

TO STUDY THE EFFECT OF BALL ACTIVITIES ON DIFFERENT FUNDAMENTAL MOVEMENT SKILLS OF U-10 BOYS

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Abstract

The research was conducted "To Study the Effect of Ball Activities on Different Fundamental Movement Skills of U-10 Boys". Population of the study were from MM's Pune Vyamshala, purposive sampling technique was used to select the subjects, and 20 subjects of U-10 age group were selected from MM's Pune Vyamshala, Pune. Three standardized rating scale and one teacher made rating scale were used to measure the selected fundamental movement skills such as overhand throw, catching. Experimental design was used for this research to find out the differences. The research was conducted in three phases; 1st phase the pre-test, 2nd phase the training program and the 3rd phase the post-test. Descriptive statistic was used to find out the mean, median, standard deviation, minimum and maximum score. The paired sample 't' test was used to find out the comparison between pre-test and post-test. The mean of the pre-test overhand throw- 42.20, catch- 42.20 and post-test showing a significance increase to overhand throw- 53.35, catch- 54.55. Hence there was a significance of the training program on the selected FMS of U-10 boys.

Keywords: *Fundamental Movement Skills, Throw, Catch*

Introduction:

Sports have become an important part of human life. It is rightly said by —James & Doffins that sports are important as everyone believes that when out body works better our mind work better. It means that the brain and our body are inter related. Fundamental movement skills are the basis of the first

movements that infants make in their lives. The child must master these skills before they can begin playing games, participating in sports or involving herself in any recreational activities. These fundamental movement skills benefit the child by providing her with control over her bodily movements.

Childhood is a critical time for the development of fundamental gross motor skills. This period is considered to be a sensitive learning period for motor skill development because there is substantial neurological capacity available for learning fundamental skills. To develop physical literacy a child should first master the fundamental movement skills (FMS). Fundamental movement skills are sometimes referred to as 'fundamental motor skills' or, more simply, as 'basic skills'. From the movement we are born, movement is one of our first means of expression, response and communication. As we grow, our movement patterns and basic movement skills develop and become increasingly refined and varied.

Statement and Significance of the study:

Many of today's athletes, at all levels, are lacking in one very critical area fundamental movement skills from youth sports to professional teams. Along with inhibiting athleticism, neglecting the teaching of fundamental motor skills may also be a leading cause of injuries. When an athlete is not doing correct basic movements like running, jumping etc overuse injuries and muscle pulls tend to occur and when the athlete is not able to complete an unfamiliar movement in the heat of competition and result tends to injury. It is most important because Eye/foot and eye/hand coordination begins at approximately

age 10 the visual tracking activity achieves an adult pattern. When compared to their foreign counter parts and India seem to lack in their fundamental movement skills like throwing & catching.

- This study enables the subject to improve their FMS.
- Study will be beneficial to all the subjects by improving the FMS during the translation period of their schedule.

Hence researcher has decided to study the effects of ball activities on different fundamental movement skills of U-10 boys.

Objectives of study:

- To measure the selected fundamental motor skills
- To prepare and implement the variety of ball activities on U-10 boys
- To check the effect of training program.

Hypothesis:

When it was deciding to study this research problem, researcher stated following hypothesis:

1H₁: - There will be significant improvement in Overhand throw skills of U-10 boys.

2H₁: - There will be significant improvement in catching skills of U-10 boys.

Assumptions:

- It is assumed that all the subjects are in the same stage of gross motor development
- It is assumed that the subject knows the basic fundamental movement skills
- It is assumed that the subject will give a true response to the training program and to testing the skills
- It is assumed that the entire subject will perform to their best of the ability during practice session.

Delimitations:

- The study is delimited to Maharashtra Mandal Pune Vyamshala U-10 boys only
- The study is delimited to selected skills

from manipulative and locomotors movement skills

- Different size of balls will be used for training
- Training will be of six weeks and five times in a week.

Limitations:

Researcher has no control over:

- The physical activity of the subject beyond training session
- Hereditary factors that could affect motor
- Physical education program of learning respective school.

Operational terms:

- **Ball activities:** Any physical movement or energetic action which is being done with the ball
- **Fundamental movement skills:** It is a movement pattern in which two or more body parts are involve
- **Throwing:** Applying a pushing force to an object to move away from the particular place
- **Catching:** To stop or control the moving object by using hands

Method of study:

As the researcher wanted to see the effect of the FMS program to improve the skill of u-10 boys. The study was conducted by experimental method.

One group Experimental Design

O ₁	X	O ₂
Pre- test	Training Program	Post-test

Design of the study:

This study was consisted of an experimental design in which researcher made use of one group pre-test – post-test design. With the help of this design the effect of treatment was judged between the pre-test – post-test score.

Variables:

A selected fundamental movement skill such as throwing & catching has been designed to see the effect of ball activities on FMS on U-10 boys. It is based on the literature and discussion with the expert. The following variables are selected:

- **Independent variable:** Ball activity program
- **Dependent variable:** Locomotors skill and Manipulative skill (i.e. throwing & catching)

Sampling:

- **Population**
 In this research, the population is the students from Maharashtra Mandal Pune Vyamshala of U-10 boys. There are 50 students in my study as population.
- **Sample**

In this study the researcher has selected 20 boys of U-10 age group; using non-probable purposeful sampling method from MM'S Pune Vyamshala, Pune.

Data collection tool:

- Standardize rating scale for throwing, catching.

(Note: I have selected the rating scale from mini research of Savio Naronha from —Assessment of football boy's u-10 of MM's Pune Vyamshala. This rating scale was applicable for my research work and ahead as I found this rating scale had validity, reliability and objectivity.)

Statistical Tools:

Descriptive statistics and paired sample 't' test was used to calculate mean, standard deviation, standard error of mean and mean differences between the pre-test and post-test which includes overhand throw and catching.

1. Rating Scale

1	2	3	4	5
Poor	Below average	Average	Good	Excellent

2. Overhand throw

Overhand throw		1	2	3	4	5
1	Eyes are focused on the target throughout the throw					
2	Stand side-on to the target					
3	Throwing arm nearly straightened behind the body					
4	Step towards the target with foot opposite throwing arm during the throw					
5	Marked sequential hip to shoulder rotation during the throw					
6	Throwing arm follows through down and across the body					

1. Catch

Catch		1	2	3	4	5
1	Eyes are focused on the ball throughout the catch					
2	Preparatory position with elbows bent and hands in front of Body					
3	Hands move to meet the ball					
4	Hands and fingers positioned correctly to catch the ball					
5	Catch and control the ball with hands only					
6	Elbows bend to absorb force of the ball					

Primarily descriptive statistics was applied for pre-test and post-test comparison and it followed by paired sample ‘t’ test to interpret data collected from pre-test and post-test. This chapter systematically renders detailed presentation of data analysis and interpretation of results.

Analysis:

Table No. 1
 Descriptive statistics

Overhand Throwing	N	Mean	Std. Dev.	Median	Minimum	Maximum	Std. error of mean
Pre	20	42.20	3.45	43.50	37.00	47.00	.77
Post	20	53.35	2.60	53.00	49.00	59.00	.58

The above table 1 reveals descriptive statistics of u-10 boys in overhand throw test. There were 20 subjects tested who had pre-test mean of 42.20 and std. deviation 3.45, similarly for post-test mean is 53.35 and std. deviation was 2.60. Standard error mean of pre-test is 0.77 and for post-test was 0.58. It is seen that the mean of post-test is greater than that of pre-test overhand throw. Looking at the range it can be seen that there is increase in the minimum score in the post-test.

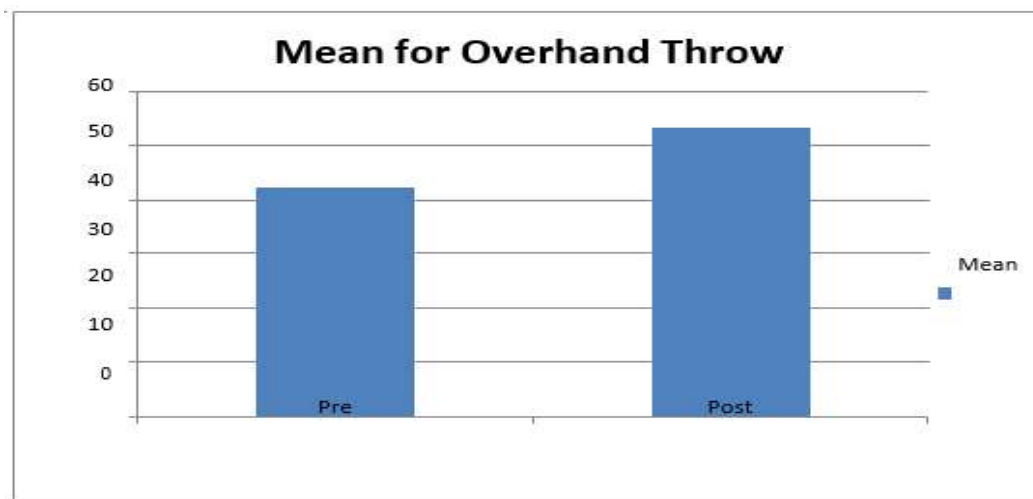


Fig. 1

This graph shows the mean difference 11.15 of pre & post test of Overhand throw.

Table No. 2
 Analysis of Pre & Post test in Overhand Throw

	Mean	t	df	Sig. (2-tailed)
Pre-throw				
Post-throw	11.15	19.79	19	0.00

Above table 2 shows that the mean difference between pre-test and post-test was 11.15, the ‘t’ value was 19.79 which is significant at 0.01 level therefore it can be interpreted that there is significant difference in the pre and post-test performance. Therefore, H_0 was rejected.

Table No. 3
 Descriptive statistics

Catch	N	Mean	Std. Dev.	Median	Minimum	Maximum	Std. error of mean
Pre	20	42.20	5.69	42.50	30.00	52.00	1.27
Post	20	54.55	1.90	54.50	49.00	58.00	.42

The above table 3 reveals descriptive statistics of u-10 boys in Catching test. There were 20 subjects tested who had pre-test mean of 42.20 and std. deviation 5.69, similarly for post-test mean is 54.55 and std. deviation was 1.90. Standard error mean of pre-test is 1.27 and for post-test was 0.42. As compared to mean of pre-test there was an improvement in post-test mean. Looking at the range it can be seen that there is increase in the minimum score in the post-test.

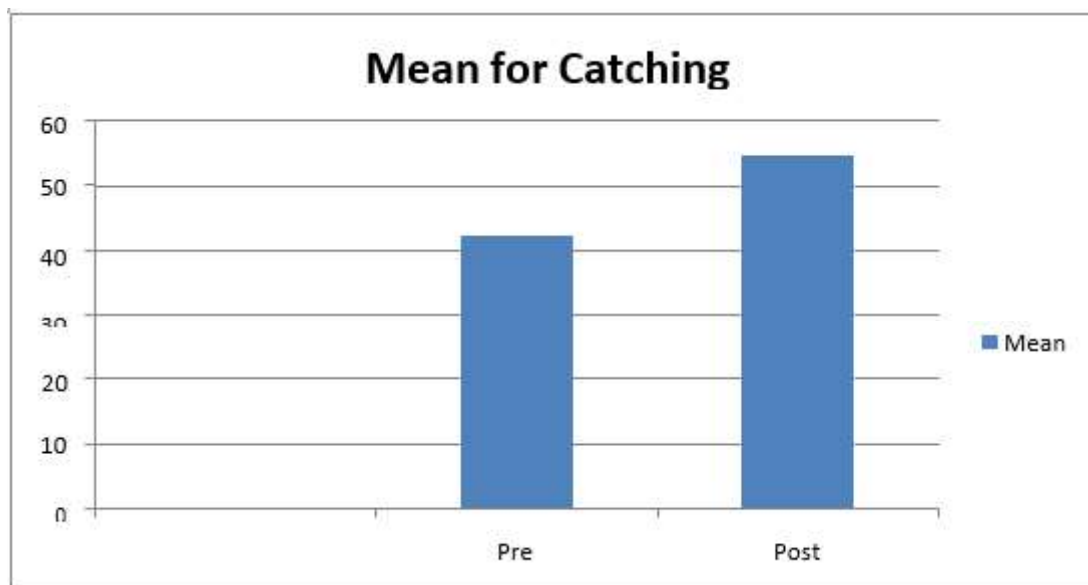


Fig. 2

This graph shows the mean difference 12.35 of pre & post test of Catching.

Table No. 4
 Analysis of Pre & Post test in Catching

	Mean	t	df	Sig. (2-tailed)
Pre-catch				
	12.35	10.51	19	0.00
Post-catch				

The above table 4 reveals, 't' value is found 10.51 which is significant at 0.01 level. It proves that the mean difference which was tested with paired sample 't' test found between pre and post i.e. 12.35 is significant difference. Hence, this indicates that there was an improvement

due to prescribed training program. Therefore, $2H_0$ was rejected.

Discussion:

The purpose of the study was to examine the effect of ball activities on different

fundamental movement skill of u-10 boys. Similarly, study was conducted by **Gimenez R., Manoel E. J., Oliveira D. L., Dantas L., Marques I. (2012)**, In this research they examined how the children of different ages integrate FMS. It was concluded that children involved in daily physical education program had shown positive result. **Donath L., Faude O., Haggmann S., Zahner L. (2015)** stated that after participating in FMS training program has shown the positive result in the skills and also the successful team-sport participation & appropriate sportive motor development.

After conducting the pre-test, the training program was implemented and after six of training program a post-test was conducted and data was analyzed with the help of Paired Sample 't' test. The result concluded that the training program had a significant effect on the overhand throw & catching skills. Statistical tool proves that different between pre-test and post-test was significant. After the analysis it was stated that six weeks training program was adequate to improve the selected fundamental movement skills. Therefore, the research hypothesis is accepted.

Summary:

The present study entitled —The Effect of Ball Activities on Different Fundamental Movement Skills of U-10 Boys was experimental study. The subjects were selected from Maharashtra Mandal Pune Vyamshala. Variables are important in any research. In this study the experimenter manipulates variable that were selected for this study. For measuring skill investigator used the rating scale. The tests were administered to collect the data of the subject before the training and again the test was administered to see the effect of prescribed FMS training program. Statistical tools were used for data collection; it was analyzed by using descriptive statistic mean and standard deviation and inferential measures such as 't' test to find out the effect. The analysis was done using SPSS 17.00 software. It was concluded

that the six weeks training program has shown that students improved their skill performance.

Conclusion:

The present study focused to study the effect of ball activities on different fundamental movement skills performance of U-10 boys. Thus, within limitation, the present study concludes that the training program for a period of six weeks was useful to improve the FMS like overhand throw and catching.

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