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DRAMATIC PLAY AS A DEVELOPMENTAL MEANS OF PRESCHOOL CHILDREN'S MOTOR CREATIVITY

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Abstract

The purpose of the research was to design, implement and evaluate an experimental program based on dramatic play which aims to develop the motor creativity of preschool children. In particular, we designed a mixed-methods experimental study using the integration technique. The following school year, follow-up research was conducted to check the preservation of the results. Statistical analysis results and qualitative analysis of the data revealed that the experimental program based on dramatic play had a statistically significant improvement in the children's fluency, originality, and imagination of their motor creativity. In addition, the results of the experimental intervention were preserved through time for the factor of imagination, but not for the factor of fluency and originality. The results of our research confirm that activities based on dramatic play are suitable for the development of preschool children's motor creativity, while creativity, movement, and dramatic play seem to be interconnected.

Keywords: *Motor creativity, dramatic play, preschool children.*

1. Introduction

In recent decades there has been a growing research interest in creativity and its integration into formal education worldwide, as it is increasingly seen as the answer to the challenges and unprecedented rhythms of life that technology imposes on us (Corazza, 2016; Dere, 2019; Ozsoy & Ozyer, 2018; Rodríguez-Negro et al., 2020; Selkrig, 2018; Williams et al., 2016). In our work, motor creativity, which is sought to be developed in preschool children, can be defined as an ability to produce multiple and original motor responses to a stimulus (Wyrick, 1968). In other words, children's creative thinking is highly motivated and developed to a large extent by movement (McBride, 1991).

Ourda and her colleagues (2020) propose the development of motor creativity in preschool through activities that stimulate the imagination, help children devise solutions to motor problems, and promote communication between them. Pavlidou (2012) suggests dramatic play (DP) which contains significant motor-expressive challenges as a leading tool for the child's movement education. However, a variety of other programs (such as Physical Education, creative relaxation, creative dance or movement programs as well as an interdisciplinary program with a specific theme) have been implemented in studies focused on improving motor creativity with positive results in motor creativity (Justo, 2008; Ourda et al., 2020; Wang, 2003) or only in motor fluency (Chatoupis, 2013; Cheung, 2010; Richard et al., 2018; Tsapakidou et al., 2001).

In our study, DP is the medium that stimulates the imagination, cultivates the physical expression of the young child, and aims to develop his/her motor creativity.

2. Design

We designed a mixed-methods experimental study (quantitative and qualitative) using the integration technique. The experimental research consisted of two equivalent groups (the experimental group and the control group). In the first phase of the research, the initial pre-test of the *Thinking Creatively in Action & Movement test* (Torrance, 1981) was performed in both groups. In the second phase, the experimental program (EP) was implemented by the preschool teachers of the experimental group (EG) after training. To collect data from the processes that emerged during the daily interventions, the preschool teachers/practitioners kept a diary with their personal observations about the processes that took place during these interventions. Finally, at the end of the intervention, in the third phase, the final measurement of motor creativity was carried out with the performance of the same tool, post-test, in order

to evaluate the effectiveness of the EP. At the same time, a semi-structured interview was conducted with the teachers of EG. The fourth and final phase of the research took place the following school year, where the preschoolers in the EG were given motor creativity tests once again to check the preservation of the results of the intervention.

3. Objectives

The primary purpose of this research is to investigate the impact of DP on the development of motor creativity, and in particular, to design, implement and evaluate an experimental DP intervention program that will aim to develop motor creativity in preschool children. More specifically, we hypothesize that after the implementation of the intervention, our experimental group is expected to be statistically significantly superior in the factors of motor creativity (fluency, originality, and imagination) compared to the control group.

4. Methods

4.1. Participants

The sample consisted of 215 preschool children from 16 public school classes in Greece (102 girls and 113 boys). The participants were randomly placed into one of two groups, the control group (N=109) and the experimental group (N=106). The permission of the Pedagogical Institute of Greece and the parents of the children were requested for the research.

4.2. Intervention

The EP was implemented twice a week for 15 weeks, and each daily intervention lasted 40 minutes. A total of 31 interventions were carried out by the preschool teachers of the experimental group, who were properly trained by the researcher. The applied DP method was developed in six phases, drawing on both international and domestic literature (Avdi & Hadjigeorgiou, 2007; Beauchamp, 1984; Bolton, 1993; Fleming, 1995; Kouretzis, 1991; Mamali & Papadopoulos, 2021; Page, 2008; Way, 1967). The 6 phases that constituted the structural constitution of the DP are: a) activation, b) reproduction, c) stage improvisation, d) relaxation, e) evaluation of achievements, and f) artistic procedure (optionally). The activities that accompanied each intervention emphasized the children's physical expression and motor improvisation.

4.3. Material and measures

For the measurement of children's motor creativity, before and after the EP, Torrance's Thinking Creatively in Action & Movement (TCAM) (1981) tool was used, which measures motor fluency, originality, and imagination at the ages of three to six years old.

The teachers who implemented the experimental program kept a personal diary where they recorded their observations from each DP process. At the end of the experimental program, an individual semi-structured interview was held with the preschool teachers of the experimental group.

5. Results

The equality of means of the three factors between the two groups (control and experimental) was examined through independent samples t-tests. Table 1 shows that all three comparisons show no significant difference ($p>0.1$) between the two groups before the intervention. In contrast, all three factors have different mean values after the intervention ($p<0.01$, showing a highly statistically significant difference in each one of the three comparisons).

Table 1. Independent samples t-tests for equality of means of the 3 factors between the control and the experimental group, before and after the intervention.

Factors	**Groups**	**Mean (sd)**	**Test of statistical significance**					
			Before the intervention			After the intervention		
			t	Df	p-value	t	df	p-value
Fluency	E.G.pre	90.43 (18.96)						
	C.G.pre	83.66 (19.75)	0.29	213	0.77			
	E.G.post	118.93 (29.98)				8.24	212	P<0.01
	C.G.post	91.23 (17.91)						
Originality	E.G.pre	88.32 (23.23)						
	C.G.pre	86.23 (26.51)	0.61	213	0.54			
	E.G.post	117.16 (32.10)				7.40	212	P<0.01
	C.G.post	90.35 (19.66)						
Imagination	E.G.pre	89 (7,84)						
	C.G.pre	87.65 (14.67)	0.83	213	0.41			
	E.G.post	98.89 (13.44)				4.28	212	P<0.01
	C.G.post	92.03 (9.77)						

From the analysis of the semi-structured interview data, the preschool teachers of the EG stated that they noticed an improvement in the fluency, originality, and imagination of the preschoolers. Specifically, regarding fluency, seven of the eight preschool teachers reported that the preschoolers transferred what they experienced during DP and used it in a variety of ways in their free play in the classroom and outside in the play area. In the individual diaries, higher performance was observed after mid-intervention when the children had become familiar with finding motor solutions.

Regarding the factor of originality, the preschool teachers, observing the evolution of the preschoolers, stated in their interview that they were often surprised by their ideas as, after becoming familiar with the use of their bodies in many different ways, they began to experiment with new original motor combinations. This improvement in the preschoolers' motor originality is also noted in the preschool teachers' diaries, where towards the end of the intervention there is a great increase in their original motor responses.

Finally, regarding imagination, the preschool teachers mentioned in the interview that they noticed a difference in the free play of children. They made up stories using narrative elements from the DP, and over time, the preschoolers immediately activated their imagination to every stimulus suggesting many ideas.

The next school year, in order to test whether the effect of the EG was maintained over time, we used a paired samples t-test between the post-test of the EG and the follow up administration of the test. As shown in Table 2, the scores of the EG on the factors of fluency and originality is statistically significantly different between the post-test and the follow up administration of the test ($p<0.05$). It appears that the experimental group did not maintain its improvement on these factors. In contrast, the fiction factor means are not statistically significantly different between the post-test and the re-administration of the test ($p>0.05$). That is, EG appears to have maintained its improvement only on the imagination factor.

Table 2. Experimental group's pair samples t-test on the mean differences of the 3 factors between the post and the follow-up tests.

Factors	Group	Test of statistical significance				
		Mean	Sd	t	df	p-value
Fluency	E.G.post	118.95	31.90	2,73	42	0,01
	E.G. follow-up	102.93	23.43			
Originality	E.G.post	116.88	34.78	2,27	42	0,03
	E.G. follow-up	101.07	28.35			
Imagination	E.G.post	97.37	13.86	0,68	42	0,49
	E.G. follow-up	95.23	14.16			

6. Discussion

The results of the present study showed that the EP significantly improved all three factors of motor creativity (fluency, originality, imagination). These results are consistent with previous research that studied motor creativity as a whole or in individual factors (Chatoupis, 2013; Cheung, 2010; Justo, 2008; Ourda et al, 2020; Richard et al., 2018; Tsapakidou et al., 2001; Wang, 2003) and in which creative

movement or creative relaxation or physical education or creative dance/movement programs were implemented.

Checking the maintenance of the EP results over time showed that only the results of imagination, which is the driving force of creativity, remained the same (Duffy, 2006; Zachopoulou et al., 2009). The originality and fluency of the preschoolers declined after six months of abstinence from creative activities. It seems that these two factors are more dependent on the children's sustained practice. Generally, it is argued in the literature that creativity requires experience and knowledge, and is subject to the effects of treatment (see Batey & Furnham, 2006; Ferrari, Cachia, & Punie, 2009, Kostaridou-Euclid, 1989, in Trouli, 2022). It should be noted that in a study by Bournelli & Mountakis (2008), the retention test showed that children's performance remained high in all three factors of motor creativity.

In general, the results from the assessment of the preschoolers' motor creativity immediately after the implementation of the program also showed significant improvement in the factors of fluency and originality. These results align with the statements of the preschool teachers who believe that the EP provided preschoolers with a safe environment to express themselves in diverse, different, and original motor ways. According to their records, preschoolers needed several interventions to free their thinking and gain originality in their movement.

7. Conclusions

In general, the results of our research at the end of the EP showed the strong effect of DP as a means of developing fluency, originality, and imagination in preschool children and that the stimulation of children's imagination, a characteristic of this young age, can remain at high levels for a long time after the passage of appropriately designed DP programs. Furthermore, it confirmed that the creative ability of preschoolers, and in particular their fluency and originality of motor creativity needs continuous stimulation and practice to be maintained at high levels. This last finding highlights the need to implement appropriate activities and DP programs in the preschool educational process with continuity and consistency, not just occasionally, in order to enhance young children's motor creativity. As Caf, Kroflic, and Tancig (1997) report, creating through movement puts the person in a process of non-verbal thinking, while encouraging creative movement develops creative thinking directly, and creative behavior indirectly.

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