STAR
Research Journal

Available online at www.starresearchjournal.com (Star International Journal)

PHYSICAL EDUCATION

Star. Phy. Edn. 02 (2014)

Effect of Inclusive Games and Physical Exercises on Selected Psychomotor Variables among the Intellectually Challenged Children

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Abstract

The purpose of the study was to find out the effect of inclusive games and physical exercises on selected psychomotor variables among the intellectually challenged children. To achieve the purpose of the present study, forty five intellectually challenged mild level male children were selected on the basis of their mental intelligent quotient (IQ) scores range from 55 to 69 from Vidivelli St.Anne's Rehabilitation Centre for the Mentally Handicapped Children, Tiruchirappalli, TamilNadu, India. The age of the subjects ranged between 7 and15 years. The subjects (N=45) were randomly assigned to three equal groups of fifteen subjects each. The groups were assigned as Experimental Group I, Experimental Group II and Control Group in an equivalent manner. Experimental Group I was exposed to inclusive games, Experimental Group II was exposed to physical exercises and control group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was twelve weeks. Static balance was measured by pediatric balance test and dynamic balance was measured by the timed up and go test. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) to find out the significance among the mean differences, whenever the 'F' ratio for adjusted test was found to be significant, scheffe's post hoc test was used. The result reveals that there was a significant improvement in the experimental groups on selected psychomotor variables when compared to the control group. The physical exercises group has showed better performance on static balance than the other two groups. The inclusive games group also showed better performance on dynamic balance than the control group.

Key Words: Inclusive Games, Physical Exercises, Balance, Intellectually Children**.**

Introduction

"***Physical fitness is not only one of the most important keys to a healthy body; it is the basis of dynamic and creative intellectual activity***" - **John F. Kennedy**

Adapted physical education is a unique system of physical education programme which provides scientifically researched and well designed exercise programme to provide a suitable sports programme of each disabled child same as for all children. This programme contributes vital role in physical activity especially for the disabled children to improve their proper body mechanisms, make social adjustments, reduce the weakness or correct the malalignments of their body and this programme is appropriately used in medical as well as therapeutic reasons.

Adapted physical activity is defined as "service delivery, pedagogy, coaching, rehabilitation, therapy, training, or empowerment conducted by qualified professionals to enhance physical activity, goal achievement of individuals of all ages with movement limitations and/or societal restrictions (i.e., attitudinal and environmental barriers)" **(Sherrill, 2004).**

Children with movement differences have the same desires, interests, and expectations to belong and achieve as their more skilled peers. These children must be given access to physical activities and games through the use of modified equipment, adapted rules, and creative programming; they should receive the same benefits offered to other youngsters of their age **(Kasser, 1995)**.

Methodology

The purpose of the study was to find out the effect of inclusive games and physical exercises on selected psychomotor variables among the intellectually challenged children. To achieve the purpose of the present study, forty five intellectually challenged mild level male children were selected on the basis of their mental intelligent quotient (IQ) scores range from 55 to 69 from Vidivelli St.Anne's Rehabilitation Centre for the Mentally Handicapped Children, Tiruchirappalli, TamilNadu, India. The age of the subjects ranged between 7 and15 years. The subjects (N=45) were randomly assigned to three equal groups of fifteen subjects each. The groups were assigned as Experimental Group I, Experimental Group II and Control Group in an equivalent manner. Experimental Group I was exposed to inclusive games, Experimental Group II was exposed to physical exercises and control group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was twelve weeks. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) to find out the significance among the mean differences, whenever the 'F' ratio for adjusted test was found to be significant, scheffe's post hoc test was used. In all cases 0.05 level of significance was fixed to test hypotheses. The investigator selected the following variables for the present investigation.

TABLE - I

S.No.	Variables	Test Items	Units
1	Static Balance	Pediatric Balance Scale	In points
2	Dynamic Balance	The Timed Up and Go (TUG)	In Seconds

Results and Discussion

The detailed procedure of analysis of data and interpretation were given below,

Table-II

Summary of Descriptive Statistics on Selected Psychomotor Variables among the Intellectually Challenged Children

Sl.No	Groups	Static Balance				Dynamic Balance			
		Pre	SD (±)	Post	SD (±)	Pre	SD (±)	Post	SD (±)
1	**Inclusive Games**	45.46	4.64	48.73	2.71	11.83	0.96	9.80	0.55
2	**Physical Exercises**	45.73	3.88	48.26	2.68	11.55	1.01	10.08	0.52
3	**Control Group**	44.26	3.65	44.73	4.14	11.23	1.14	11.22	1.05

The table II shows that the pre and post test means and standard deviation of three groups on selected Psychomotor Variables among the Intellectually Challenged Children.

Table - III

Analysis of Variance of Pre Test Scores on Selected psychomotor variables among the intellectually challenged children

Sl. No	Variables	Source of Variance	Sum of Squares	df	Mean Squares	F-Value
Pre Test						
1	Static Balance	**BG**	18.31	2	9.15	0.55
		WG	699.60	42	16.65	
2	Dynamic Balance	**BG**	2.71	2	1.35	1.24
		WG	45.87	42	1.09	
Post Test						
1	Static Balance	**BG**	143.51	2	71.75	6.77*

		WG	444.80	42	10.59	
2	Dynamic Balance	**BG**	17.06	2	8.53	15.11*
		WG	23.71	42	0.56	
Adjusted Post Test						
1	Static Balance	**BG**	131.48	2	65.74	6.14*
		WG	438.94	41	10.70	
2	Dynamic Balance	**BG**	15.30	2	7.65	13.37*
		WG	23.46	41	0.57	

***** P < 0.05 Table F, df (2,42) (0.05) = 3.21

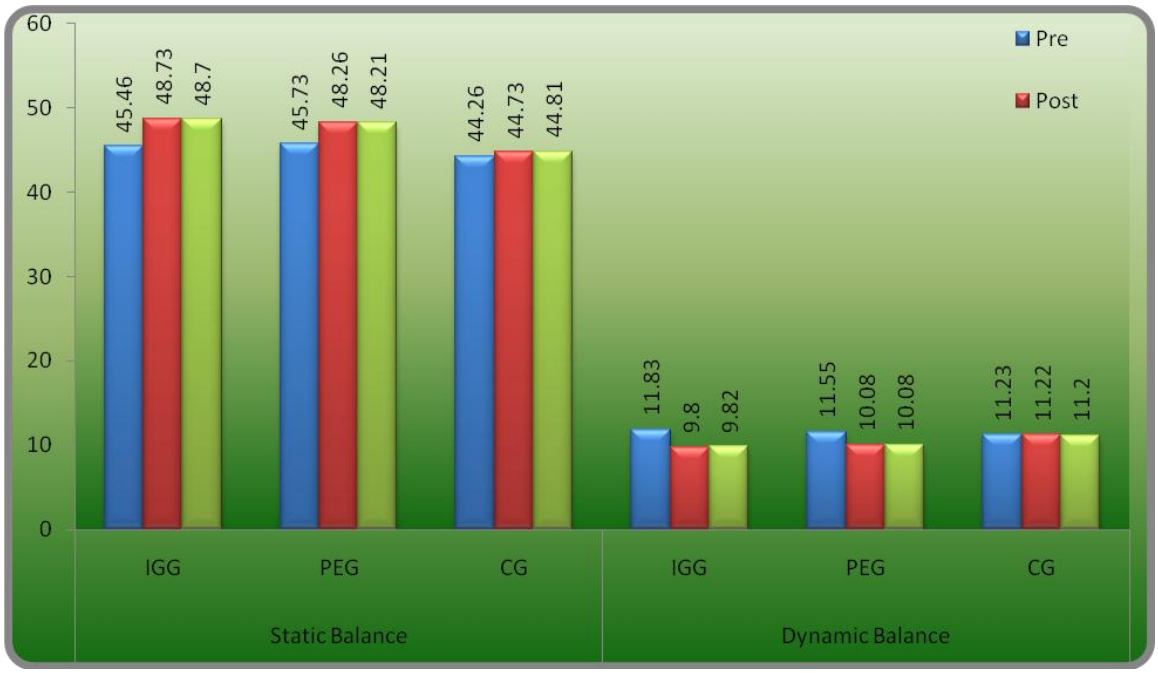
In table III, the results of analysis of variance of pre test scores on static balance (0.55) and dynamic balance (1.24) were lesser than the table value of 3.21 indicating that it was not significant for the degrees of freedom (2,42) at 0.05 level of confidence indicating that the random sampling was successful. The results of analysis of variance of post test scores on static balance (6.77) and dynamic balance (15.11) were greater than the table value of 3.21 indicating that it was not significant for the degrees of freedom (2,42) at 0.05 level of confidence. The results of analysis of covariance of adjusted post test scores on static balance (6.14) and dynamic balance (13.37) were greater than the table value of 3.22 indicating that it was not significant for the degrees of freedom (2,41) at 0.05 level of confidence.

Table-IV
Scheffe's Post-Hoc Test for the selected Psychomotor Variables among the Intellectually Challenged Children

Sl. No	**Variables**	**Means**			**Mean Difference**	**CI**
		IGG	**PEG**	**CG**		
1	Static Balance	48.70	48.21	---	0.49	3.03
		48.70	---	44.81	3.89*	
		---	48.21	44.81	3.40*	
2	Dynamic Balance	9.82	10.08	---	0.26	0.70
		9.82	---	11.20	1.38*	
		---	10.08	11.20	1.12*	

From the table IV it can be seen that the mean differences between inclusive games group and control group, physical exercises group with control group of static balance (3.89, 3.40) and dynamic balance (1.38, 1.12) respectively, greater than the confidential interval value 3.03 and 0.70 respectively, which was significant at 0.05 level of confidence. The mean differences between inclusive games group and physical exercises group of static balance (0.49) and dynamic balance (0.26) respectively, were lesser than the confidential interval value 3.03 and 0.70 which was insignificant at 0.05 level of confidence.

Figure-I Shows the Mean Values of Control Group on Selected Psychomotor Variables among the Intellectually Challenged Children



CONCLUSIONS

In the light of the study undertaken with certain limitations imposed by the experimental conditions, the following conclusions were drawn.

1. The result of the study reveals that there was a significant improvement in the experimental groups on selected psychomotor variables when compared to the control group after the completion of twelve weeks of inclusive games and physical exercises.
2. The physical exercises group has showed better performance on static balance than the other two groups.
3. The inclusive games group also showed better performance on dynamic balance than the control group.

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