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Influence of directive play activities on motor development of school children

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Abstract

The purpose of the study was to find out the effect of directive play activity on cognitive and motor development of primary school children. Cognitive variables such as concentration and executive function and motor development variables such as locomotor skills and object control were selected as the independent variables for the study. Two hundred school students (N=200) were selected as subjects for the study. The subjects selected from SRM Public school Chennai. Hundred school students (n=100) equally from boys and girls formed the experimental group which underwent twelve weeks of directive play activity program (DPAG). Hundred students (n = 100) selected equally from boys and girls formed the control group (CG). The subjects were in the age group of 5-8 years. The pre and post test data on the dependent variables were collected before and after the experimental period of twelve weeks. Standardized tests namely; Concentration Grid Test, Trial Making Test (TMT) and Test of Gross Motor Development-2 were used to collect data on cognitive and motor variables. Analysis of Covariance revealed that there was a significant improvement in the Motor variables of Running, Galloping, Hopping, Jumping, Leaping, Sliding, Two-hand strike, Stationary bouncing, Catching, Kicking, Over hand Throwing and Under hand rolling. Significant improvements were also proved in the Cognitive variable of Executive Function.

Keywords: Directive play, motor development

Introduction

Childhood is the important and critical period of life with critical effects on personality of individuals. In other hand, it is best period to help children learn adaptive behaviors and effective communicational skills (Kollbrunner & Seifert, 2013). In next periods of life, especially in of adolescence, these skills can provide corrective emotional strategies and healing in conflicts (Jager, 2013). Recently, effect of play therapy for improving of social skills has been noticed by most of the socio-science researchers (Stone & Stark, 2013). Many researchers believe that the lack of social-emotional skills educations considered as a reason for the failure of many children in school, it means that academic achievements need not only cognitive abilities but also social and emotional competence (Chari *et al.*, 2013).

The goal of physical education for children is to enable them to develop health and activity habits that will become a lifestyle throughout adolescence and adulthood. The two most important factors in attaining this goal at the elementary school level are that the children. Enjoy the fitness activities and master the basic skills of physical education that will enable them to participate successfully in the activities that promote fitness. Only if fitness is fun will the children pursue it outside the two or three times they are with us in physical education class each week and on through middle school, high school, and beyond. Children must enjoy exercise and physical activity as well as understand and appreciate the importance of physical fitness if they are to develop lifelong health fitness habits. Fitness for health is not the same as conditioning for competitive sports participation. Therefore, we focus on the teaching and learning of skills, knowledge, and behavior's that will enable children to be physically active today, tomorrow, and throughout their adult life (Graham, Hale & Parker, 2006).

Methodology

For the purpose of the study two hundred (N=200) primary school children in the age group of six to eight (5-8) years were selected from SRM Public school Chennai.

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The selected subjects were equally divided into (n=100) Directive Play Activity Group (DPAG) and Control Group (CG), both groups were equally represented by boys and girls fifty each (n=50). Directive Play Activity was the independent variable and dependent variables were motor development skills were Locomotor skills of running, Hopping, Galloping, Leaping, Horizontal Jumping and Sliding and Object Control skills of Two Hand Strike, Stationary bounce, Two Hand Strike, Stationary Bounce, Catch, Kick, Over Hand Throw

and Under Hand Roll. Standardized tests namely; Concentration Grid Test, Trial Making Test (TMT) and Test of Gross Motor Development-2 were used to collect data on cognitive and motor variables. The training program was administered to the Directive Play Activity Group (DPAG) for twelve weeks. Analysis of covariance (ANCOVA) was applied for analyze the effect of the subjects.

Results and Discussions

Table 1: Mean comparison of motor development components between directive play activity group and control group

Motor Development component	Group	SV	Df	SS	MS	F	P value
Locomotor skill gallop	DAPG	Between	1	34.72	34.72	144.6*	0.00
	CG	Within	197	47.73	0.24		
Locomotor skill hop	DAPG	Between	1	44.45	44.45	16.22*	0.02
	CG	Within	197	71.72	2.74		
Locomotor skill leap	DAPG	Between	1	76.82	76.82	6.85*	0.03
	CG	Within	197	17.56	11.21		
Locomotor skill jump	DAPG	Between	1	36.31	36.31	6.91*	0.03
	CG	Within	197	37.50	5.25		
Locomotor skill slide	DAPG	Between	1	61.29	61.29	7.10*	0.02
	CG	Within	197	22.81	8.63		
Object control two hand strike	DAPG	Between	1	41.56	41.56	14.80*	0.00
	CG	Within	197	68.48	2.87		
Object control stationary bounce	DAPG	Between	1	115.43	115.43	34.76*	0.00
	CG	Within	197	59.23	3.32		
Object control catch	DAPG	Between	1	25.24	25.24	6.02*	0.04
	CG	Within	197	46.92	4.19		
Object control kick	DAPG	Between	1	47.63	47.63	21.35*	0.00
	CG	Within	197	88.20	2.23		
Object control over hand throw	DAPG	Between	1	39.41	39.41	15.45*	0.00
	CG	Within	197	77.18	2.55		
Object control	DAPG	Between	1	50.37	50.37	11.07*	0.03
	CG	Within	197	43.29	4.55		
Object control under hand control	DAPG	Between	1	59.29	59.29	23.16*	0.00
	CG	Within	197	76.71	2.56		

The table shows that, directive play activity program had a significant effect on the selected motor development components ($p < 0.05$).

Discussion and Conclusions

Twelve weeks of directive play activity program had resulted in significantly improving the selected Motor Development Variables of Run, Gallop, Hop, Jump, Leap, Slide, Two Hand Strike, Stationary Bounce, Catch, Kick, Over Hand Throw and Under Hand Roll and Cognitive variable of Executive Function Directive play activity program mainly consist of movements.

Play activities and physical movement improves motor skills of children Directive play activities are specifically structured instructional program. It includes the contents of space awareness, pathways, travelling, chasing, dancing, jumping, balancing, kicking, throwing, catching, volleying, dribbling, striking CTC. There is a direct relationship between play activities and cognitive development of children. Play activities and physical movement makes an impact on the brain function. Parts of brain such as frontal lobe, temporal lobe (Memory), parietal lobe (sensory information), occipital lobe (Visual information), and cerebellum (Balance, coordination and attention) get activated when they engage in any play activity. Directive play activities are more effective than the normal play activities to improve brain function. Studies prove that frontal lobe of the brain helps in the executive function of children.

The findings of the study was in agreement with the findings

of the study conducted by Tortella *et al.* (2016) who had investigated the specificity of structured and unstructured activities played at the playground on motor skill competence in five year old children. The results shows that the experimental group who practiced gross motor activities in the playground improved significantly on gross motor task.

The findings of the study was also in agreement with the findings of the study conducted by Good way, Crowe & Ward (2003). They had investigated the influence of a nine-week instructional program on locomotor and object control skill development of preschoolers who are at risk of developmental delay. The intervention group performed significantly better than the control group for both locomotor and object control skills. The findings were in consonance with the findings of the study conducted by Sibley & Etnier (2003) who had quantitatively combined and examined the results of studies pertaining to physical activity and cognition in children.

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