

The Effectiveness of Art Therapy in Promotion of Creativity in Children with Learning Disabilities

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Objectives: In present study, we studied the effect of teaching three painting methods (free method, subject selection method and complementary method) on creativity of children with learning disabilities. First, among all disabled students, who refer to Bizhani center for learning disabilities in Arak city, 60 subjects were randomly selected as statistical sample. Thus, the 45 children, divided into three groups of 15 as experimental group and 15 children were randomly selected as control group. **Methods:** In this study, first all children were tested by a pre-test and Torrance Creativity Test, then experimental groups were tested by three painting methods (free methods, subject selection method and complementary method) for 30 sessions of 30 minutes over a period of 45 days. This Training was controlled by well-educated teachers and a research cooperater and no change developed during research procedure and at the end of sessions all group were examined by posttest. **Results:** Results of analysis of variance and Schaffer's test shows teaching of painting with free method, increase initiative, flexibility, and expandability ($p < 0/05$), but it has no effect on the fluidity. However, teaching of painting with complementary method cannot increase creativity. **Discussion:** Finally, findings of recent study confirm that art therapy (painting with subject selection and free methods) can increase creativity of children with learning disability.

Keywords: art therapy, free method, subject selection method, complementary method, creativity, learning disabilities

In recent years, the inability to understand and learn some materials by a significant percentage of children and students, and in some cases college students, tremendously received attention of experts. In fact, the term learning disabilities related to kind of cognitive failure in one or more mental processes. Such as: talking, writing, listening, thinking, reading, spelling, mathematical calculating (Afrooz, 2006).

The term learning disabilities was raised for the first time in 1962 by Samuel and since then has always been different opinions about the disorder.

It is evident that after a decade of disputation, in 1975, US government recognized children and adolescent with learning disability as a special group and obtain special education for them (Brown, 1988).

Office of Education, U.S. Public Law 101-476 defines learning disability as: disorder in one or more

underlying psychological processes which caused a problem in understanding or using spoken or written language and can appear as: disability in listening, thinking, speaking, reading, and writing, spelling of words or math calculations. This term includes conditions such as cognitive disabilities, brain injury, mild brain dysfunction, dyslexia, and developmental aphasia; but are not included children with disabilities in the visual, auditory, motor retardation, emotional disturbance, deprivation of economic, environmental and cultural learning (Gorman & Cheng, 2002).

In fourth - Text Revised of Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) by American Psychiatric Association, some diagnostic criteria were considered for reading disorder, dictation disorder, and mathematics disorder as well as impairment of the spelling and nonverbal learning disabilities (NVLD), such as impairment of spatial function, impairment of social cognition and learning disorders that have not been identified in other species (NOS). These disorders are mainly seen in children 7 to 10 years old (Kaplan, Harold; Sadock & Benjamin, 2002).

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Halahan, Lloyd, Kauffman, Weiss and Martinez (Halahan, Daniel, Kauffman, James, 1994) have reported prevalence of these disorders in different parts of the world 3 to 12 percent. The disorder is usually caused by lesions of the central nervous system depending on the area of injury. So that the term learning disability involves conditions such as: perceptual disabilities, brain injury, failure on the part of the brain and the developmental aphasia. According to this definition, a learning disability is a neurological dysfunction, as well as indicates a malfunction in cognitive understanding, reading, writing and mathematics (Girod, 2001). Learning disorders affect by various educational, environmental, psychological and genetic factors such as neurological, academic, social, emotional, deficits. Neurologic deficits included problems with visual and tactile perception, psychomotor coordination - nonverbal memory, reasoning, executive functions and special problems in specific aspects of language and speech. Educational deficits are included difficulties in reasoning, and calculating, reading, writing and perception .social deficits are included difficulties in social interactions (Scarborough, 1990).

Every child is born with creative ideas, but if this creativity is not raised and nurtured, it will subside. Most children are naturally curious. They wonder facing with the world the people around them. Before they enter school, they have many learning skills; skills that they acquire through play, childish experiences, searches, and queries from others. Creativity is a human natural process that occurs when people are curious and excited. Most children are preferred to learn problems creatively, and they don't like information prepared by parents and teachers (Golden & Golden, 2002). The concept of creativity apparently is related to classroom, but in fact it is beyond art class and school activities. Better expressed, creativity in the classroom is how teachers teach and engage children in learning. They also create their own ideas for lesson plans. Children need to have unpredictable and uncertain experiences. Children need to have a curriculum that excites them. Creative students require to creative teachers. Teachers who provide full disciplinary and adventurous environment (Fisher, 2002).

Children who learn art basics not only can express ideas artistically but also can precisely analyze the events around them. The evolution of the art is closely related to dynamic activity of mind, growth of productive ideas and artistic taste, theoretical memory, and physical activity (Matthijs, Carsten, Bernard & Nijstad, 2008).

If teachers are going to teach their students creatively, they should prepare students for multidimensional (rational, social, affective, and ethical) education (Lancaster, 1977).

Art seems to be a fertile ground for nurturing creativity. The relationship between art and creativity

are so close together that the study of art makes individuals creative with a strong imagination (Moga, Burger, Hetland, & Winner, 2000).

The students who continuously faced with disappointment and fiasco less tend to reading and writing; so, specialists try to find methods for increasing their tendency to learning (Kapoula, Bonnet, Bourtoire, Demule, Fauvel, Quilicci, & Yang, 2010).

Today, art therapy is therapeutic techniques which enhance creativity in children treat their disorders. Art therapy is a general term for four separate professions: 1. Art therapy and psych art therapy, 2. Dance therapy, 3. drama therapy, and 4. Music therapy. Art therapists use different forms of art therapy to treat patients with a wide range of social problems and disease. They perform art therapy sessions for children and adults individually and collectively. Art therapist applied different forms of art as a mediate factor (Odell & Miller, 2003).

Painting is the first tool for art therapy, and in fact it is a door to other arts. Drama applied more than other methods for art therapy. it can Be used for people in all ages ,with all physical disabilities and in all different conditions and environments (Rubin, 2005).

Art therapy was started in 1942 by British artist Adrian Hill. He used art for the treatment of hospitalized patients with tuberculosis. Although roots of art therapy are very old and ancient, but the profession itself is very young (Taghavi, 2006)

Art therapy is treatment and remedial of mental disorders by means of artistic mediators that help patient reveal his internal manners and help therapist to analyze patient information and find other treatments methods (Bayrami, 2006) Art therapy is a professional human service which encompasses illustrative mediator art, as well as creative art process. These help the client for some products such as individual development, abilities, personality, interests, conflicts and dependences. Art therapy is based on human development and psychological theories and includes full spectrum of evaluating and treatment models like instructional notions of psychodynamics, cognitive, interpersonal problems and other remedial issues like adaptation to emotional conflicts, self-awareness training, increase social skills, behavioral leading, solving present problems, reducing anxiety, help to proper orientation and increasing self-esteem (Naumberg, 1966).

All artistic works, including paintings, are full of message and analysis and reference, because artistic imagination as sleep and dream, in the deepest of human unconscious, manifest all desires, spiritual and inner contents hidden in his existence. Painter by visualization of his conflicts, express his worries, hardships, shortages, fears, anxieties and ultimately his aspirations, and find a way to satisfaction and perhaps, in some cases, dealing with them. In fact, express spiritual pains relief human affection pains as

well as internal pressures and unconsciously fears itself with presence in painting, making statues and mask or even make up and painting of face and body predispose for satisfying human aspirations and desires. Painting and drawing are the most important factors to express human inner thoughts and needs that have long been used by humans. Engagement in these creative activities, including and creation and applications of painting can also foster a sense of beauty, friendship and human artistry. As well as playing an important role in personality development, and decreasing.

psychological distress and health problems (Sequeira&marion, 1997).

Painting is an activity which is affected by cognitive, affection, and social evolution, and for the same reason in broader scale it is used for mental distinguishes and psychotherapy. Children in Paintings with present emotional and cognitive states directly, reveal the manners of their personality. It helps child to project his (her) unconscious and repressed desires and thus reveals to us the realest emotions about his (her) relatives Mc. (Kenzie, 1998).

Psychotherapy by a painting was used and suggested by Stern. Stern says, "Painting as a means

of therapy, is more appropriate for in sociable, restless and mentally retarded children". The conclusion of this action is very wonderful, and therefore, facilitates educational problem solving for them (Waller, 2007).

Method

In present study, we studied the effect of teaching three painting methods (free method subject selection method and complementary method) on creativity of children with learning disabilities. First, among all disabled students, who refer to Bizhani center for learning disabilities in Arak city, 60 subjects were randomly selected as statistical sample. Thus, the 45 children, divided into three groups of 15 as experimental group and 15 children were randomly selected as control group. In this study, first all children were tested by a pre-test and Torrance Creativity Test , then experimental groups were tested by three painting methods (free methods, subject selection method and complementary method) for 30 sessions of 30 minutes over a period of 45 days(Table 1).

The test used in this study, consists of pectoral B form with three activities (drawing images, completing images and duplicating images. Torrance suggested that by exact study of the tests and correct use of scoring manual, high level of internal and external reliability are gained. In his own research, Torrance reported the average correlation coefficient of 0/95 between trained and untrained preferential scores (Torrance, 1974).

Results

After data collection, data analysis was performed by using descriptive and inferential statistics. In descriptive level, frequency distribution, percentage of mean, median, standard deviation, skew, and range were used. In inferential level, T test, analysis of variance and Scheffe's test were used.

Instruments

For assessing Creativity of students with learning disabilities, Torrance Creativity Test, Form B is used (Sarsani, 2005). Torrance test is made based on his theory and definition of creativity. Creativity test of Torrance is composed of four main factors. These factors include: fluidity, expansion, flexibility and initiative. - Fluidity: ability to establish a meaningful relationship between thought and expression, which is measured based on the number of ideas or solutions at a given time.

- Originality or initiative: the ability of thinking in a non-conventional way with an unusual, strange and subtle answer.

- Flexibility: Ability to think of different ways to solve a new problem.

- Expansion: the ability to attend to details while performing an activity.

Table 1

Descriptive indicators of Subjects' scores on variables of creativity

Groups	Sex	Mean	Middle	Std. Deviation	Tilt	Domain
Fluid	girl	27.87	28	.51	-2.46	2
	boy	27.72	28	.61	2.0	-2.12
Flexibility	girl	19.86	20	2.80	-.37	10
	boy	21.84	21	2.73	.74	12
Originality	girl	42.91	43	6.57	1.04	34
	boy	39	40	5.99	-.00	27
Expansion	girl	71.30	69	1.52	1.7	71
	boy	64.76	66	1.38	.42	54

As can be seen in Table 1, the mean scores of male and female students are different in many aspects of creativity. Girls gained high scores for expansion (attention to details) and boys gained high scores for flexibility (attention to different ways for new problem).

Results of statistical analysis using T-test showed that, in free training method, there are differences between mean of the initiative (t: 3/05), extend (t: 1/674) and fluid (t: 2/207) in experimental and control groups ($p < 0/001$). But the result of this test for fluidity mean, in free method between two groups showed no

difference ($p < 0/05$, t: 1/32). The results of this test showed that between experimental and control groups, there are differences for means of flexibility (t: 34/756), extension (t: 2/247), initiative (t: 2/516), in training of subject selection method ($p < 0/001$), but the result of this test, showed no difference for fluidity mean in subject selection method between the two groups ($p < 0/05$, t: 1/32). Results of t-test showed that the mean of the initiative (t: 0/51), extension (t: 0/552), fluidity (t: 0/46) and flexibility (t: 1/12) there is no difference between the experimental and control groups in complementary training method ($p < 0/05$).

Table 2

Analysis of variance among four groups at a fluidity, flexibility, initiative and extension scales

		Sum of Squares	df	Mean Square	F	Sig
Fluid	Between Groups	129/73	3	43/24	1/69	.05
	Within Groups	143/2	57	25/57		
	Total	156/33	60			
Flexibility	Between Groups	5/38	3	103/200	3/246	.05
	Within Groups	555/2	57	31/793		
	Total	608/58	60			
originality	Between Groups	309/6	3	103/200	3/246	.05
	Within Groups	780/4	57	31/793		
	Total	20/90	60			
Expansion	Between Groups	38/717	3	12/906	3/030	.05
	Within Groups	238/33	57	4/260		
	Total	277/150	60			

Table 2 shows that painting (with free, subject selecting, and complementary method) has no significant effect on development of fluidity and

flexibility; but Painting (with free, subject selecting, and complementary method) has significant effect on development of extension and initiative.

Table 3

Scheffe's test to compare pairs of means

Groups	Means differences	Standard error	df
Complementary control	1000	2.058	1.000
Free control	5.200	2.058	0.107
Subject selection control	3.60	2.058	0.351
Complementary free	5.20	2.059	0.107
Complementary Subject selection	3.60	2.059	0.391
Free Subject selection	1.60	2.059	0.895

Results of paired comparison of means in table 3 showed that there is no significant difference between any means and groups, whereas, according to table results, there is significant difference for analysis variance among means of four groups'.

Discussion

The purpose of this study was to investigate the effect of drawing education (with free, subjective, and complementary method) to the creativity of the children with learning disabilities in Arak city. The results of data analysis showed that free, subjective, and complementary methods of teaching painting have

no effect on the growth of fluidity and flexibility; but it is effective on expansion and initiative.

Luminous, Blumenthal and Lewis in 2007 found that preschool programs for artistic themes include: figure painting, sculpture, design could increase creativity and emotional growth of children. By applying colors in the painting, apart from their natural reality, creativity is stimulated in children (Lott, 2007).

In a research titled: The importance of painting in defining self-identity (knowing self-attitude) from teenage girl's point of (Lantz, & Raiz, 2003). Kirby, Christa (2003) studied the impact of art therapy on diseased children. At the end of sessions, the results were: increasing the role flexibility, expanding roles

dimensions, increasing creativity, emotional integration, promotion of social skills (interpersonal), and an increase to Personal tolerance to the quirky and varied relationships (Lantz & Raiz, 2003). Malchiodi (2003) in a study titled: Medical Art Therapy With children, referred to case studies that showed effects of art therapy on health of patient children he found the artistic creativity increased hope, self-esteem, independence, sense of competition and feelings impression among children with physical illness. As he stated, in the process of art therapy, patient children can transfer their wishes, needs and wants to arts therapist (Malchiodi, 2003).

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