

The Positive Impact of Play Therapy on Writing Performance of Students With Dysgraphia

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Received: June 10, 2013; Revised: November 20, 2013; Accepted: March 10, 2014

Background: The writing language is learned in the hierarchy of children's ability after the listening, speaking and reading and therefore, any problems in other areas such as listening, speaking and reading can have a negative impact on language learning. Over the years, there were many ways to treat this disorder, including play therapy which has been used in various fields to combat learning disorders.

Objectives: The purpose of the present study was to investigate the effect of play therapy on writing performance of students with dysgraphia.

Materials and Methods: This is a quasi-experimental study comprising pretest-posttest with control group. The Wechsler Intelligence test, writing and spelling errors assessment scale were used on 30 first-grade students with dysgraphia in the center of learning disorders in Marivan. The pupils were randomly divided into experimental and control groups, each containing 15 students. The experimental group attended 14 play therapy training sessions in 2 months.

Results: Results revealed that play therapy had significantly positive impact on writing performance of experimental students compared to control group.

Conclusions: Improvement of writing performance in students with dysgraphia revealed reduction of spelling errors. This intervention may help experimental group overcome their writing difficulties, purposefully perform their activity, and to achieve correct spelling of words.

Keywords: Play Therapy; -

1. Background

The term of learning disability refers to a single construct or impairment associated with a defect in the development of academic skills. The disorder has a heterogeneous nature of the educational patterns, strengths and weaknesses of the information processing reflected in a specific field of educational disorders such as reading, math skill and writing disorders in main classification systems (1). Writing disorder is a form of learning disability. Writing or written expression is the process of thinking transfer on paper, which depends on different skills. The mechanical skills of writing include handwriting, spelling and punctuation. Language skills encompass the meaning of words, grammar and thinking skills, as well as organization and coherence of content which is most important and plays a fundamental role in learning skills (2). For many people, especially students with learning disorders, the process of writing is a challenging process, which is one of the most powerful forms of communication. However, even expert writers frequently lament how difficult it is to effectively plan, compose, evaluate, and revise their compositions. Thus, it is not surprising that many students struggle with the

writing process. Recent evaluations suggest that only one out of every five high school seniors acquires the acceptable skills of writing (3). According to statistics, 20 percent of school children are mentally deficient, a condition reducing their ability to read and write. They are classified and identified as a group with learning disabilities (4). American Society of Learning Disabilities (2004) had explained the significant problems in the scope of auditory and visual perception, sequencing, the review process, organization, storage, language processing, and moving function, which may affect students with learning disabilities (5). Children with low quality reading or writing will sooner or later face obstacles in their courses of study. Such impediments in achieving analytic intelligence make it difficult for them to internalize some of the abstract concepts. Students with learning disabilities have audio-visual problems in perception, discrimination, memory, attention, motor coordination, motivation, organization, generalization, and active memory. They also suffer distractibility, poor perception of the field, difficulties in information processing, visual motor coordination, irritability, hy-

peractivity, and inefficient learning style (6). A method to improve behavioral disorders of children is play therapy. This is a correct way to treat such children because they often have difficulty in verbal expression of their feelings. Play therapy reduces barriers and helps children to be better able to express their feelings and learn their control skills. It is a structure approach based on therapeutic theory that establishes learning processes, natural and normal communication of children (7, 8). Play therapy carried out through the game, enables the students to understand the material earlier and retain it for a longer period of time. Play therapy using games would extend the teaching period. However, it makes the learning more profound, pleasant and practical (9). Play therapy is an effective method to modify behavior. It induces creativity and improves social skills. Providing such services for a child is often costly for their parents. Therefore, the school seems to be an appropriate location for providing play therapy services because all children are attending schools. Managers and teachers are the first who communicate earlier with children and identify and understand their problems. Thus, schools provide reasonable opportunity for all children to benefit from play therapy services (10). Landreth (2009) conducted a study on the effects of play therapy in the treatment of learning disorders. The results indicated that play therapy can lead to improve learning disorders (11). Parker and Baggerly found that play therapy significantly reduced spelling errors of students with learning disabilities (12). The research by Dr. Zaree, Amiri Ahoee and Taraj showed the efficiency of educational games regarding short term memory function and writing of students with writing disorders (13). Barzegary & Zamini (2011) showed that there was significant difference between control and experimental group in play therapy. They concluded that play therapy (watch ring) may be an effective method for treating children with ADHD (14). Subadrah, et al. (2014) indicated that the utilization of the play method significantly enhance the mastery of vocabulary and interest in learning the Malay Language among the pupils (15). The study by Mahalle, Zakaria, Nawi (2014) showed that the clients can be helped through several sessions of sand therapy in addition to individual counseling sessions (16). Boot and colleagues (2008) believe that the play is language structure to strengthen writing words. The game consisted of one or more sets of the 26 letters of English alphabet and some other special symbols other than alphabet letters. The goal of the game is to achieve a correct and comprehensive writing, or make compound words according to a basic language like English or Roman alphabet. The game is also used in other languages such as Chinese. The game makers believe that people can make words by using the game in order to modify logical thinking and develop team skills. It can also be applied to entertainment and debate, and also help the children with their writing field (17). According to the

Deputy Minister of health of Education in Iran, the colossal financial loss costing the government more than 700 million dollars is due to the failing of 1,400,000 students in recent years. [18]. Most of this financial damage can be prevented by providing the students with the games in which they are interested, without resorting to any drug therapy.

2. Objectives

This research applied play therapy to the first-grade students with writing disorders in Marivan city. In other words, this study would show whether play therapy is necessary to implement as an effective method in order to improve writing disorders of students with dysgraphia.

3. Materials and Methods

The study was conducted during the years 2012- 2013 in the center of learning disorders in Marivan, Iran. We chose 30 first- grade students who were randomly divided into the experimental and control groups, each including 15 members. All students had an average level of intelligence and grade point average. This study was conducted using semi- experimental research method. Prior to experimental interventions, both groups were evaluated according to the structured clinical interview tools, writing disorder test and Wechsler IQ test Questionnaire. The experimental group attended a play training course conducted over a two-month period and comprised approximately 14 to 40- minute sessions. The control group received no intervention and attended only classroom conventional training. At the end of the two month period, both groups were given a post-test by filling the above mentioned questionnaire. Complete information was collected to determine the students' final scores regarding academic and misspelling. The number of sessions assigned to play therapy was in accordance of Tabrizi book (18). The statistical analysis was performed to determine the difference between pretest and post-test scores using t-test and SPSS version 16, where P values $P \leq 0.05$ were considered significant.

3.1. Assessment Tools

3.1.2. Structured clinical interview

Structured clinical interview was done based on DSM-IV criteria, to evaluate and verify recorded information identifying the students with writing disorder. This process was completed by considering all documents of students including IQ tests, diagnostic and reports of different teachers.

3.1.2. Writing Disorder Test

This was performed by calculating the reliability coef-

ficient of dictation test study by internal consistency method of Cronbach's alpha (71.0). The validity of this test is the type of content that is determined by experts of learning disorders centers.

3.1.3. Wechsler IQ Test

Wechsler IQ Test (revised scale) was used to measure IQ tests of students with writing disorders. Coefficients of test-retest ranged from 24% to 94% and the test-retest coefficients of split half method ranged from 42 to 98%. Correlations coefficients of verbal and nonverbal subtests and total of this scale according to the revised Wechsler scale for preschool children were 84%, 74% and 85% respectively. These values are comparable with reported values in the Wechsler test manual (19) (Table 1).

4. Results

As shown in Table 2, a significant difference was found between the means of experimental and control groups in pre-test and post-test. This means that the number of errors declined in the writing of the students with writing disorders in the experimental group and indicated that play therapy improved the writing quality of students with writing disorders (Table 3).

The obtained t (7.042) is greater than table t (7.173), ($P \leq 0.05$). Therefore, the null hypothesis is rejected based on the lack of difference between the two groups. Significant difference was observed between the mean scores of the writing in experimental and control groups. The results indicated the positive effect of play therapy training on improving students' writing.

Table 1. Play Therapy for Students With Writing Disorders

sessions	
First session	Enhance education, game with characters using sand box
Second session	Enhance education, game with characters using sand box
Third session	Enhance education, game with characters using sand box
Fourth session	Enhance education, game with characters using sand box
Fifth session	Improve education, stories about mute and silent characters while were very interesting, and including at least some of the words
Sixth session	Improve visual memory, presenting the shapes or words to students who memorize details and explain them later ,while hidden
Seven session	Improve visual memory, relational domino, memory game with image and word cards.
Eight session	Improve visual memory, presenting words needed for visual memory, and the student trying to write them in the air
Ninth session	Improve auditory memory, providing various noises with hidden source which is discovered and recognized by the student
Ten session	Improve auditory memory, one person says a word and another person finds a right word to add to it, and the process continued
Eleventh session	Improve auditory memory, placing many objects in front of several students and guide them how to arrange them it and do things
twelfth Session	Improve attention, showing two images to students and asking them to find their slight differences
thirteenth session	Improve attention, The student must take dictation of the therapist and it does correction
Fourteenth session	Improve attention, writing letters on the students' back and asking them to recognize the word and write it on the paper

Table 2. Descriptive Characteristics of the Pre-Test and Post-Test Writing Scores in the Experimental and Control Groups^a

Groups	Number	Pre-Test	Post-Test
Writing disorder			
Experimental Group	15	14.66 ± 5.63	3.33 ± 0.33
Control Group	15	20.86 ± 4.50	20.66 ± 7.01

^a Data are presented as Mean ± SD.

Table 3. Mean Scores of Pre- Test and Post- Test in Experimental and Control Groups^a

Group	No.	Mean±SD
Pre-test and Post-test		
Experimental	15	10.600 ± 0.52915
Control	15	6.1000 ± 1.0000

^a Data are presented as Mean ± SD.

Table 4. Independent Samples Test

Mean Difference	T test	df	P Value
4.60000	7.042	4	0.002

5. Discussion

The aim of this study was to investigate the effect of play therapy on writing of students with writing disorders. Results indicated that play therapy was successful in improving the writing of these students. These findings are consistent with those of Landreth (11), Parker and Bageerly (12) Zaree et al. (13) Barzegary (14), Subadrah (15), Mahalle (16), and Boot et al. (17). In other words, the educational games are effective on short-term memory and the growth process of the students with writing disorders. Students must acquire sufficient skills in writing, which needs attention and memory, the acquisition of which is possible through education and learning. Most students achieve these skills automatically, but those with learning disorders have difficulty in acquiring such adeptness. Thus teaching these skills to students with writing disorders by subjecting them to aforementioned play therapy helps improve their writing quality. The exercises and games are challenging to the children and improving their performance, particularly in regard to attention and memory. There is a positive relationship between student's learning and play therapy, a condition improving attention, planning skills, and creativity.

5.1. Limitations

1) This study was conducted on female students in Marivan, and did not encompass male students with writing disorders.

2) Another limitation of this study is the available sample size.

5.2. Suggestions

1) It is recommended to conduct similar study on boys with writing disorders.

2) It is also recommended that research be carried out on samples with different disorders.

3) Play therapy can be performed in schools and learning disorder centers which give positive energy to teachers and students, and as far as possible to avoid the atmo-

sphere of traditional rigid training. The play therapy can be used as an independent academic course for students, and the consultants reduce students' problems by performing play therapy.

Acknowledgements

I am grateful to Collaborative Learning Disorders Center and Department of Education of Marivan city for their valuable cooperation.

References

- Casey JE. A model to guide the conceptualization, assessment, and diagnosis of Nonverbal Learning Disorder. *Can J School Psychol*. 2012;**27**(1):35-57.
- Shokoohi Y, Mohsen Parand A. Learning disabilities. *Tabib*. 2006.
- Santangelo T, Harris KR, Graham S. Using Self-regulated strategy development to support students who have "Trouble Gitting Thanks into Werds. *Remedi Spec Educ*. 2008;**29**(2):78-89.
- Alloy LB, Riskind JH, Manos MJ. *Abnormal Psychology Current Perspectives*. 9th ed New York: Mc Graw Hil; 2005.
- . *Neurological Researcher Implication for Student with Learning Disability..*: California State University; 2005.
- Narimani M, Rajabi S. Investigate the Prevalence and Causes Learning Disorders in Elementary Students Ardabil Province. *Res Except Child*. 2005;**5**(3):252-31.
- Carmichael KD. *Play therapy: An introduction*. Glenview: Pearson Merrill Prentice Hall; 2006.
- Landreth GL. *Play Therapy: The Art of the Relationship*. New York: Brunner-Routledge; 2002.
- Erfanhyan Alimanesh M. Axis numbers education. *Dev Prim Educ*. 2008;**12**(5).
- British Association of Play Therapy.. *Play Therapy in school..* the British Association of Play Therapists; 2004.
- Landreth GL, Ray DC, Bratton SC. Play therapy in elementary schools. *Psychol Sch*. 2009;**46**(3):281-9.
- Baggerly J, Parker M. Child-Centered Group Play Therapy With African American Boys at the Elementary School Level. *J Couns Dev*. 2005;**83**(4):387-96.
- Zaree H, Amiri Ahoee F, Taraj S. Efficacy of Educational games in Short-term memory and Spelling Elementary school students and Learning Disorders. *Res Except Child*. 2009;**4**:367-74.
- Barzegary L, Zamini S. The effect of play therapy on children with ADHD. *Procedia Soc Behav Sci*. 2011;**30**:2216-8.
- Madhawa Nair S, Mohd Yusof N, Arumugam L. The Effects of Using the Play Method to Enhance the Mastery of Vocabulary among Preschool Children. *Procedia Soc Behav Sci*. 2014;**116**:3976-82.
- Mahalle S, Zakaria GAN, Nawi A. Moral Education through play therapy. *Int Educ Stud*. 2014;**7**(3):p78.
- Boot WR, Kramer AF, Simons DJ, Fabiani M, Gratton G. The effects of video game playing on attention, memory, and executive control. *Acta Psychol*. 2008;**129**(3):387-98.
- Tabrizi M, Tabrizi N, Tabrizi AR. Treatment of Cost Dictates Disorders. *Froozan*. 2012.
- Shahim S. Sex differences in relational aggression in preschool children in Iran. *Psychol Rep*. 2008;**102**(1):235-8.