J. Basic. Appl. Sci. Res., 3(4)234-236, 2013

ISSN 2090-4304
Journal of Basic and Applied Scientific Research
www.textroad.com

Effects of Pottery Learning on Preschoolers' Motor-Cognitive Skills in Boshruyeh

Farshid Ghasemi[1], Fatemeh Yousefi[*2], Younes Mohammadzadeh[3]

[1]Arsanjan Branch, Islamic Azad University, Fars, Iran & Emploed at Fars, Education and Training Organization, Iran
[2]Ma Student of Educational sciences, Arsanjan Branch, Islamic Azad, University, Arsanjan, Iran
[3]Asistant Professor, Arsajan Branch, Islamic Azad University, Fars, Iran

ABSTRACT

The present study aimed to evaluate possible effects of pottery learning on creativity and motor-cognitive skills of preschool children in Boshruyeh (a city in South Khorasan Province, Iran). A quasi-experimental method using pre-tests and post-tests with a control group were employed. To do so, 36 preschool children (19 males and17 females) aged 5-6 who were enrolled in the Institute for Intellectual Development of Children and Adolescents were randomly selected as the participants in this study. The data were collected through Visual Torrance Test (B) and Lincoln-Oseretsky Test. First, the subjects in the experimental group including11 boys and 9 girls group and participants in the control group (8 boys and 8 girls) were pre-tested. Then, the participants in the experimental group received treatment i.e. educating the pottery making for 16 sessions, each lasting 45 minutes. Finally, the post-test was administered to both the control and experimental groups. The results of covariance analysis indicated that pottery learning had a significant effect on improving participants' creativity and its components, and their motor-cognitive skills.
KEYWORDS: pottery, creativity, motor-cognitive skills, preschoolers.

INTRODUCTION

Pre-school age is one of the most critical periods for learning. An important feature of pre-school period is related to children's ability to learn through active exploration and manipulation of the environment. Therefore, any training program which encourages children's participation in performing different tasks and uses their energy, spirit, and interests is considered as a best way to improve children's learning (Haghighi, 2009).

Children possess a number of capacities and potential which can be employed and put in action through different ways. Since children are innately equipped with spatial - visual, musical - rhythmic, and physical – kinetic intelligences and also concerning effects of such talents on other aspects of growth and motor skills in children, one way to involve a child in different tasks is to provide a set activities and trainings so that they can produce works of art (Rezaee, 2009).Therefore, through having more awareness of proper conditions in which a child undergoes growth and development and providing a physical environment and adequate education it is possible to pave the way to realize their latent talents including in artistic fields (Vaziri, 2009).

Playing with clay and mud is one of the basic needs of a child. Although the parents impose some restriction on this activity as a child's clothes get dirty during playing with clay, as soon as the child has access to clay he/she gets excited and energetic and begins to play enthusiastically (Motahari and Parsa, 2005).

Creativity is the ability to create ideas or artifacts are: new, amazing, and valuable (Dorin and Korb, 2009).

A child's creativity and innovation will often flourish when they have freedom of action and when they are able to employ their imaginations to make new things. Since the children's pottery making is not based on any model or plan, they can create things with clay. Besides, as clay is a flexible and soft material children can form it easily, creating many shapes and forms out of the clay and destroying them very easily. As painting activates creativity, imagination, innovation, and fun for a child, pottery in addition to these effects is very funny and entertaining for children (Petty and Morty, 2008).

Motor-cognitive skill is another important factor in children's overall growth of as well as the development of their talent s. since the foundation of motor skills is formed during the preschool age, great emphasis must be put on this period (Ramazani Nezhad, 2003).

Learning visual arts can develop one's imagination and it can be fostered rapidly if it is combined with training and frequency of sensory (tactile, visual …) experiences. The wider employment of such trainings and experiences will result in the enhancement of children's imagination and creativity (Taslimi, 2011). In addition, the instruction of visual arts reinforces visual-spatial perception in children (Moghaddam et al, 2010).

***Corresponding Author:** Fatemeh Yousefi, Ma Student of Educational sciences, Arsanjan Branch, Islamic Azad University, Arsanjan, Iran

Making pottery involves using eyes, hands, and feet very actively. Pushing, hitting, separating, rolling, chopping, and putting up together pieces of clay contribute in muscles growth, improvement of motor skills and, consequently, better coordination between hands and eyes. Moreover, the child gains easy and successful experiences and enjoy seeing the effects of his movements and gestures and is able to use his hands to form the clay as he likes. Pottery stimulates curiosity and fosters a sense of intelligence and skill development in children (Bartel, 2006).

Mir Sadeghi (1383) in a study under "Effects of artistic activities on the development of creativity in preschool children'" performed in District 10 of Tehran has concluded that entertaining children by artistic activities will improve children's scores for "flexibility", "expansion", "fluidity" as components of Effective Creativity Test.

Zaydel et al (2006) in their study on the effects of visual arts including painting, drawing, and pottery on the improvement of perception and fine motor development in children concluded that visual arts will enhance fine motor skills of fingers and will improve visual-spatial perception of children.

In this line, the present study was conducted to investigate effects of pottery learning on children's creativity and motor-cognitive skills. So it follows two objectives:

1. To determine effects of pottery learning on preschool children's motor-cognitive skills.
2. To determine effects of pottery learning on preschool children's creativity.

Accordingly, the study is going to answer the following two questions:

1. Does the pottery learning affect preschool children's motor-cognitive skills?
2. Does the pottery learning affect preschool children's creativity?

METHODOLOGY

This study employed a quasi-experimental research design. The population under study included 100 preschool children aged 6-5 years old in Boshruyeh of whom a sample of about, 36 students were selected randomly.

Instruments: The data were collected through Visual Torrance Test (B) and Lincoln-Oseretsky Test.

Instrument validation: Haghighat (2008) determined the reliability coefficients for Torrance Creativity Test as follows: creativity (0.67), extension (0.61), fluidity (0.75), and flexibility (0.61). Abedi (1992) reported the validity coefficient as 0.27. In the present study, the reliability of the instrument was measured through Cronbach's alpha that indicated a reliability of 0.84.

Ghassemi (1995) has standardized Lincoln-Oseretsky Test on a population of Iranian people and determined the validity and reliability of the test using Cronbach's alpha, which suggested a a validity of 0.86 and a reliability of 0.82. Alizadeh (2007) has determined the validity and reliability of the test as 0.84 and 0.86, respectively.

FINDINGS OF THE STUDY

The first research question: Does the pottery learning affect preschool children's motor-cognitive skills?

According to research findings, after modifying effects of intelligence and the pre-test, significant effects of the variable under study was observed among the participants ($P < 0.001$, $F = 28.05$). The mean score for cognitive-motor skills as a variable indicated that the treatment group gained a higher than the control group, suggesting that learning to make pottery has improved participants' motor-cognitive skills (See Table 1, below).

Table 1: Effects of pottery learning on preschool children's motor-cognitive skills

Sources of changes	Total of squares	df	Means of squares	F	Sig.
Pretest	349.72	1	349.72	2.52	NS
Group	1778.01	1	1778.01	28.05	0.001
Error	2028.35	32	63.39		
Total	115503	35			

The results of this study are consistent with those found by other studies in the field by Zaydel et al (2006), Tererni (2007), Petty and Morty (2008), Siloeres (2008), and Moghadam (2010). To explain this finding it can be said that that the instruction of visual arts affects visual perception which is in line with studies done in the field of learning and art neuropsychology. According to studies done by Thompson (1996), Andreas (2005), Zaydel (2006) indicates that instruction of arts can reinforce and enhance visual perception and, thus, affects learning outcomes. The reason is the right hemisphere of the brain is activated during this type of instruction and it processes the data faster. According to studies conducted in the field of neuropsychology and the role of arts in improvement of perception, the right hemisphere of the brain is assigned to the perception of complex spatial relationships while the left hemisphere is used for performing fine motor tasks such as painting, drawing, and pottery. Besides, the instruction of visual arts, including pottery reinforces fine motor skills of fingers and promotes visual-spatial perception, leading to the activation of both brain hemispheres and enhancement of learning.

Since during the early childhood years, motor skills related to the use of body organs, including the hands, feet, and eyes are growing faster but fine motor skills such as the ability to coordinate eyes and hands and finger movements have not developed adequately (Hastiglo, 2001), it is expected that pottery training which combines skills such as movements of eyes, hands, and feet, can impact significantly the development of children's motor-cognitive skills and fine motor activities including movements of hands and fingers .

The second research questions: Does pottery learning affect children's creativity?

According to research findings, after modifying effects of intelligence and the pre-test, significant effects of the variable under study was observed among the participants ($P < 0.001$, $F = 57.62$). The mean score for creativity indicated that the treatment group gained a higher than the control group, suggesting that learning to make pottery has improved participants' creativity (See Table 2, below).

Table 2: Effects of pottery learning on preschool children's creativity

Sources of changes	Total of squares	df	Means of squares	F	Sig.
Pretest	4621.20	1	4621.20	1.45	NS
Group	35762.15	1	35762.15	57.62	0.001
Error	19860.99	32	620.66		
Total	1031999	36			

This finding is in line with those found by Henley (2002), Alisimo (2005), Jasmina (2005, cited in Amini, 2005), Ian (2005), Andreas et al (2005), Graham (2012), and Mir Sadeghi (2004). These findings can be justified since a child's creativity and innovation often develop in times when there is an opportunity to express thoughts and feelings freely. As a result, the child is able to employ his imagination and since the children's pottery making is not based on any model or plan, they can create their mental model using the clay. Besides, as clay is a flexible and soft material, children can form it easily, creating many shapes and forms out of it and destroying them very easily. Therefore, it can be concluded that making pottery is influential in the development of children's creativity.

DISCUSSION

The aim of the present study was to investigate the possible effects of pottery making on preschool children's motor-cognitive skills and creativity. The results obtained by the test of covariance reveal that the instruction of pottery making has a significant effect on improvement of creativity and its components and on motor-cognitive skills.

Learning the art of pottery affects preschool children's creativity and their motor-cognitive skills, indicating positive effects of arts through neuropsychology on the improvement of creativity and motor-cognitive skills.

REFERENCES

Haghighi, E. (2009). Role of information and communication technology (ICT) in education. Retrieved on 1 December 2009 .

Hastiglo, B. (2001). Developmental psychology. Tehrqn: Saramad Kavosh Publications.

Rezaee, M. (2009). Aesthetic and artistic training with a focus on Borudi's ideas. Tehran : Cultural Institute of Monadi Amouzesh .

Ramezani Nezhad, R. (2003). Physical education in Tehran schools. Tehran: SAMT Publications.

Taslimi, N. (2011). An introduction to arts education (the art of development of imagination). Journal of Development of Education, 6(1), 10-18.

Kaveh Moghaddam, A.; Esteki, M.; Pisharh, E.; Farhid, M. (2010). Effects of visual arts on the improvement of perceptual-visual skills of students with visual dyslexia accounts. Journal of Pediatric Neurological Rehabilitation, 11.

Motahari, M.R., Parsa, N. (2005). Effects of playing with clay and mud on the growth and development of a child's imagination and creativity. Journal of Payame Zan, 165, 118.

Mir Sadeghi, Z. (2004). Effects of artistic activities on preschool children's creativity in District 10 of Tehran. M.A Thesis: University of Allameh Tabatabai.

Vaziri, K. (2009). Effects of synectics on creativity and the social development of preschool children in Sarchahan, B.A Thesis: Islamic Azad University of Arsanjan.