SPIKE BALL GAME ACTIVITIES EFFECT ON GROSS MOTOR SKILLS VARIABLES AMONG SCHOOL STUDENTS

Dr. K. SATHEESH KUMAR, Assistant Professor

St.Johns College of Physical Education, Veeravanallur, Tirunelveli, Tamilnadu, India

The purpose of the study was to find out the spike ball game activities effect on gross motor skills variables among school students. To achieve the purpose of the study thirty school students were selected randomly as subjects from st.johns matriculation school, veeravanallur, tirunelveli District, Tamilnadu, India and their age were ranged from 6 to 12 years. The subjects divided into two groups in equal numbers (N=15). Group I underwent spike ball game activities group and group II acted as control group who did not attended any special training other than their daily school schedule curriculum. The duration of the training period was restricted into six weeks for three alternative days per week. The pre and post tests data were collected before and after the training period. The dependent variables locomotor skills and object-control skills were tested by standardized test items 10 m Zig Zag running and soft ball catching tests respectively. The collected data from the two groups prior to and after the experimental treatments on selected variables locomotor skill and object-control skills were statistically analyzed by using the statistical technique of dependent 't' test and analysis of covariance (ANCOVA). In all the cases the level of confidence was fixed at 0.05 significant. The result of the study indicated that the experimental group had shown significantly improved in gross motor skills (locomotor skill and object-control skill) variables among school students due to the effects of spike ball game activities. However the control group did not shown any significant improvement on selected variables such as locomotor skills and object-control skills. This research conclusion was full children natural activity and education development health and social relation health in a simple way of the spike ball game activities effect on the teacher and persons.

Keywords: spike ball game activities locomotors skill and object-control skill

Introduction

Spike ball introducing the new and widely fun game called spike ball. This game pits two against two in a fast paced game filled with competitiveness and fun. Whether you play at the beach or in your back yard, spike ball is a game friendly for people of all ages. Spike ball is a game that pushes you to your limits regarding your hand eye coordination, your agility and many other skills. Spike ball involves the use of a yellow hand sized ball similar to a volley ball. With the combination of a spike ball the small circular spike ball net and four people you have yourself a match

Statement of the Problem

The purpose of this study was to find out the spike ball activities effect on gross motor skills variables among school students.

Methodology

The purpose of this study was to find out spike ball activities effect on gross motor skill variables among school students. To achieve the purpose of the study thirty school students were selected randomly as subjects from St.johns Matriculation School, Veeravanallur, Tirunelveil District, Tamilnadu, India and their age were ranged from 6 to 12 years. The school students were assigned at random into two groups of each twelve (N=15). Group-I underwent spike ball activities and Group–II acted as control group who did not attended any special activities & training other than their regular daily school schedule curriculum. The duration of the spike ball activities period was restricted to six week for three alternative days per week. The pre and post data were collected before and after the spike ball activities period were statistically analyzed by using the statistical technique of dependent't' test and analysis of covariance (ANCOVA). In all the cases 0.05 level of confidence was fixed as a level of confidence to test the hypotheses. The dependent variables gross motor skills were tested by standardized tests locomotor skill test and object-control skill test.

Analysis of the data

The spike ball activities effect on gross motor skill variables among school students. Were analyzed and presented below.

Locomotor skills Test

The t-test on locomotor skill (10 m Zig Zag running) (second) of the pre and post test scores of spike ball activities group and control group have been analyzed and presented in table I.

TABLE-I

THE PRE TEST AND POST TEST SCORES OF EXPERIMENTAL AND CONTROL GROUP ON LOCOMOTOR SKILL (**10 M** Zig Zag **Running**) TEST

Group	Pre Mean	SD	Post Mean	SD	Obtained t-ratio
Experimental	3.43	0.48	3.22	0.45	2..65*
Control	3.50	0.46	3.52	0.42	0.54

*Significant at .05 level. (The table value required for 0.05 level of significance with df 14 is 2.14)

The table I show that the pre-test mean value of spike ball activities group and control group are 3.43 and 3.50 respectively and the post test means are 3.22 and 3.52 respectively. The obtained dependent t-ratio values between the pre and post test means of spike ball activities group and control group are 2.65 and 0.54 respectively. The table value required for significant difference with df 28 at 0.05 level is 2.14. Since, the obtained't' ratio value of spike ball activities group was greater than the table value, it is understood spike ball activities group had significantly improved the 10 m Zig Zag running test. However, the control group has not improved significantly. The 'obtained t' value is less than the table value, as they were not subjected to any specific training.

Analysis of covariance (ANCOVA) on locomotor skill test of experimental and control groups have been analyzed and presented in table II.

TABLE II

ANALYSIS OF COVARIANCE (ANCOVA) ON LOCOMOTOR SKILL TEST OF EXPERIMENTAL GROUP AND CONTROL GROUP

Adjusted Post Test Means		Source of variance	Sum of squares	Ddf	Mean square	F – ratio
Experimental Group	Control Group	Between	2.50	1	2.50	7.57*
3.33	3.51	Within	8.83	27	0.33	

* Significant at 0.05 level. (The table value required for significance at 0.05 levels with df 1 and 27 is 4.21)

Table II shows that the adjusted post test means values on locomotor skill test. The obtained f- ratio of 7.57 for adjusted post test mean is greater than the table value 4.21 with df 1 and 27 required for significance at 0.05 level of confidence. The results of the study indicate that there is a significant mean difference exist between the adjusted post test means of spike ball activities and control groups on locomotor skill test.

The bar diagram shows the mean values of pre test, post test and adjusted post test on locomotor skill test of spike ball activities group and control group.

FIGURE I
PRE TEST, POST TEST AND ADJUSTED POST TESTMEAN VALUES OF SPIKE BALL ACTIVITIES
AND CONTROL GROUPS ON LOCOMOTOR
(10 M ZIG ZAG RUNNING) SKILL TEST
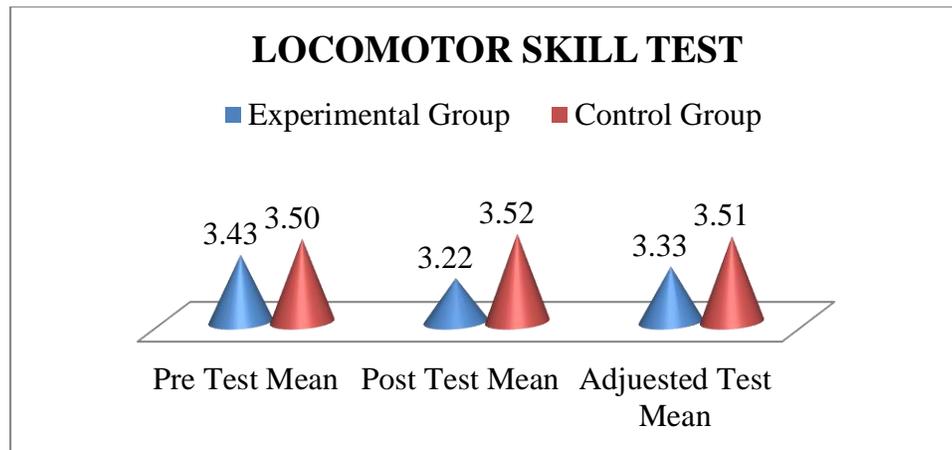
Object-control skill test (Balloon catch test)

The t-test on object-control skill test(balloon catch) (number) of the pre and post test scores of spike ball activities group and control group have been analyzed and presented in table III.

TABLE-III
THE PRE TEST AND POST TEST SCORES OF EXPERIMENTAL AND CONTROL GROUP ON
OBJECT-CONTROL SKILL TEST

Group	Pre Mean	SD	Post Mean	SD	Obtained t-ratio
Experimental	13.18	2.63	16.2	1.53	4.62*
Control	13.3	1.74	13.33	1.54	0.35

*Significant at .05 level. (The table value required for 0.05 level of significance with df 14 is 2.14)

The table III show that the pre-test mean value of spike ball activities group and control group are 13.18 and 13.3 respectively and the post test means are 16.2 and 13.33 respectively. The obtained dependent t-ratio values between the pre and post test means of spike ball activities group and control group are 4.62 and 0.35 respectively. The table value required for significant difference with df 28 at 0.05 level is 2.14. Since, the obtained 't' ratio value of spike ball activities group was greater than the table value, it is understood spike ball activities group had significantly improved the balloon catch test. However, the control group has not improved significantly. The 'obtained t' value is less than the table value, as they were not subjected to any specific training.

Analysis of covariance (ANCOVA) on object-control skill test of experimental and control groups have been analyzed and presented in table IV.

TABLE IV
ANALYSIS OF COVARIANCE (ANCOVA) ON OBJECT-CONTROL SKILL TEST OF
EXPERIMENTAL GROUP AND CONTROL GROUP

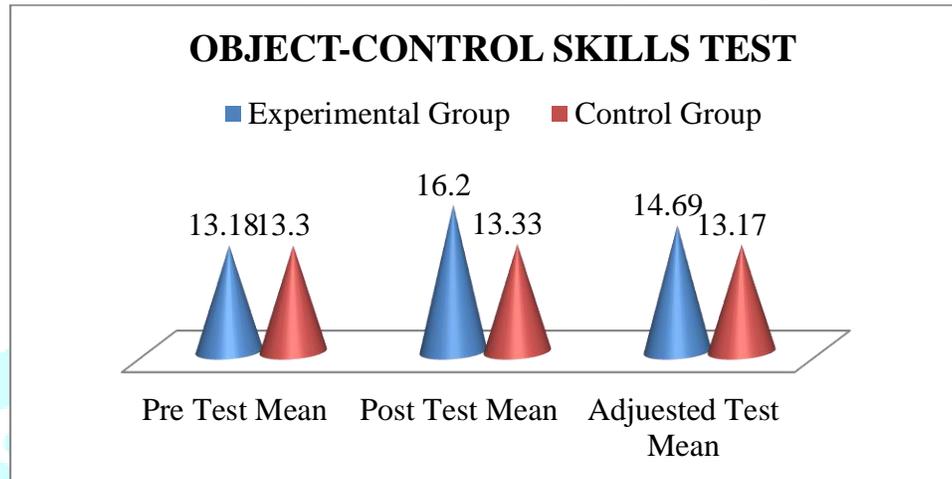| Adjusted Post Test Means		Source of variance	Sum of squares	Ddf	Mean square	F – ratio
Experimental Group	Control Group	Between	46.20	1	46.20	12.25*
14.69	13.17	Within	130.54	27	4.83	

* Significant at 0.05 level. (The table value required for significance at 0.05 levels with df 1 and 27 is 4.21)

Table IV shows that the adjusted post test means values on object-control skills test. The obtained f-ratio of 12.25 for adjusted post test mean is greater than the table value 4.21 with df 1 and 27 required for significance at 0.05 level of confidence. The results of the study indicate that there is a significant mean difference exist between the adjusted post test means of spike ball activities and control groups on object-control skills test.

The bar diagram shows the mean values of pre test, post test and adjusted post test on   object-control skill test of   spike ball activities group and control group.

FIGURE II

PRE TEST, POST TEST AND ADJUSTED POST TESTMEAN VALUES OF spike ball ACTIVITIES AND CONTROL GROUPS ON OBJECT-CONTROL SKILL TEST

OBJECT-CONTROL SKILLS TEST

■ Experimental Group ■ Control Group

	Pre Test Mean	Post Test Mean	Adjuested Test Mean
Experimental Group	13.18	16.2	14.69
Control Group	13.3	13.33	13.17

Conclusions

There was significant improvement on locomotor skills test (10 m Zig Zag running test) due to the effect of spike ball activities school students

There was significant improvement on object-control skill test (balloon catch test) due to the effect of spike ball activities school students

However the control group had not shown any significant improvement on any of the selected variables.

References

Clark, D. R., Lambert, M. I., & Hunter, A. M. (2019). Trunk muscle activation in the back and hack squat at the same relative loads. The Journal of Strength & Conditioning Research, 33, S60-S69.

Deniz, E., & Ulas, Y. H. (2019, August). Evaluation of Muscle Activities During Different Squat Variations Using Electromyography Signals. In International Conference on Theory and Application of Soft Computing, Computing with Words and Perceptions (pp. 859-865). Springer, Cham.

Lucero, R. A., Fry, A. C., LeRoux, C. D., & Hermes, M. J. (2019). Relationships between barbell squat strength and weightlifting performance. International Journal of Sports Science & Coaching, 1747954119837688.

Pareja-Blanco, F., Asián-Clemente, J. A., & de Villarreal Sáez, E. (2019). Combined Squat and Light-Load Resisted Sprint Training for Improving Athletic Performance. Journal of strength and conditioning research.

Pullins, B. J., Hall, M. J., & Simonson, R. R. (2019). U.S. Patent No. 10,343,008. Washington, DC: U.S. Patent and Trademark Office.

Rippetoe, Mark (2007). Starting Strength: Basic Barbell Training, p.8. The Aasgaard Company. p. 320.I SBN 0-9768054-2-1.

Kubo, K., Ikebukuro, T., & Yata, H. (2019). Effects of squat training with different depths on lower limb muscle volumes. European journal of applied physiology, 1-10.

Satheesh Kumar. K., Suriya. P.& Arumugam. S. (2020). influence of zercher squat exercises on back strength and leg strength among college basketball players, Journal of Information and Computational Science,Vol-10 issue- 2 ISSN: 1548-7741, p- 45-50