Effect of Plyometric Exercises on Physical Fitness of School Students.

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Abstract :-

The scholar selected a study "Effect of plyometric exercises training on physical fitness components of the school students. For the study the scholar selected 40 school students of there 12 to 15 yrs and given then 12 plyometric exercise and selected 5 physical fitness components. The scholar given the 5 weeks plyometric training to the school students. Before start of training the physical fitness were tested and scores were collected after 5 weeks training again the scores were collected.

To see the effect of the training the scholar calculated 't' value between the pre-test and post-test means and standard deviation and compared the calculated 't' values with tabulated 't' values. The calculated 't' values of physical fitness components were greater than tabulated 't' value. Hence it is concluded that there it is concluded that there is positive significant effect of plyometric exercise on the physical fitness of school students.

Key words :- *Plyometric exercises, physical fitness components; school students.*

Introduction :-

The scholar decided to conduct the research about the physical fitness components of school students of the. Therefore the scholar selected a research study entitled "The Effect of Plyometric exercises on the physical fitness components of the school students" For the study the scholar selected the 40 students from the school in between the ages 12 to 15 years. The average age of the students was 13.8 yrs.

For collection of data. The scholar selected the following physical fitness components. 1) For speed 50 meters run, 2) For cardiovascular endurance 600 meters Run and walk test 3) For agility 100 meters shuttle run 4) For explosive power of the standing broad jump. 5) For flexibility Sit and reach test.

For the plyometric training the scholar selected plyometric exercises 1) Medicine ball exercises 2) Bonds 3) Hurdle Hopping 4) Single leg hopping 5) Box jumps. 6) Depth Jump 7) Tuck Jumps 8) Two legged hops or bunny hops. 9) Chest pass 10) Incline push up depth jumps 11) Power drop 12) Incline chest pass. These exercises were given to the school students.

Equipment required for Plyometric Exercises :-

Medicine balls 4 weighing. 3-4 lbs, Wooden boxes of 1 ½ x 1x1 feet size, Two yoga mats, A box 10x10x10 inches.

Plyometric Training Schedule:-

The scholar designed the plyometric exercises training for 5 week daily in the morning from 7.00 am. to 8.30 am.

Object of the Study :-

The researcher has the following objective of this study.

1) To see the physical fitness components of the students before the starting of plyometric exercises training.
2) To see the effect of plyometric training on the running speed of the students.
3) To see the effect of plyometric exercises training on the cardio-vascular endurance of the students.
4) To see the effect of plyometric exercises training on the agility of the students.
5) To see the effect of the plyometric exercises training on the explosive power of legs.
6) To see the effect of plyometric exercises training on the flexibility of the students.

Significant of the study:

This is significance because it will throw light on the physical fitness components of the students and the effect of plyometric exercises

training on the physical fitness components of the students.

Hypothesis :-

Hypothesis is a assumption of the result of the researcher made a hypothesis that there is positive significant effect of plyometric training on the physical fitness components of the students.

Limitation of the study:-

1) The study was limited to 40 school students only.
2) The study was limited to only male students.
3) The study was limited to the students of age of 12 to 15 years only.
4) The this study the socioeconomic conditions of the students were not known
5) The study was limited to only students of one school only.

Limitations of the researches:-

The following were the limitation of the researcher.

1) The researcher was not knowing the family background of the students.
2) The researcher was not knowing the other exercises the students do.
3) The researcher was not knowing the diet that the students.
4) The researcher was not knowing the life styles of the students.
5) The researcher was not knowing what activities students do in their lisure time.

The above were the limitations of the researcher.

Methodology:-

The researcher designed 2 stations for plyometric exercises training under his two assistants who were knowing the plyometric exercises.

The warming up before starting the plyometric exercises the avoid the injuries. Daily in the morning from 7.00 am. To 8.30 am. The plyometric exercises training were given to the students, 6 days a week for 5 weeks.

The researcher before starting plyometric exercises training conducted physical fitness components test of the students and collected data and calculated means and standard deviations and prepared table. After the 5 weeks training again the physical fitness components tests were conducted and collected the data and calculated means and prepared the tables.

Following Table No1 and Table No2 represent the pre-test means and standard deviation represented in table number one and in table number two post-test means and standard deviations.

The following table number one indicates the means and of standard deviations of the tests of physical fitness components before starting the plyometric exercises training.

Table No.1 :-Means and standard of deviations of the pre-test scores of physical fitness components of the students.

Sr.No.	Physical Fitness Components	Pre-test	
		Mean	Standard deviation
1	50 mtr. Dash (Speed)	17.08	2.93
2	600 mts. Run & Walk (Cardio-vascular endurance).	3.4	0.69
3	100 mtr. Shuttle run (Agility)	13.3	1.9
4	Standing broad Jump (Explosive power of leg)	3.3	0.91
5	Sit & Reach (Flexibility)	3.4	0.91

Source :- From the pre-test of physical fitness components of the school students.

Discussion :-

The above table number one indicated the means and standard deviations of the physical fitness components of the school students the 50 mtr. dash mean is 17.08 seconds and standard deviation 2.93. The 600 mtr Run & walk test means is 3.4 minutes and standard deviation is 0.69. The 100 mtr shutle run agility means is 13.3 seconds and standard deviation is 1.9. The mean of standing broad Jump is 3.3 feet and standard deviation is 0.91. The mean sit and reach is 3.4 feet and standard deviations are 0.91.

After the 5 weeks plyometric exercises training the scholar conducted again the post- test for physical fitness components which is given below in Table No. 2.

Table No. 2 :- Means and standard deviations of the Post-test scores of physical fitness components of the school students after administration of plyometric exercises.

Sr.No.	Physical Fitness Components	Pretest	
		Mean	Standard deviation
1	50 mtr. Dash (Speed)	12.7	1.8
2	600 mts. Run & Walk (Cardio-vascular endurance).	2.8	0.54
3	100 mtr. Shuttle run (Agility)	11.1	1.5
4	Standing broad Jump (Explosive power of leg)	5.5	0.5
5	Sit & Reach (Flexibility)	4.8	0.7

Source :- From post- test scores of physical fitness components.

Discussion :-

The above table number two indicates the means and standard deviation of the post test scores of the physical fitness components of the school students. To see the effect of plyometric training on the physical fitness components of the school students. The scholar calculated the 't' values of the physical fitness components and compared it with the tabulated 't' value The following self explanatory Table No. 3 indicates the means standard deviations and calculated 't' valued and tabulated 't' values of physical fitness components of pre-test and post-test scores.

Table No.3 :- Means, standard deviations calculated't' values and tabulated 't' values of the physical fitness components of the school children.

Sr. No.	Physical Fitness Components	Pre-test		Post-test		Cal 't' value	Tabulated 't' values
		Mn	Sd	Mn	Sd		
1	50 mtr. Dash (Speed)	17.08	2.93	12.7	1.8	12.7	2.7 at 0.01 't' val of significant 39 dt.
2	600 mts. Run & Walk (Cardio-vascular endurance).	3.4	0.69	2.8	0.54	4.2	
3	100 mtr. Shuttle run (Agility)	13.3	1.9	11.1	1.5	5.78	
4	Standing broad Jump (Explosive power of leg)	3.3	0.91	5.5	0.5	13.12	
5	Sit & Reach (Flexibility)	3.4	0.91	4.8	0.7	7.77	

Source :- From the pre-test and post-test scores and calculated 't' and tabulated 't' values.

Discussion :-

The above table number three indicated the pre-test and post-test means and standard deviation of physical fitness components and calculated 't' values & tabulated value. The calculated 't' values of physical fitness components are greater than tabulated values of at the 0.01. Level of significance and at the 39 degree of freedom. This proved that there is positive significant effect of plyometric exercises training of 5 weeks on physical fitness components.

The Hypothesis made by the scholar that there is positive significant effect of plyometric exercises training on physical fitness components is proved.

Conclusion ;-

From the above discussion and acceptance of the hypothesis, researcher arrived at the conclusion that the effect of plyometric exercise training of week the physical fitness components of the school students improved and there is positive significant effect of plyometric training on the physical fitness components of the school students.

Hence the researcher recommends in the school for the physical fitness of the students the

authorities should start such physical fitness exercises.

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