Population is consisted of male second grade primary school students of Mobarakeh City at the 91-92 school year that referred to Learning Disorder Center for registering and the sample is consisted of 30 students. The samples choose by available sampling method and it located in experimental and control group randomly. Experimental group is taking under visual intervention twice a week during 2 months but control group take nothing. To collect the data, we used the Wechsler Intelligence Scale for Children-revised, diagnostic dictation test and reading assessment form. Covariance analysis conclusion showed that visual training improves writing (dictation) ability. Therefore, this method considered as useful experimental method for students with writing disorder which have problem with visual training.

KEYWORDS: learning disability, visual skills training, writing performance

Phenomenon of learning disability (LD) is a universal problem in all languages, cultures, and nations of the world can be seen. The second half of the twentieth century and started reading about children the mode of action for many parents, teachers and social workers, is considerable. Some of these children, despite normal growth in all of their physical development, when they start reading and writing problems are serious. The children's IQs are almost normal, and the visual and auditory senses elderly, environmental and educational facilities are relatively good and extreme deprivation are emotional, but nevertheless in one or more areas of their curriculum, are fundamental problems. (Ahadi et al,2009)

Diagnostic and statistical manual of mental disorders fourth edition text revision dyslexia DSM-IV-TR, Learning disabilities in four diagnostic categories are included: dyslexia, dyscalculia, and dysgraphia, not otherwise specified (NOS) (Sadock & Sadock, 2007).

The general rule of 1242-94 in America, one of the types of learning disabilities, speech written. Ever since the term was introduced in 1975, took dictation and other forms of written communication.(Kerk and Chalfanet, Translate Ronaghi and colleagues,1998).

Askmr believe et al (2004) Written expression through copying, dictation, spontaneous writing and writing is assessed, Can detect problems such as bad writing and bad lines, and disruption of the linear system

(which spell failure for a certain age or level of education is expected), helps. Impaired and impairment write-linear system may or may not be associated with dyslexia is dyslexia.(Felcher,2007)

Reviewing existing definitions of disorder of written expression, suggesting that the complex and multidimensional nature of written expression is induced, and this disorder is not well known or defined. This finding is based on the observation that there are no operational definitions of certain written language; all components must be in the area of written language. Research conducted in the language revealed that most children with learning disabilities have difficulties in at least one component of writing (As, handwriting, spelling, vocabulary or syntax error and Treasurer Composition) Currently there is no definition of these components are not defined objectively or operational.(Mash & Barkley,2004)

According to Berneshtain 1958, Children who begin school with the exclusion of language and writing, Expressed not only in the content, concepts, language and spelling, and composition have problems, but overall, it takes the form of advanced cognitive thinking. (Vallas,1991)

Students may most written language skills such as handwriting, spelling, punctuation, use of capital letters and essays have trouble, but the most common disorder of

written expression deficits in spelling and dictation (Gorman, 2005).

Disgraphia or dictation disorder, a major disturbance in writing. Dictation term disruption for children who have normal intelligence, very bad writing is used. (Seif Naraghi et al, 2010)

Writing is not an easy skill, but also mentally and physically. Incomplete coding can result from poor students in visual-motor coordination skills, vision, motor control and musculoskeletal system is flawed, writing letters and numbers in the exact form of communication. (Graham, 2000)

Spelling problems might indicate a fundamental problem in phonological processing, especially in cases where the child is unable to identify word constituent phonetic units. These children are likely to be able to combine letters and words to build accurate. (Lerner, 2005)

In the second grade or so, usually in writing simple sentences and short, it is grammatically wrong. Their most common symptoms include spelling mistakes, grammatical errors, punctuation mistakes, weaknesses in the paragraphs and bad handwriting. (Fletcher, Lyon, Fachz & Barnes, 2007)

Write a mechanical action because it does, it can be said that the motion sensing system can predict dictation ability. In fact dictation by language skills, including phonemic correspondence line and motor skills, especially visual integration - a move is projected. (Berninger, 2004)

Writing skills with the ability to fill in the correct words instead of sounds (phonemes) deal. Many students with learning disabilities, the link between sound and display impaired, they cannot hear the sounds, and they become letters and words. These children may have difficulty with auditory memory and auditory recognition, Also a lot of trouble writing the spelling of words to visual memory deficits, will be handled. (Vallas et al, 2000)

METHODS

This quasi-experimental pre-test - post-test control group, independent variable, the visual skills to the test group intervention and non-intervention control group and the dependent variable post-test writing (dictation) after completing the course, students in experimental group and the control group were collected.

The study population consisted of second-grade elementary school students with learning disabilities in school who went 2012-2013 Mobarake city center of learning disorders. Sample, based on the adequacy of the sample test plan, the number 30 people second grade elementary school students with disabilities writing (spelling) which sampling method selection and random assignment to test and control groups, matched and were replaced. In the center of learning disabilities, to identify problems dictate programming, the first student from the school because of serious problems with spelling and check spelling wrong end of the 10-student enrollment was introduced, Then in terms of visual and hearing difficulties and mental retardation, have been examined to rule out the possibility of mental retardation, children Wechsler test was used. 2 sessions per week during 15 sessions (45 minutes per session) with individual instruction to each student was assigned. In addition to visual skills training in a variety of ways such as using picture cards and Education... The variety of games to enhance visual abilities and educational items such as puzzles, memory cards, Maze, rings and rods etc. were used. At the last meeting of the first session of the pre-test and post-test. Criteria for the study were as follows: Average and above-average intelligence, normal hearing and visual senses, an inability to write (dictate). The following instruments were used to collect data.

Wechsler intelligence scale for children- revised (WISE-IV)

Wechsler intelligence test for children in tow test revised form, Third Edition (1991), the Wechsler (2002) has provided for children 6 to 16 years old. The fourth edition of the Wechsler intelligence test for children measuring general intelligence and four index scores, including verbal comprehension, perceptual reasoning, working memory and processing speed provides. This test Abedi, Sadeghi and Rabie (2009) on a sample of Iranian children and to adapt the norm to have access. Retest subtests in the range of 0.65 to 0.95 and alpha reliability coefficients from 0.71 to 0.86 have been reported.

DICTATION TEST

Since the analysis of writing errors, tools, standards, and there is no credible, in the preparation of written errors of assessment expertise and guidance of experienced teachers in primary and second base on common writing errors in spelling, and accordance with the directive of Education about how to adjust the text and

check dictation dictated by a number of samples were pupils. This Czech List more features such as: had the simplicity, speed, accuracy and representativeness of the and two second grade elementary Persian text book that was used in phrases and words that identifies spelling errors. Types of errors are: precision, error, memory error checking, error checking and error learning and clean, its validity confirmed 5 people, experts and trainers in this field of learning disorders center of activity and 5 people out of second grade elementary teachers was also a reliability rate of the Czech List by Cornbrash's alpha in this study 0/78 determinate.

Two stage when the pre-test - post-test was administered to both the control and experimental groups. At each stage dictation text according to the Ministry of Education, according to the correct reading practices were dictations to Read "First, in order to familiarize participants were read a second time calm was read(In duplicate) to encourage subjects. At the end of the dictation, the text was read a second time to remove stop words and phrases to target. "After training, posttest writing (dictation) for all students, run and eventually all the data were collected and analyzed using descriptive statistics and analysis of covariance was SPSS18 software. Using descriptive statistics such as mean and standard deviation data were described. Then, using inferential statistics (Mankva analysis and Tukey's multiple comparison) between variables were examined.

Training programs – Corrective

First session: Referrals and meet members of the researcher and explained the work and education of children completing Personal Information Questionnaire by parents. Spelling pretest students (control group and experimental group) were used.

Second session: The meeting evaluation form is dictated by the number and type of setting and wrong in dictating completed the required training strategies were identified.

The third and fourth sessions: Training in visual memory by performing the exercises and go and find and puzzle games and try to find items....

Typical training session includes: Card showing the words written on it to increase the understanding and knowledge of families of children with words that have the same roots. Words that students found it difficult to show the card, then he looked up at the words carefully

and then wrote the words on the air. With increasing skill, the number of words in each exercise was increased. Some object to show the student, the instructor closed his eyes and the shape of things to me, and the child must be the first order. Repeat this play as a team and a student out of class, and handling other students were doing. Coach Picture Card or Keyword student show and hide pictures and images of things which he had named. With increased training and skill building, as well as increasing the number of card images.

The fifth and sixth sessions: Review exercises, and review sessions before the relevant assignments, tutorials related to visual attention. Typical training session includes: Similar images that have had a few minor differences, the students were shown and stressed that with full attention to the look and the differences say.

Coach is an image that contains multiple child object shown in the picture hid about objects or persons in the image of the child was asked (This exercise is also useful to improve visual memory). Select the text of the textbook was written with minor errors (such as adding or indentations, Rogue, points, writing letters sound the other way, dropping the letters, move the letters in the word, etc.), then the child text it reads and corrects the errors.

Two mixtures with small grains such as: Mix rice, wheat, lentils, or other appropriate means and facilities to the students so that they can accurately separate. Session VII: Review training session and review the assignments, training visually clean. Typical training session includes:

- Painting and he'll be busy most of the students do not find such animals hidden in the picture.
- All letters, pictures and incomplete shapes and then painted it by child.

Session Eight: Review the training session and review their assignments, exercises more visual accuracy.

Typical training session includes: Playing with toys, move them mentioned that in some cases the differences are between the same toys. Cards provide a letter of words that point, it may have a dent or a rebellious student should be able to find defects.

Increasing time, attention

Cards that provide a mixture of correct and incorrect word and students must find their mistakes. Show the cards to the children who need these cards into groups 1-2-3 immediately, the point will be assigned. (Gradually reduced over large areas, and are close to each other).

Number of points in the card recognition

Punctuation characters, and completes them by the child.

Session IX: Review training session and review the assignments and training in the visual and performing cleaning cleaning practices and games to enhance the visual Like Exercise No. 4 Frastig to identify differences and similarities in the pictures and Practice (2) Detection of specific figure in scrambled form.

Tenth Session: Continuing education in the field of visual memory by performing the exercises and playing games such as play equipment regularly and ... Sample exercises: Use toys like dominoes, puzzles, puzzle and correctly making the right shape....

Session XI: Review exercises, and review sessions before the relevant assignments, training in the field of training errors, for example, children were told that the pronunciation of some words you will not be waiting for another word Like: "Letter - cream and ...» that should be the "e" is used, but the pronunciation of words like "mom ... and a pencil ..." wait, you will continue to be the word "» please. This training continued until complete understanding baby.

Session XIII: Review and evaluate training sessions before the relevant assignments, continuing education in the field of visual memory and visual clean repeating previous sessions of exercises and games such as game point, puzzles and puzzle.

Fifteenth session: review of the training session and homework review.

Sixteenth Session: Review training sessions before and after the implementation of the control and experimental groups form spelling test and post-test analysis dictates.

RESULTS

Table 1: Mean and standard deviation of pre-test and post-test scores of the two groups of components common errors in spelling

Variable	Group	Pretest			Posttest	
		Number	Mean	Standard deviation	Mean	Standard deviation
Visual precision error	Test	15	12.2	3.23	3.13	1.68
	Control	15	12.13	3.58	10.53	2.97
Visual memory error	Test	15	8.33	3.58	2.93	1.75
	Control	15	7.33	2.55	6.87	2.59
Visual discrimination Error	Test	15	6.73	2.71	0.87	0.99
	Control	15	3.13	2.1	2.27	1.75
Training error	Test	15	5.4	2.95	1.67	1.54
	Control	15	4.4	2.1	2.47	1.19
Spelling errors (total)	Test	15	33.67	8.57	8.6	4.61
	Control	15	29	8.23	22.13	6.5

As can be seen in Table (1), the mean scores for common errors in spelling second grade elementary school students in the experimental group pre-test with 33.67 and the mean of the control group is 29. In the post-test mean scores of the experimental group 8.6 and the control group equal 22.13.

First hypothesis: visual skills training on improving the performance of writing (spelling) of elementary students with learning disabilities have an impact.

One-way analysis of covariance was used to test this hypothesis.

Table 2: Results of ANCOVA effect of visual training on the error scores of writing (spelling)

Variables	Square Total	Degrees of freedom	Mean Squares	F	Significant	The effect of	Statistical power
Pretest	534.990	1	534.990	40.765	**0.001	0.602	1
Group membership	1764.943	1	1764.943	134.484	**0.001	0.833	1
Error	354.343	27	13.124	-	-	-	-

As shown in Table (2), after removing the effect of synchronization variables on the dependent variable, and the coefficient F is calculated, it can be seen the mean scores of the modified error function of writing (spelling) participants based on group membership (experimental group and control group), there are significant differences in post-test ($P < 0.01$). Therefore, the first hypothesis was confirmed. The visual skills to increase scores on the error performance of writing (spelling) of elementary students

with learning disabilities have a significant effect on the post-test experimental group. The effect of the post-test 83.3 percent. If there is an error in the total mean score for writing (spelling) in the experimental group is significantly lower than the control group. The results of the analysis of post-test Mancoa components common errors in spelling in both experimental and control groups were shown in Table (3).

Table 3: Results of visual skills training component mean scores on common errors in spelling

Name of test	Amount	F	DF Hypothesis	DF Error	Significant (P)	Squares	Statistical power
Wilks Lambda test	0.156	28.406	4.000	21.000	**0.001	0.844	1

As can be seen in Table (3), significant levels of test, post-test indicate that the error component in the visual accuracy, the visual error memory error cleaned correlated groups experimental and visual educational error control mean experiment is reduced compared to the control group. ($F = 28.406$, $P < 0.001$).

To realize the differences, the results of the analysis are shown in Table (5) Mankoa the difference in efficacy or equal to 0.844 percent. The 84.4% of individual differences in error components of scores of visual attention, visual memory error, error, error in Visual discrimination learning is related to the effects of group membership. Statistical power is close to one, indicating the adequacy of the sample size.

DISCUSSION AND CONCLUSIONS

Covariance analysis showed that the hypothesis that, after removing the effect of synchronization variables on the dependent variable and the factor F is calculated, it can be seen that the adjusted mean scores of the error in writing (spelling) participants based on group membership (experimental group and control group), there are significant differences in post-test. ($P < 0.01$)

The visual skills to increase scores on the error performance of writing (spelling) of elementary students with learning disabilities have a significant effect on the post-test experimental group. The effect of the post-test 83.3 percent. The retail component of the error associated with the write (dictation), it is observed that the mean of the adjusted error scores of visual acuity, visual memory error, error, error in Visual discrimination training participants based on group membership (experimental group and control group control), there is no significant difference in post-test. ($P < 0.01$)

The visual skills training on reducing errors in visual acuity, visual memory error, error, error in Visual discrimination learning of elementary students with learning disabilities have a significant effect. The effect of the post-test, respectively, 81, 54, 39 and 17 percent. In general it can be stated that children who imagery again faces the problem of letters and words, a child writes the word tree and Mom probably in the wrong sequence, visual memory, are disturbed and thus does not know the correct word. Ability to remember the pattern of move sequences of characters, special skills that many children who suffer from the disorder, dictate notes, are lacking. Write the word in the wrong seat or child who has

difficulty with visual memory. Children with visual memory problems are in store for the recovery of visual word-dimensional visual image of face shapes. Responsible for recording the details of objects in visual memory and message, written letters and words. Researchers believe that children who are deficient in visual memory cannot hold the details of the written word in your mind. The most important problem in this context, the perceived problem, orienting shapes' inability to communicate complex designs and difficult to fulfill and perfect the skills and vision. These children often do not have the ability to recall words the feeling of movement. For example, moving the hand in writing some words are completely forgotten. As one can see, writing and spelling requiring retailers have many skills and abilities. Including the person's attention before anything else is to read the word. Transcribe and analyze the relationships of certain words must have knowledge and skills, and finally, the need for flexibility and ease of motion is written. Dictate the difficulty may be due to a defect in one of these sub-skills or a combination of them. In this study, visual skills were tried and effect of sub-skills training should be evaluated. If not taken to meet the educational and therapeutic measures for this disorder, in most of the cases, the students will take their problem to adulthood. On the other hand, teachers and parents with learning difficulties as a factor in the cause of anxiety are considered. As a result, a lot of emotional investment in the cause and treatment takes place. Therefore, this study was visual skills training error decreases visual acuity, visual memory errors, mistakes and errors in Visual discrimination learning of elementary students with learning disabilities and writing and spelling disorders and rehabilitation for vision problems as a necessary step to reduce the learning problems were considered.

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