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Effectiveness of a kinaesthetic perception visual and auditory training program to improve the hockey performance

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Abstract

This study is to analyse the within group improvement in two experimental groups and one control group on the performance of the field hockey 20-Yards Scoop skill test due to kinaesthetic perception drills. In this study Descriptive statistics was used for to compare within group difference was analyzed using paired 't' test and the difference between experimental and control group was using the information studying tools SPSS- 21 software turned into used. The purpose of this study is to find out to comparative effect of visual and auditory perception sixteen yards push test drills on the hockey performance. The objective of this study is to analyse the within group improvement in two experimental groups and one control group on the performance of the field hockey 20-Yards Scoop test due to kinaesthetic perception drills. The study was select to 14 to 18 years of hockey players of Indore district participating at different levels of achievement and who voluntary opt hockey for their sports period. The study was further defined to the basic skills of sixteen yards push test, The total number, of subjects forty five (N = 45) subjects from three groups two experimental groups and one control groups were selected for the each group equal subjects fifteen (15) for this study age ranged between 14-18 years players of Hockey comprising from Indore district, who voluntary opt hockey for their sports period. In this study Descriptive statistics was used, the within group difference was analysed using paired 't' test and the difference between experimental and control group was analysed the data analysing tools SPSS- 21 software was used. The level of significance was set at 0.05 level. There was significance Mean effects of two experimental and one control groups 20-Yards Scoop test of kinaesthetic perception drills of hockey performance.

Keywords: Training, method drills, hockey, performance, control, experimental etc.

Introduction

The period kinesthesia refers to the potential to pick out bodily motion as nicely as the motion of unique segments of the human body. Kinesthesia is related to the thinking of spatial attitude. It is commonly understood as a lasting and unchanging attribute of wholesome human beings and is viewed to be an extra sense, whose use does no longer require aware participation. An analogy between kinesthetic and sensual appreciation is satirically inclined in the direction of the opinion that the grasp of function and spatial physique actions are a procedure emanating from realized experience. An instance should be the differentiation between scent and style when recalling sensory impressions from the past. A comparable foundation exists in the improvement of stability thru the perfection of a range of types of locomotion in the course of the onto genetic improvement of a human being (From crawling to balanced walking). By accepting the above arguments, dialogue can be accepted on the adaptive motion of the human being as a system that makes bodily exercise possible, i.e., thru the engagement of person motor skills as nicely as the kinesthetic transformation of one's body. Treating kinaesthetic as an adaptive process, managed by way of humans, is essential in grasp the trouble undertaken in this find out about.

A largely suitable definition of an experience would be "A machine that consists of a team of sensory cells kinds that respond to a precise bodily phenomenon, and that corresponds to a precise Group of areas inside the talent the place the indicators are obtained and interpreted." Disputes about the wide variety of senses usually occur around the classification of the range of mobile kinds and their mapping to areas of the brain.

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Kinaesthetic experience can be increased with exercise and training. Various drills can be developed for improving the kinaesthetic grasp of the hockey players. Drills the use of ball experience is one of the instances of kinaesthetic perception. Practising the abilities blindfolded, the usage of quite a number of auditory alerts and training in low mild or darkish is the range of approaches used in the improvement of kinaesthetic perception.

Hockey, as a sport of stick and ball, dates back to middle-age. Some of the carvings of this sport were found in Ireland and Greece in 1200 and 600 BC respectively. It is assumed that the sport existed some 4000 years ago. However, hockey took its actual form with government organization to recognize the sport. Hence, specific rules of the game were introduced in early 19th century. Countries like England, Germany, Argentina, Spain, India, Malaysia, and Pakistan have international teams and take part in all the annual events organized by International Hockey Federation (FIH) formed in 1924.

Objective

The objective of this study is to analyse the within group improvement in one control group and two experimental groups on the performance of the field hockey 20-Yards Scoop skill test due to kinaesthetic perception drills.

Statistical Procedure

In this study Descriptive statistics was used for to compare within group difference was analyzed using paired 't' test and the difference between experimental and control group was using the information studying tools spss- 21 software turned into used.

Methodology

The purpose of this study is to find out to comparative effect of visual and auditory perception sixteen yards push test drills on the hockey performance. The objective of this study is to analyse the within group improvement in two experimental groups and one control group on the performance of the field hockey 20-Yards Scoop test due to kinaesthetic perception drills. The study was select to 14 to 18 years of hockey players of Indore district participating at different levels of achievement and who voluntary opt hockey for their sports period. The study was further defined to the basic skills of sixteen yards push test, The total number, of subjects forty five (N = 45) subjects from three groups two experimental groups and one control groups were selected for the each group equal subjects fifteen (15) for this study age ranged between 14-18 years players of Hockey comprising from Indore district, who voluntary opt hockey for their sports period. In this study Descriptive statistics was used, the within group difference was analysed using paired 't' test and the difference between experimental and control group was analysed the data analyzing tools SPSS- 21 software was used. The level of significance was set at 0.05 level.

Criterion measure

20-Yards Scoop Test

Purpose: To evaluate the ability of Scoop skill in Hockey.

Age and Gender: Male Hockey players of age 14-18 yrs.

Equipments: Hockey stick and balls, Stop watch, whistle, lime powder, score-sheet and marked field.

Field Marking: The Hockey play field was marked as shown in the Fig. 4(a). The scoop area is 1 x 1 yards and the landing zone of ball is marked 20 yards away from the scoop area and a total of 4 boxes of 5 x 5 yards were marked in continuation for Scoop 1,2,3,4 and 5 points were awarded when the player crosses all the boxes.

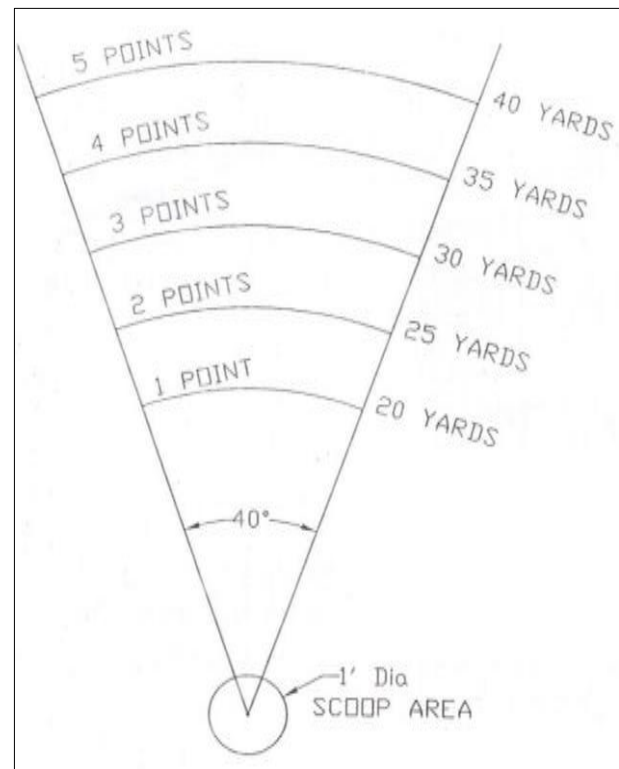


Fig 1: 20-Yards scoop test

Directions

The player stood inside the scoop area with a Hockey stick and a ball. After taking the position, the player scoops the ball into the area as instructed. The players were warned not to scoop the ball inside the 20 yards width. Every player was given ten opportunities in each trial. Three trials are given to each player.

Scoring

Scoring was done on the basis where the ball dropped on Scoop i.e. the box in which the ball drops on scooping. Total three trials were given as final score and marks are given accordingly.

If a ball is landing in between the two numbers the higher point value is awarded to players.

S. N.	Area	Points
1	< 20 Yards	No point
2	1st box i.e.	1 point
3	2nd box i.e.	2 point
4	3rd box i.e.	3 point
5	4th box i.e.	4 point
6	>	5 point

Additional Pointers

1. Practice session was given to the players prior to the test.
2. Before the description of test, the scholar was explained the purpose of the present study and procedure of test.

Visual Training

In visual perception drill the subjects were asked to follow the visual signals without having a proper sight to the target, they were asked to practice the drills with partially blind folded with a thin cloth, gradually the vision was made more difficult by adding layers of cloths on the subjects eyes. In an another skill subjects were directed to practice in dark or

low light where the target is not visible clearly. Light signal was given for a second so that subjects could identify their target. Keeping in the mind, the safety of the player the kinesthetic perception drills was given individually so the chance of injury is minimized. The details of the kinesthetic perception drills were prepared before the administration of the training program.

Training Details

Week	Training Details
Week 1-8	After Completion of Warm-up, Various Skills was practiced with the help of different kind of marking, which helped the players to visualize the objects

Auditory Training

In auditory perception drills, we gave the same training as above which we was given in visual perception drills, but target was not be visible at the moment of performing the skills. We had increased difficulty level by producing different sound frequencies or making them so that they can look partially means not clearly. And some sound producing equipment such as ball was used so they can recognize the sound and percept the object’s location. Today many equipment/electronic devices are coming in market so as to produce different-different sounds/signals. We had developed or arranged some sound generating system operated from remote so as to give different auditory signals as different places so as to make players to percept the actual locations for the targets.

- Pushing and hitting the ball on different frequencies of sound.
- Pushing the sound producing ball against the wall by standing near the wall.
- Scooping the ball on different sound frequency areas/zones perfectly i.e. Not more not less.

Visual Drills

- Hitting and pushing the ball on light signals which was given for friction of second.
- Tapping the radium painted ball standing in front of each other with smaller distance in a very low light/vision.
- Keeping the radium painted ball bouncing on stick for maximum time in the dark.
- Pushing the radium painted ball against the ball and stopping while returning it and practice slap hitting again n again.
- Scooping the ball against light emitting zone ie. not more not less.

Auditory Drills

- Tapping the ball standing in front of each other with smaller distance in low vision with sound.
- Keeping the ball bouncing on the stick for maximum possible time with the sound of the ball, covering the eyes.
- Pushing and hitting the ball in sound direction.

Auditory Training

Week	Training Details
Week 1-8	After Completion of Warm-up, Various Skill was practiced on different sounds like beep sound, whistle and Clap which helped the players to complete the skills with auditory instructions

Criterion Measure

The criterion measure chosen for testing the hypothesis was the scores achieved by the subjects in individual skill test of Field Hockey.

1. Reacting against various types of auditory signals without having a visual sight,
2. Practicing the drills with blind folded
3. Practicing in the dark.

Administering the Training Programme and Collection of Data

All the subjects were divided into three equated groups, on the basis of playing ability. The playing ability was assessed by three experts using a seeding method. The two groups were named as Experimental Group and one Control Group. The control group was given training three times a week using normal drill and practice session. The experimental groups were also be given training three times a week but other than the normal training procedure, they were trained through visual and auditory kinesthetic perception drills i.e.,

Note: Keeping in the mind, the safety of the player the kinesthetic perception drills was given individually so the chance of injury is minimized. The details of the kinesthetic perception drills were prepared before the administration of the training program. Pre-test data was collected after a brief orientation of the test and post test data was collected after the completion of the training program i.e. after 2 months.

Discussion of Results

Table 1: 20 Yard Scoop Test Pre and Post Test Mean, Standard Deviation, Standard Error, Mean Difference And ‘T’ Ratio For Experimental Group One, Experimental Group Two And Control Groups On Kinaesthetic Perception Drills of Hockey Performance for the (20 Yard Scoop Test)

Group	Pre Test Mean	Post Test Mean	Mean Diff	SD Pre Test	SD Post Test	SE (DM)	Cal. ‘t’	Tab ‘t’
Experimental Group 1	20.73	23.00	-2.27	1.62	1.81	0.40	-5.72*	2.15
Experimental Group 2	21.20	23.07	-1.87	1.61	1.62	0.34	-5.55*	2.15
Control Group	18.20	21.33	-3.13	1.15	1.45	0.47	-6.71*	2.15

Table 1. Data depicted in table no. 10 on significance of difference on 20 yard scoop test clearly indicate significant difference in pre-test and post-test means scores of Experimental Group one, experimental group two and control group.

In experimental group one pre-test mean score was 20.73 whereas post-test mean score was 21.20 and calculated 't' value for is 5.72 which is higher than the required table value 2.15 to be significant at 0.05 level. Similarly experimental group two also showed significant difference between the pre-test and post-test mean scores on 20-Yards Scoop test as the obtained pre-test mean score is 21.20 and post-test mean score is 23.07, calculated 't' value is 5.55 which is much higher than the tabulated 't' 2.15 to be significant at 0.05 level.

Comparison of control group pre-test and post-test mean

score on 20 Yard Scoop test also revealed significant difference between the groups. Obtained pre-test mean score is 18.20 and post-test mean score is 21.33, calculated 't' value is 6.71 is higher than the required table 't' 2.15 value to be significant at 0.05. level of significance.

There was significant difference found between Pre-test and Post Test score of all groups on Kinaesthetic Perception Drills of Hockey Performance for the 16 yard scoop test. he mean scores value has been graphically presented in Figure 1 of both the experimental groups and control group on 20-Yards Scoop test with respect to before and after the Kinaesthetic Perception training.

Figure 1 Bar diagram showing the mean of both experimental groups one and control groups on kinaesthetic perception drills of hockey skill (20 yard scoop test) test performance.

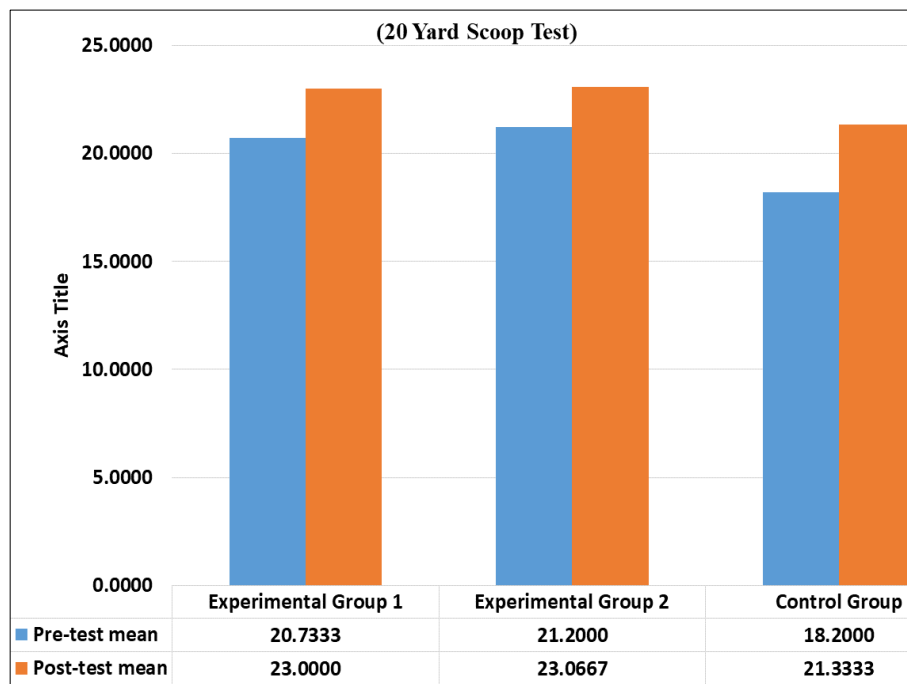


Fig 1: Mean of two experimental groups and one control group for 20 Yard Scoop Test

Table 2: Analysis of co-variance for both experimental groups and one control group pre-test, post-test and adjusted post-test groups mean and 'f' ratio for the kinaesthetic perception drills of hockey performance for 20 yard scoop test

Tests	Groups Mean			Sum of square	df	Mean Sum of square	'F' Ratio
	Experimental Group 1	Experimental Group 2	Control				
Pre Test	20.73	21.20	18.20	B = 78.17	2	B= 0.46	0.23
				W = 91.63	41	W= 50.80	
Post Test	23.00	23.07	21.33	B =28.93	2	B= 0.23	2.05
				W =112.26	41	W= 2.26	
Adjusted Post Test Mean	22.62	22.43	22.35	B = 47.26	2	B=0.62	0.11
				W = 50.80	41	W=1.43	

Table 2. Data depicted in table no. 11 on 20 yard scoop test revealed insignificant difference in pre-test, post-test and adjusted post-test mean scores as the obtained 'f' value pre-test mean (0.23), post-test mean (2.05) and adjusted post-test mean (F= 0.11) was less than required 'f' value to be significant at 0.05 level. As the 'f' value is insignificant is

there was no need to apply LSD test for adjusted post-test mean.

The graphical representation of pre-test, post-test and adjusted post-test means of two experimental and one control group for 20 Yard Scoop Test.

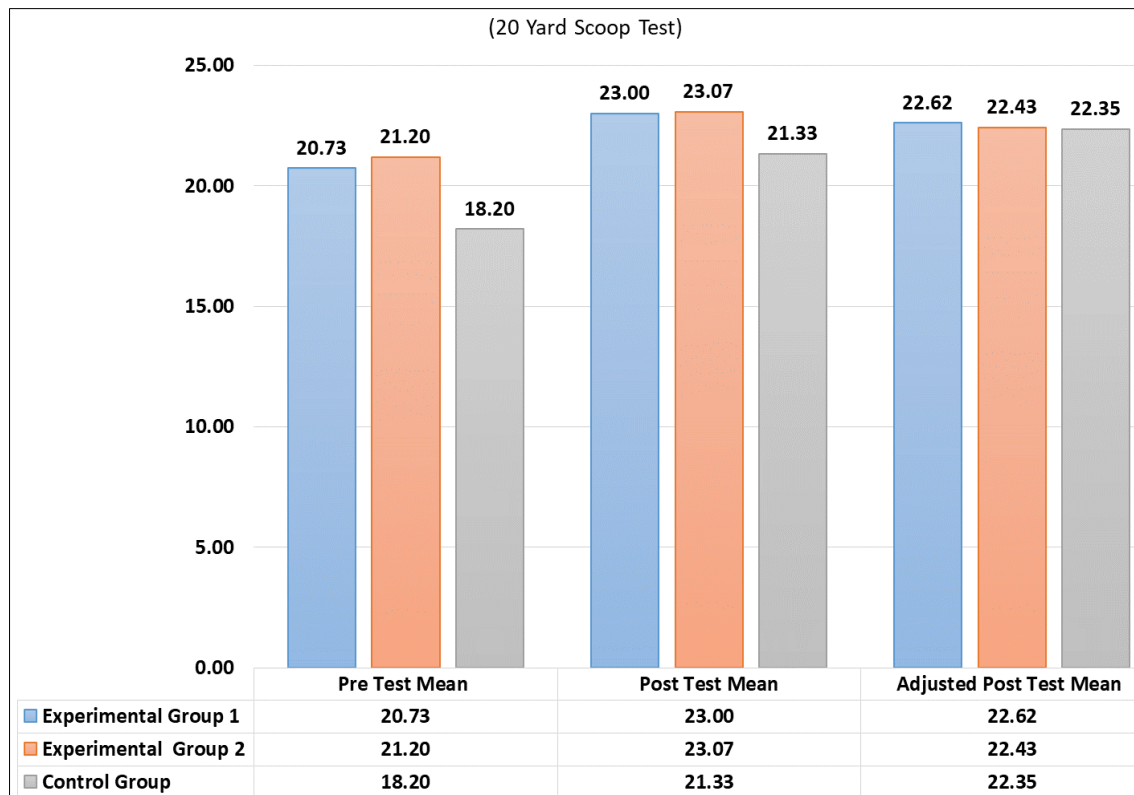


Fig 2: The pre-test, Post-test and adjusted post-test means of two experimental and one control group for 20 Yard Scoop Test.

Discussion of Findings

Purpose of the present study was to compare the effects of skill drills of kinesthetic perception among the groups of hockey players. Results of the present study revealed significant effects in relation to the selected kinesthetic perception drills like 20-Yards Scoop test, Dribbling & Goal shooting test and 20-Yard Scoop test and no significant difference was observed in 20 yard scoop test and stopping test. The results may be due to differences in physical component training and prerequisites for coaches and number of training sessions and the level of involvement are most likely responsible factors for these discrepancies, as shown by the aforementioned data. This can also be driven by the fact that coaches and athletes have had different levels of physical training and have consumed a variety of nutritional food or supplements. Small sample size and other considerations, such as varied body shapes and variations in body composition may also be the reason for the present findings. These findings could be explained by a lack of adherence to the recommended dietary guidelines. Stress, sports competition anxiety, anger, fear, motivation, confidence, focus, and concentration are a few examples of psychological characteristics that could be to blame. The reason of these differences can be associated with above results this is probably due to the different nature of the physical components training and pre-requisite for coaches. Number of training and level of participation. The reason may be attributed that the physically trained Coaches or level of athletes achievements and taken different types nutrition food. These results may be due to a small sample of size and other factors such as different types of body, differences in body composition. These results may be nutrition diet schedule deference. The reason may be Psychological variables like stress, sports competition anxiety, aggression, fear, motivation confidence, attention concentration etc. the findings of present study is supported

by the study conducted by Abbas Pourhossein Gilakjani (2011) ^[15].

Conclusion

According to objectives of the study the following conclusions were drawn:

There was significance Mean effects of two experimental and one control groups 20 Yard Scoop test of kinaesthetic perception drills of hockey performance.

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