



The Effect of Painting Therapy on Practical Intelligence and Creativity of Children Aged 4 to 6 in the City of Tehran

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Abstract

The objective of this study was to assess the impact of painting therapy on practical intelligence and creativity of children aged 4–6 in the city of Tehran in the year 1395(2016). The recent research is a quasi – trial study consisting of pre-trial and post-trial plan with control groups. The statistical group under study included all the children aged 4–6 in district number 5 in Tehran. 30 children were selected randomly and then divided into two groups of control (15 children) and trial (15 children). The trial group underwent painting therapy for 12 sessions lasting 45 minutes. While the control group were expecting therapy. Wexler's children trial (WPPSI-R) and Torrance's creativity questionnaire (1990) were applied to assess children's practical intelligence. Analysis of data was performed descriptively and deductively (covariance analysis) by SPSS20 software. Data collected through covariance analysis showed a meaningful difference between practical intelligence and creativity scores in the two groups and painting therapy had a meaningful impact on the increase of practical intelligence($\alpha= /05$) and creativity ($\alpha= /01$) of children aged 4-6 . Regarding the effectiveness of painting therapy on intelligence and creativity it is necessary to plan broad programs to improve children's creativity and intelligence on the basis of teaching through painting.



Introduction

Today, the world is changing rapidly and non-stop, and in order to have a successful life we have to get along with these changes. The ability to adapt to these fast and remarkable changes, and influence the events around us, necessitates creativity. The need to innovation which paves the way for satisfying variety seeking instinct and blooming human talents and abilities is institutionalized potentially in the human beings. This has to be materialized through cooperation and making efforts (Pkize 2015). Societies and cultures also need innovation and renovation in order to survive and avoid death and create happiness and dynamism. (Ichouni, et al 2015) hence, making use of individuals' talents and abilities that are the most valuable assets of a society, has been considered widely by policy makers and education planners. Countries which focus on flourishing talents such as creativity, thinking and problem solving in the education system shall make developments and reach prosperity and then play an influential role in the global system.

Taking this point into account upbringing creative, innovator and constructor individuals should be begun from the very early years of life. (Torrance, 1960: Keyvani and Jaafary 2015). Agha Mohamadi (2015) is of the opinion that creativity is a mental processes ability which leads to finding solutions, ideas, understandings, theories and productions and it is a unique category. Torrance has been one of the pioneers of research on creativity and creative thinking for more than fifty years. He believes that every individual has a certain extent of creativity and talent and this creativity could be either flourished or suppressed in different ways. (Fidan& Ozturk 2015). Creativity, like the other human talents, needs two important conditions to bloom. 1: existence of talent which exists in every child more or less. 2: a suitable environment to develop and bloom the talent. So in order to develop the creativity we need to have a suitable educational environment (Husseini 1999). Torrance (1983) mentions fluidity, flexibility, expansion and tactfulness as four factors of creativity specifications. Hence, one of the main objectives of every educational society shall be increasing students' cognitive abilities which lack of creativity development in individuals will result in inability to control unknown situations and solving new problems and also mental stress due to unexpected events occurred in the every day life. But to make creativity occur, we need to provide suitable grounds both in the individuals and the society. (Hussery 2013)

On the other hand, it is necessary to improve and enrich children's environment before they enter the primary school to educate and change their intellectual and cognitive abilities , because children will encounter events and situations which will attract them while going around in the new environment. They will be impressed particularly, by new events that is, events that don't comply with their previous experiences. Therefore, the duty of pre-school education shall be increasing or improving children's ability not their knowledge. Why children don't have any rationale at the early ages of life and they need to go through steps which increase their rational thinking. Children's mind will be changed when it is active. Children will learn better when they learn through seeing, thinking, experience and activity. Regarding these painting shall be playing an important role in developing children's abilities. (Piaget 1964)



Therefore, one of the intervening methods to increase children's creativity and intelligence is art therapy which has been greatly in the focus. One of the branches of art therapy is painting therapy. Painting includes self inspired pictures which provide opportunities for nonverbal communication and speech. (Erickson & Block 2013) and we don't intend to raise painters or teach painting through painting therapy but to offer opportunities for individuals to express their feelings, needs, emotions and their knowledge through painting. As they wish (Beibly 2014) Painting and in general visual arts are being used as a means of exposing thoughts, and emotions. As a matter of fact a child, through painting, will experience its life issues, test itself and establish itself. (Iverach .et al 2009). Kroz et al (2016) believe that since children have a limited vocabulary limit to express their feeling or experiences compare to the adults, painting can be a good means of expressing their emotions. Through painting we can learn information about children's intellectual abilities, emotional characteristics. Painting could be used for solving problems which require flexible thinking and creative solutions and also getting rid of methods declared void. (Rubin 2016)

So growing and producing thought and ideas is the ultimate goal which every nation and tribe is applying it in their education system, every nation or society desires for having thoughtful, committed, creative and inventor individuals so that it can provide the best living conditions, personally, economically and politically. (Frhadipour .et al 1394) One of the basic problems concerning the point is lack of paying attention to the suitable educational procedures regarding growing thought and creativity among children. We are applying old methods of education in our classes. In order to bring up creative students in the future, we need to have a better and right understanding of the modern educational methods. And adapt these methods to our equipment, and then make use of them in our classrooms. The human knowledge is increasing in a way that new rules are replacing old rules. Therefore, students should be equipped with knowledge and experience which won't be in a tight corner facing new challenges. This objective will enforce teachers and education professionals to use methods which result in such skills and knowledge. (Khodadad nejadi 2009)

Regarding the above mentioned points, doing any kind of research concerning the case shall be paving the way for the researches alike in this regard, so as to determine the importance of children's creativity and practical intelligence and ways of developing and upbringing of the children. We may apply findings of the recent research, which confirm painting impact on the creativity and practical intelligence, to improve creativity, practical intelligence and artistic abilities in children and prevent educational, family and social problems and also protect the society from emotional and financial damages. It's very likely that education and using creativity during the childhood can help individuals to have lots of solutions facing up the problems in their adolescence. Knowing these we can direct people towards efficiency, ability, mental health and ability to solve problems.

Methodology

The recent study is a quasi – empirical applied research consisting of pre trial and post trial plan with a control group during which the trial group was exposed to an independent



variable and the control group had their own daily programmes. The statistical society included all the nursery school children aged 4—6 in district number five in Tehran Members were selected randomly At first two kindergartens were selected randomly out of the kindergartens in district five in Tehran then thirty children were selected randomly (14 boys and 16 girls) as control and trial groups (8 girls and 7 boys as a trial group and 8 girls and 7 boys as a control group)The subjects were divided in to two similar groups of control and trial , based on age and gender then they were given the Wexler's test and Torrance creativity test. After performing pre trial in the two groups, the trial group underwent painting therapy for 12 sessions in two weeks time. In the meantime, the control group had their own daily programmes. After the painting therapy was conducted practical intelligence and creativity in both of the groups was reassessed.

To collect data Wexler's practical intelligence assessment trial for children (WPPSI-R) and Torrance's creativity questionnaire were used.

Wexler's children trial (WPPSI-R)

Wexler's intelligence trial for nursery school was applied in the study. Wexler's intelligence trial was documented as sub –category of Bloyed – Wexler's intelligence scale in 1939. This test consists of different intelligence trials such as the revised test of Esteford—Binneah in 1937. The initial scale of Wexler---Bloyed's test was established for adults but Wexler documented Wexler's intelligence scale for children in 1939(WPPSI) in a way that we can assess children's intelligence, aged 4—6, by this test as the adults are tested.(Marnat 2003, Sharifi translation 1384).Wexler's intelligence trial for children is one the best methods for testing intelligence in children. Wexler's revised test for kindergarten children consists of a verbal and a practical scale. Verbal scale consists five sub—tests in addition to a save test (sentence making) and practical scale consists of five sub—tests. Sub—scales of practical intelligence were performed in the study (doing a jigsaw, geometry design, muzzes, cubes and animals" house) Practical scales reflect the followings:

- 1: degree and amount of individual's nonverbal contact with the environment.
- 2: ability to integrate perception motive with suitable movement responses
- 3: having the talent to work in tangible or objective situations
- 4: ability to evaluate visual—spatial data
- 5: ability to work quickly.

Wexler defines intelligence as an individual's capability to understand and surmount the surroundings. The scale consists of a series of tests to evaluate different abilities and their combination will present total capability and intelligence. Intelligent quotient is used as the best way to determine child's intelligence level compared with its coevals and the coefficient used in this quotient scale is a deviation which shows individual's relative position compared with his coevals mean. The method used for calculating it, includes changing the raw score to a leveled score which has the same mean and standard deviation for every age range. (mean 100, standard deviation 15) Rasavieh and Shahim (1379) attempted to translate and find norms for the scale in Shiraz and then published the results officially in 1368 and reported the



credibility of the new scale through re-testing method for verbal, practical and total intelligence quotient as /90, /83 and /88 . One o the admissible signs of Wexler's scale was correlation between the different sub—tests. Data collected from norm finding indicate that there is a positive correlation between the tests. Investigations show that verbal tests correspond with each other, likewise the practical tests.

Torrance's creativity assessment test: Torrance's creative thinking picture test, was used as a tool to measure in this study (1366) which is a class of performance tests and offers a number of open ended questions and want the individual to answer the task as much as he can. The reason for choosing the Torrance's test was its efficacy and credibility in the study. This test has been used repeatedly in educational researches and evaluations. Pictures inserted in the test require answers which have imaginary nature or the subjects should draw something. It is recommended that these tests be used in all levels from kindergarten to high school. According to Torrance creativity consists of four main factors: 1—fluidity: talent to produce lots of ideas 2—expansion: paying attention to details 3—creativity: talent to create new and unusual ideas 4—flexibility: talent to create ideas or different expansion methods. Torrance's creative thinking picture test covers three activities:

- 1- making a picture using an object
- 2- completing incomplete pictures
- 3- making pictures using parallel lines.

Torrance reported credibility of the picture test between /94 to /99. (1990) Pir khaefy in the Iranian sample (1993) reported the credibility of the test through re-testing on 48 students as /78 for fluidity, /74 for creativity /81 flexibility and /90 for expansion elements (quoted by Sharifi and Davary 2009) . Zakaryaye et al (1999) also confirmed content credibility of the test using other psychology experts ' ideas. The credibility coefficients for fluidity, creativity, flexibility and expansion were /868,/972, /920 and /652 respectively.

Painting therapy sessions were held as following

Session	Intervening session of painting therapy for trial group
One	Warm up techniques, drawing a picture as scribbles and describing it, free drawing
Two	Describing a wish using an example, drawing one or some wish by the member, talking about pictures and wishes
Three	Completing the drawing using a shape, completing incomplete pictures
Four	Solo drawing on a big paper, collective drawing
Five	Drawing based on a story told by the members and encouraging children to draw more details, talking about the drawings
Six	Drawing with opposite hand, drawing an object in groups of two
Seven	Drawing various shapes and non repetitive using a circle and encouraging children to find new ideas
Eight	Collective drawing with out any particular subject on a big paper, exchanging crayons while drawing



Nine	Drawing a tail for a cat drawn on the board blindfolded, drawing a picture blindfolded
Ten	Completing a drawing with members assistance , collective drawing with a particular theme
Eleven	Making a story then drawing it by the members, describing the story while showing the drawing to the members, members should draw a picture based on the story told
Twelve	Drawing any thing the members may like it and presenting it to the other groups, getting collective feedback from the sessions

Excerpted from "Art therapy" by Zade mohmady (1387)

It is worth mentioning that all painting therapy sessions were planned in a way that in addition to following a clear framework and specific direction, they were attractive enough for the children.

Data analysis was done deductively and descriptively through SPSS20 software (covariance analysis).

Findings

Prior to evaluating the theories, normality of data distribution was evaluated using Chogouly test. The findings confirmed normality of the research data distribution thus covariance test was used. We will be discussing the research theories later.

Assumption one: Painting therapy impacts children's practical intelligence.

Table 1: Results of covariance analysis of difference of adjusted mean scores of painting therapy on practical intelligence of children in control and trial groups.

Change resources	Squares sum	Freedom degrees	Average of squares	F correlation	Meaningful level	Impact level
Pre trial	2744.57	1	2744.57	183.48	0.001	0.80
Groups(independent)	88.86	1	88.86	5.94	0.023	0.20
Error variance	344.40	23	14.96	-	-	-
total	390509	26				

Table 1 shows results from post – trial covariance analysis by removing pre- trial impact between the two groups. Regarding the results , since value of F (5.94) with freedom degree of 1 and 23 is larger than the value of F in the table , the assumption of research stating painting therapy will improve practical intelligence of children is confirmed up to /95 .

Assumption two: Painting therapy impacts children's creativity.



Table 2: Results of covariance analysis of difference of adjusted mean scores of painting therapy on creativity of children in control and trial groups.

Change resources	Squares sum	Freedom degrees	Average of squares	F correlation	Meaningful level	Impact level
Pre trial	17253.44	1	17253.44	324.88	0.001	0.93
Groups(independent)	2543.43	1	2543.43	47.89	0.001	0.68
Error variance	1221.48	23	53.11	-	-	-
total	187246	26				

Table 2 shows results from post – trial covariance analysis by removing pre-trial impact between the two groups. Considering the data since value of F (47.89) with freedom degree 1 and 29 is larger than F in the table thus the assumption of the research stating painting therapy impacts children's creativity shall be confirmed up to /99 .

Conclusion

Results of the study showed that painting therapy impacts practical intelligence and creativity of the children. In a comparative analysis done considering other researchers findings, the results of the study were compatible with researches done by Siadat (2011), Ghahramnzadeh (2011) and Kar & Vandivor (2003). Ghahraman zadeh (2011) investigated the impact of painting therapy on increasing intelligence and creativity and lowering anger in the female students. Results from the study showed that there was a meaningful difference between creativity and intelligence pre trial and post trial scores in the two groups. Siadat (2011) conducted a study about impacts of art therapy on female elementary students' creativity and intelligence. The results showed that post trial average scores of fluidity, flexibility, creativity and expansion in the trial group were higher than pre trial scores. Besides children's intelligence will improve through drawing / painting. As a whole, the results of the study confirmed that doing exercises such as drawing one's wishes, painting incomplete shapes and painting based on other people's stories develop children's creativity and intelligence.

We may claim that out of the exercises done in the sessions, painting in turns with every body's cooperation, collective painting, and exchanging crayons during the painting process, giving the painting to each other as a gift... can improve children's practical intelligence.



As it was observed the findings of the study is in consistent with findings from other researches, proving the point that painting / drawing and art can impact children's intelligence and creativity. There were some slight differences between the results of this study with other findings which it may relate to differences in the samples or the tools used for evaluating the results. The majority of the researches done in this regard including, the impact of painting on children's intelligence, show that these kinds of exercises will improve children's mental and psychological abilities. . Considering this point we can surely claim that painting / drawing is one the main tools applied for developing children's talent or mental abilities, including their intelligence and creativity.

Enrichment of education environment along side with activating the children in the environment is one the main focused issues in teaching theories. We can make use of painting as a means of encouraging children in kindergartens and elementary schools to think creatively and take part in creative activities. And since children have particular interest in painting it can be used as an incentive to boost learning, training mental abilities and social skills. As a matter of fact we should use activities preferred by the children in teaching issues which are necessary and fundamental for their future life and intellectual development. In summary we can say that since painting therapy impacts both intelligence and creativity, teachers and parents should apply this system and other artistic activities to improve their creativity and intelligence.

This study like other studies, did have some limitations. Announcing these limitations may verify findings and assumptions of the study and also it may help overcome external and internal restricting factors in the following studies. One of the limitations which we would like to mention is that the study was conducted on the children in district 5 of Tehran so generalizing the finding shall be narrow or limited. What's more, because the survey was conducted on the children aged 4 to 6 generalizing the results will be limited too. Finally, lack of track test due to a time limit, shall be considered another limitation.

Taking findings of the research into account it is suggested that in order to increase parents' insight and awareness, briefing sessions be held to improve creativity and intelligence of the children through painting. Besides a professional session should be held for teachers so that they can understand the role of art in increasing different talents, regarding child psychology.

References

- Agha Mohammadi, Mostafa (2012). *Effectiveness of educating inter--- personal communication skill in perfectionism (positive and negative) and creativity in male elite students. Masters' degree thesis. Abhar branch, Islamic Azad University.*



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- *Farhadi pour, Mohammad amin. Abasi Efaat and Karim zayee Samira. (2015) comparing effectiveness of deductive and inductive teaching on creativity of the fifth graders. Research on lesson planning course 12, number 19, pages 10—21*
- *Ghahramanzadeh , Roya. (2015) impact of painting therapy on increasing creativity and lowering anger in female seventh graders in the city of Macoo . Masters' thesis , Roude Hen branch ,Islamic Azad University.*
- *Hosseiny, Afasallol sadat.(2008) nature of creativity and ways of improving the creativity. Mashad, Qodse Razavi publications.*
- *Impact of collective teaching on educational development in the male fifth graders (math class) in the city of Gachsaran. New ideas in education No. 17, course 2, pages: 73---84*
- *Keyvani, Mahsa and Jafari , Asghar. (2015) . The effect of educating meta -cognition strategies in improving creativity and performance of the students. Scientific and research publication on education and evaluation. Year 8 number 30, pages:99-116*
- *Khodanejad, Ali (2008)*
- *Pakizeh, Ali. (2015). Reviewing impact of integrated education through art on creativity and learning in male elementary students. Seasonally of medical science department and studies. , year six, number 1*
- *Razavieh, Asghar and Shahim, Sima(1999) Wexler's intelligence scale for kindergarten. Shiraz: Shirazuniversity publications.*
- *Siadat, Behjatosadat.(2011) reviewing impact of art on female elementary students. Islamshahr. Academic year 2010-2011 masters' thesis, Roude Hen branch, Islamic Azad University.*