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Effects of vision training with skill practices on selected skill performance variables among inter collegiate male football players

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Abstract
The purpose of the study is to find out the effects of vision training with the skill practice on selected skill performance variables of the inter collegiate male football players. To achieve the purpose of the study, thirty six male intercollegiate football players were selected from the Christ College, Irinjalakuda, Sri Krishna College Guruvayur, Kerala. The selected subjects (N-36) were divided into two (n-18) equal groups. Group I named as Vision Training with Skill Practice (VTSPG) and Group II acted as Control Group (CG). All the selected subjects were tested on the selected skill performance of dribbling, passing, shooting and overall playing ability. The experimental group I was treated by the vision training with skill practice for a period of 12 weeks, four days a week. No treatment was given to the control group. After completion of 12 weeks of training both the groups were tested again on selected skill performance variables and the scores were recorded in their respective units as post-test scores. The pre and post test scores were taken for appropriate statistical analysis. Further, the group means gains recorded by the various groups in the pre-test and post-test was tested for the significance by applying the paired 't' test.

Keywords: Vision training, dribbling, passing, shooting, overall playing ability

1. Introduction
Football is a popular and highly competitive sport in the world. It needs high level of motor qualities and acquisition of skills, game involves large number of participants who are tend to be complex in nature, making them difficult to understand and to participate fully. Many hours of practice and experience in a variety of situation are required before a player can be recognized as a competent or advance performer. The rate of progress towards the competency depends on the factors such as ability, fitness level, age knowledge and experience in the of similar events, time and degree of involvement in practicing and playing. The coach's knowledge, understanding, efficiency, skill in devising and conducting the effective practice sessions are also relevant. Introducing the young beginners to a highly complex game is likely to end in failure and frustration. In order to achieve the total mental and physical integration in the full game, a series of steps may be incorporated in the overall competency. Now a days, the training gives more importance should be given to develop the motor components and skill practices. To become a high achiever, they need more visual skill practices. Combining the motor components and skill practice with the way of visual skill practice will lead a player from an ordinary player to extra ordinary player.

The difference between a good player and a great player is simply their effectiveness of their visual skills on the playing field. Teaching a player with his vision, depth perception and peripheral vision is the important tasks for improving their visual awareness. In current scenario, the sports vision or sensory training as well as football specific brain-jogging is absolutely essential for achieving the top performance levels in football. The physical conditioning, technical mastery and proper diet make all the difference, particularly when there is so little to choose between the competitions Peter Schreiner (2011). As with anything else in the world of sport science, it is prudent to understand the physiology behind the system before you actually learn the training application. Vision is defined as a process through which data is received and integrated with the other input into the brain with stored information, so that the meaning is abstracted and the organism institutes the appropriate output.

Vision is the trigger that initiates many chain-motor systems within the human body. The entire visual process begins with the basic component of light, which is the catalyst in eventually producing what we see. Light is measured in wavelengths with a visual spectrum ranging from between 380 and 780 nanometers. Within this range, several different colors can be seen Grasso (2005). Hence, the investigator was interested to carry out the present research work entitle the effect of vision training and traditional methods of training on the selected skill performance variables among the inter collegiate male football players.

In recent years, there has been a growing acceptance that the perceptual skills precedes and determines skilful actions in sports and other contexts Harris and Jenkin, (1998) [5], Williams *et al.,* (1999). In particular, the visual system plays a crucial role in guiding the player's search for essential information underlying the skilful behavior. One of the best explanations of what "visual search strategies" entails is that it can be said that the visual search strategies refers to the way that the eyes move around the field in an attempt to direct visual attention towards the relevant sources of information. According to Zelinsky *et al.* (1997) eye movement registration systems only provide the 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 the information from the fovea, Para-fovea and periphery Williams and Davids (1998). Since almost 80% of the entire input that goes to the brain, comes from the eyes, it can be said that the vision is one of the most important factors playing a role in sport Hodge *et al.,* (1999) [7]. The psychological and other aspects of sports performance like visual skills; psychology, nutrition, etc. are often neglected if not always. For a player to excel, attention should be given to all these aspects of skills enhancement Hodge *et al.,* (1999) [7]. Even mental toughness is a skill that can be trained and enhanced. At an elite level in soccer, there may be only five to fifteen percent difference between winning and losing, and this is where mental toughness accounts for that five to fifteen percent difference. Psychological skills develop through the basic skill learning, fine-tuning and repetitive practice, which take determination and discipline Hodge *et al.,* (1999) [7].

1.1 Statement of the Problem

The main objective of the study is to find out the effects of the vision training with skill practices on selected skill performance variables among the inter collegiate football male players.

1.2 Hypothesis

It was hypothesized in the following ways

1. Vision Training with the skill practices would have significant improvements on dribbling performance among inter collegiate male football players.
2. Vision Training with skill practices would have significant improvements on passing the performance among the inter collegiate male football players.
3. Vision Training with skill practices would have significant improvements on the shooting performance among inter collegiate male football players.
4. Vision Training with skill practices would have significant improvements on over all playing ability among the inter collegiate male football players.
5. The Control Group would have no significant improvements on selected skill performance variables among the inter collegiate male football players.

2. Methodology

The purpose of the study is to find out the effect of the vision training with skill practice on the selected skill performance variables among the inter collegiate male football players. To achieve the purpose of the study, thirty six men intercollegiate football players were selected from the Christ College, Irinjalakuda, and Sri Krishna College Guruvayoor, Kerala. The selected subjects (N-36) were divided into two (n-18) equal groups. Group I was named as Vision Training with Skill Practice (VTSPG) and the Group II acted as a Control Group (CG). All the selected subjects were tested on the selected skill performance of dribbling, passing, shooting and overall playing ability. The experimental group I was treated by the vision training with the skill practice for a period of 12 weeks, four days a week. No treatment was given to control group.

2.1 Criterion Measures

S. No	Criterion Variables	Test Items	Unit of Measurement
1	Dribbling	Warner Soccer Test	In Seconds
2	Passing	Mor S and Cristian V (1979)	In Points
3	Shooting Accuracy	Mor S and Cristian V (1979)	In Points
4	Overall Playing Ability	Subjective Rating	In Points

2.2 Training Programme

Group I	Vision Training With Skill Practices	For 12 Weeks
Group II	Control Group	They are not compel for any specific training
Training Period	12 Weeks	
Frequency	4 Days per Week, Monday, Tuesday, Thursday, Friday	
Morning Section	6.30 am to 8.00 am, 90 minutes per day	
Evening Section	90 Minutes, Warm – Up and Match Practices	

2.3 Analysis of Data and Results of the Study

For testing the hypotheses of homogeneity in the group mean gains, as well as significance differences of the pairs, the level of significance was set at 0.05 level of confidence, which was considered adequate for the purpose of the study.

Table 1: Computations of Pre and Post Test Of the Vision Training With Skill Practice on the Selected Skills Performance Variables Among the Inter Collegiate Male Football Players

Variables	Pre-test mean ±SD	Post-test mean ± SD	M. D	SEM	't'-ratio
Dribbling (Seconds)	16.39±0.79	15.96±0.77	0.43	0.28	15.11*
Passing (Points)	6.16±0.85	7.66±1.02	1.15	0.14	10.29*
Shooting (Points)	48.55±9.86	55.88±9.08	7.33	0.06	12.12*
Over all playing ability (Points)	70.27±2.19	75.00±1.74	4.73	0.31	15.18*

*Significance at 0.05 level

Table 1 indicates that the obtained 't' ratio of 15.11 (dribbling), 10.29
(passing), 12.12 (shooting) and 15.18 (overall playing ability). The obtained 't' ratios on the selected skills performance variables were greater than the critical value of 2.10 in the degrees of freedom 1, 18. It was observed that the mean gains and losses made from pre-test and post-test were statistically significant in resulting the twelve weeks practice of the vision training and it produced significant improvement in dribbling (15.11 $p<0.05$), passing (10.29<0.05), shooting (12.12 $p<0.05$) and overall playing abilities (15.18 p<0.05 from the performance of baseline to post test.

Table 2: Computations of the Pre and Post Test of Control Group on the Selected Skills Performance Variables Among the Inter Collegiate Male Football Players

Variables	Pre-test mean ±SD	Post-test mean ± SD	M. D	SEM	't'-ratio
Dribbling (Seconds)	15.64±0.83	15.21±1.48	0.43	0.30	1.43
Passing (Points)	5.88±0.67	6.33±0.68	0.45	0.25	1.71
Shooting (Points)	48.77±6.44	46.00±5.98	2.77	1.51	1.83
Over all playing ability (Points)	69.72±2.73	69.74±2.71	0.02	0.56	0.39

Table 2 indicates that the obtained 't' ratio of 1.43 (dribbling), 1.71
(passing), 1.83 (shooting) and 0.39 (overall playing ability. The obtained 't' ratios on the selected skills performance variables were lesser than the critical value of 2.10 in the degrees of freedom 1, 18. It was observed that the mean gains and losses were made from the pre and post-test were statistically insignificant and in resulting they did not make any significant change from the baseline performance to post test.

3. Results

The results of the study were as follows

1. Vision Training with Skill Practice Group showed a significant improvement on dribbling (16.39-15.96) from pre to post test.
2. Vision Training with Skill Practice Group showed a significant improvement on passing (6.16-7.66) from pre to post test.
3. Vision Training with Skill Practice Group showed a significant improvement on shooting (48.55-55.88) from pre to post test.
4. Vision Training with Skill Practice Group showed a significant improvement on overall playing ability (70.27-75.00) from pre to post test.
5. The Control Group would not show any significant improvement on the selected skill performance such as dribbling (15.64-15.21), passing (5.88-6.33), shooting (48.77-46.00), and overall playing abilities (69.72-69.74) from pre to post test.

4. Discussion on Findings

Based on the result of the study it is found that the vision training is the superior training to develop the dribbling, passing, shooting, overall playing ability of intercollegiate male football players. The reason for the specific improvement is systematic and scientifically structured vision training programme. Training of the visual skills in the sports performance is becoming more and more important in training the individual in sports. The latest trend to improve the performance level of the players in football through the vision training methods find as the appropriate one. The role of the vision training on the skill performance such as dribbling, passing, shooting, overall playing ability. The impact of the vision training and its influence are studied by various researchers. The real worth of the vision training is discussed here.

Motor skill instruction has begun to benefit from a recent area of sport science and the research focusing on what is called sports vision. Sports vision is an area of study that combines the vision science, motor learning, biomechanics, sport psychology, and neuro anatomy as they relate to the visual and perceptual motor performances. There is a wealth of literature on how the vision is used in many sports like baseball Burroughs (1984) [4], basketball Vickers (1996) [10], golf Steinberg Frehlich and Tennant (1995) [13], Vickers, (1992) [18], soccer Williams, Davids, Burwitz and Williams (1994) [11], and tennis Abernethy and Wollstein (1989) [1], Buckolz, Prapavesis and Fairs (1988) [3], Moen (1989) [16]. Unfortunately, there is a less research on the effectiveness of various vision training exercises that have been developed Abernethy (1986) [2], Kluka *et al.,* (1996). Research has been conducted on some commercial programs for training the DVA like Eye aerobics Cohn and Chaplik (1991), Long (1994) [8], MacLeod (1991) [15] and Dynavison (Klavora, Gaskovski and Forsyth (1995) [13].

The eye movements of the athletes have been measured to determine the visual search strategies used in sports. The assumption is that when the performer "looks" or fixates the eyes,the information is gathered. The location, order, and duration of these fixations are assumed to reflect the perceptual decision making strategy used to extract the information from the environment Williams, Davids, Burwitz and Williams (1994) [11]. Anticipatory patterns of the saccades, the visual search pattern used by athletes, closely matches the motion of the object that is being tracked (Bahill and LaRitz (1984) [12], Haywood (1984) [6], Ripoll and Fleurance (1988) [17].

5. Conclusion

Based on the findings and within the limitations of the study the following conclusions were drawn.

1. The Vision Training with Skill Practices Group (VTSPG) had a significant improvement over the period of twelve weeks training on the dribbling, passing, shooting and overall playing abilities among the inter collegiate male football players.
2. The Control Group (CG) did not show any significant improvement over the period of twelve weeks on dribbling, passing, shooting and overall playing ability among the inter collegiate male football players.
3. It was concluded that the Vision Training was the suitable training to develop the dribbling, passing, shooting and overall playing abilities among the inter collegiate male football players.

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