An Impact of Vision Training Programme on Selected Basketball Performance Related Components of College Men Basketball Players

Dr. V. A. MANICKAM

Assistant Professor, Department of Physical Education and Health Sciences, Alagappa University,Karaikudi – 630 004.Tamil Nadu, India.

ABSTRACT *The purpose of this study was to find out the effect of Vision Training Programme on selected Basketball Performance related components of College men Basketball players. For this purpose Forty (N=40) men Basketball players who have participated Alagappa University Inter Collegiate Basketball tournament during 2014-2015 were selected as subjects. The subjects were randomly divided into two groups of twenty each, group-I underwent Vision training, and group-II acted as Control. The vision training was given for twelve four weeks duration. The Basketball skill related variables selected for this study was Speed Dribble and Shooting.SpeedDribble was assessed though skill test and Shooting was assessed through wall bounce test. The data obtained from the experimental group and control group before and after the experimental period were statistically analyzed with Analysis of covariance (ANCOVA). Since two groups were involved, no post hoc test was applied.The level of confidence was fixed at 0.05 level for all the cases. Speed Dribble and Shootingshowed significant difference between the Experimental and Control group, further the results suggested that vision training weresignificantly developed Speed Dribble and Shooting.*

INTRODUCTION

The central role of visual perception and motor skill performance is well established both in terms of players understanding what is happening in the environment as well as for controlling their execution of motor skills *(Magill, 2003).* The potential of different kind of visual/ perceptual motor control training programs to improve understanding the environment and sports skill performance has grown as a topic of scientific and applied research *(Ferreira, 2003).* The reports of the success of these programs has be mixed perhaps as a reflection of the wide variety of different kinds of program, different perceptual motor variables different sports and games and different methods that have been involved.

In recent years, there has been a growing acceptance that perceptual skills precedes and determines skillful actions in sports and other contexts *(Harris & Jenkin, 1998, William et al., 1999).* The visual system plays crucial role in guiding the players search for essential information underlying skillful behavior. According to *Zelinsky et al, (1997)* eye movement registration system only provides information about the orientation of the fovea and, consequently, visual fixation may not always be indicative of information extraction. Many circumstances require the effective integration of information from the fovea, para- fovea and periphery *(William & Davids, 1998).*

Almost 80% of the information that goes to the central nervous system comes from the eyes. So vision is one of the most important factors playing a major role in sport *(Hodge et al., 1999).* A sportsmen or women outstanding performance depends on successfully using of variable visual information. Now a day there has been a growing acceptance that perceptual skill precedes and determined skillful actions in sports *(Harris & Jenkin 1998, Williams et al., 1999).* The visual system plays a crucial role in guiding the players search for essential information underlying skillful behavior. According to *Abernethy (1996)* the role of vision can generally be accepted as a critical of information for the planning and the executing of motor skill.

The role of vision affects sports performance has been under the spotlight in the last few decades. The role of vision in motor skill performance crucial for both understanding what is happening in the environment as well as for controlling the performance of motor skills. The study of vision and visual perception deserve special attention when studying the development of excels in sports performance. Sports that take place in a changing environment, particularly team sports, place huge demands on the athletes' ability to make decisions in complex situations under huge time pressure. Elite athletic performers must therefore have an elite to ability to process visual data quickly and make accurate predictions about what is about to happen.

Visual performance in sports can be seen as an interaction between two visual systems. *Abernethy (1996)* introduced the visual system as a computer analogy of information gathering and processing by dividing the "analogy" into the two visual systems, mainly the hardware and the software visual systems. The hardware visual system (skills) can be seen as the physical difference in the mechanical and the optometric properties of a person's visual system and the software system (skills) can be seen as the cognitive difference in the analysis, selection, coding and general handling of the visual information during training and or competition. The hardware system consists of six optometric skills, being static and dynamic visual acuity, depth perception, accommodation fusion, color vision and contrast sensitivity.

METHODOLOGY

For this study, forty (N=40) men Basketball players who have participated Alagappa University Inter Collegiate Basketball tournament during 2014-2015 were selected as subjects. The subjects were randomly divided into two groups of twenty each (n=20), group-I underwent Vision training, and group-II acted as Control. The vision training was given for twelve four weeks duration. The dependent variables selected for this study was Speed Dribble and Shooting. Speed Dribble was assessed though skill test and Shooting was assessed through wall bounce test. The

data collected data from the three groups prior to and immediately after the training programme on the selected criterion variables were statistically analyzed with Analysis of Covariance (ANCOVA).   In all the cases 0.05 level of confidence was fixed to test the hypotheses.

RESULTS AND DISCUSSION

The Analysis of covariance (ANCOVA) on Speed Dribble and Shooting of Vision training group and Control group have been analyzed and presented in Table -I.

Table – I

ANALYSIS OF COVARIANCE ON SPEED DRIBBLE AND SHOOTING OF VISION TRAINING GROUP AND CONTROL GROUP

Certain Variables	Adjusted Post test Means		Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
	Vision Training Group-(I)	Control Group (II)					
Speed Dribble	26.21	22.15	Between	73.12	1	73.12	53.76*
			With in	50.19	37	1.36	
Shooting	13.93	12.98	Between	6.11	1	6.11	87.29*
			With in	2.49	37	0.07	

*Significant at .05 level of confidence.

(The table value required for significance at 0.05 level with df 1 and 37 is 4.11)

Table-I shows that the adjusted post test mean values of Speed Dribble and Shooting of Vision training group and Control group are 26.21, 22.15, 13.93 and 12.98 respectively. The obtained F-ratios are 53.76 and 87.29 is more than the table value 4.11 for df 1 and 37 required for significance at 0.05 level of confidence.

The results of the study indicate that there is a significant difference exists among the adjusted post test means of experimental groups showing increase of Speed Dribble and Shooting.

The adjusted post test mean values of Vision training group and control group on Speed Dribble and Shooting are graphically represented in the Figure –I and Figure –II.
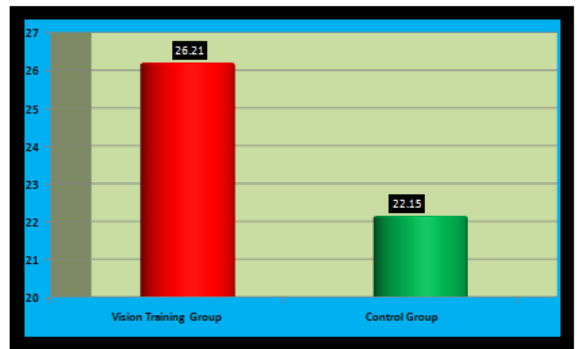

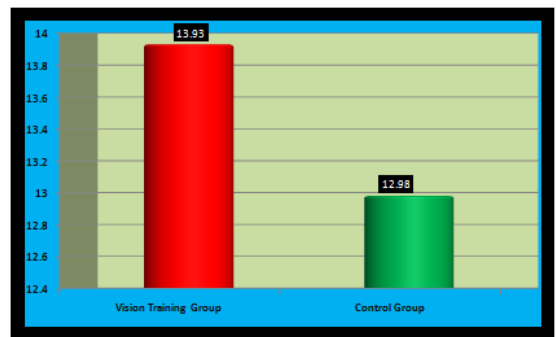FIGURE-I: MEAN VALUES OF VISION TRAINING GROUP AND CONTROL GROUP ON SPEED DRIBBLE

FIGURE-II: MEAN VALUES OF VISION TRAINING GROUP AND CONTROL GROUP ON SHOOTING

CONCLUSION

From the analysis of the data, the following conclusions were drawn.

1. The Vision Training group had registered significant improvement on the selected criterion variables namely Speed Dribble and Shooting.
2. It may be concluded that the Vision training group in improving Speed Dribble and Shooting.

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