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Interrelationship of video analysis on the selected skill performance variables of college level badminton players

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Abstract
The aim of the present study was to find out the impact of video analysis on the selected skill performance variables of college level badminton players. For this study twelve college level male badminton players were randomly selected from RTM Nagpur University, Nagpur, Maharashtra. They belonged to the age group of 18 to 21 years. The subjects were tested to find out short serve and long serve. The selected twelve badminton players were under gone the video analysis through Sports motion cameras and software at practice session. The researcher has done the training on two days a week, for six weeks. All twelve players were tested by selected performance variables at before and after completion of six weeks of training. The pretest, posttest were analyzed by 't' ratio. The level of significance for the study was chosen as 0.05. The study revealed that the above said criterion variables were significantly improved due to the influence of video analysis of college level badminton players.

Keywords: Badminton, video analysis, long serve, short serve, skill performance

Introduction

A human activity involving physical exertion and skill as the primary focus of the activity, with elements of competition or social participation where rules and patterns of behaviour governing the activity exist formally through organisations and is generally recognised as a sport. Sport pertains to any form of competitive physical activity or game that aims to use, maintain, or improve physical ability and skills while providing enjoyment to participants and, in some cases, entertainment to spectators. In the present scenario participation in sports becomes a vital nutrient for human survival.

In sports enormous modern technologies and training methods are used by the players and coaches to improve their sports performance. Participation in sports is a great way of staying active and offers wonderful rewards for mental health. Being involved in sports has been proven to help individual to learn valuable skills for dealing with life's ups and downs. Video contains more information about an event or action than any other type of recorded media. A video clip of an event will require >1,000x more disk space to store and bandwidth to transmit than any textual description of the same event – thereby lending credence to the old adage that "a picture is worth a thousand words." High-speed video in particular generates a lot of information in a short amount of time. Video is an extremely useful tool (and underrated!) for any sports coaching. It can be applied to skill acquisition, technique refinement, visualization, injury prevention, and coach education. Although video has been around for many years, it is only now becoming a common tool for the badminton coach and player. According to ball velocities badminton is one of the fastest racket sports. For the smash ball velocities up to 250 km/h are reported (Kollath, 1996; Tsai & Chang, 1998). Such high movement dynamics are normally analyzed with high effort by optometric systems such ashigh speed video. Due to technical limitations (e.g. high amount of light) these measures are often performed in a laboratory setting, which does not comply well with the real competition or training conditions. Alternatively, accelerometric sensors can be used to analyze the performance of the smash. Miniature sensors allow a data collection with a high sample rate and a wide measuring range. Because of the small size and weight athletes are merely limited in their performance

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(Kemp, Janssen, & van der Kamp, 1998). In sports biomechanics, accelerometric sensors are primarily used to analyze vibration (e.g. Hennig, Rosenbaum, & Milani, 1992, Stroede, Noble, & Walker, 1999) or movements at low velocities (e.g. Bussmann, Hartgerink, van der Woude, &Stam, 2000). The traditional view of teaching games and sports puts emphasis on the mastery of techniques by means of drill practice, as a fundamental requirement that must precede the progressive introduction to the tactical elements in game context. Conversely, the tactical approach gives the precedence to understanding and learning tactical concepts related to a game or sport, and argues that techniques should only be introduced after learners have perceived they are in need of improving their execution of skills (Gréhaingne, *et al*., 1999; Griffin, Mitchell, & Oslin, 1997).

Objective
To assess the influence of video analysis on the selected skill performance variables of college level badminton players.

Hypothesis
It was hypothesized that there would be significant improvement due to video analysis on the selected skill performance variables of college level badminton players.

Experimental Design
For the present research study twelve college level men badminton players were randomly selected from RTM Nagpur University, Nagpur, Maharashtra. They belonged to the age group of 18 to 21 years. The subjects were tested to find out short serve and long serve. The selected twelve badminton players were under gone the video analysis through Sports motion cameras and software at practice session. The researcher has done the training on two days a week, for six weeks. All twelve players were tested by selected performance variables at before and after completion of six weeks of training. The pretest, posttest were analyzed by 't' ratio. The level of significance for the study was chosen as 0.05.

Tools and Techniques
- Short serve was measured by French short serve test.

- Long serve was measured by Poole long serve test.
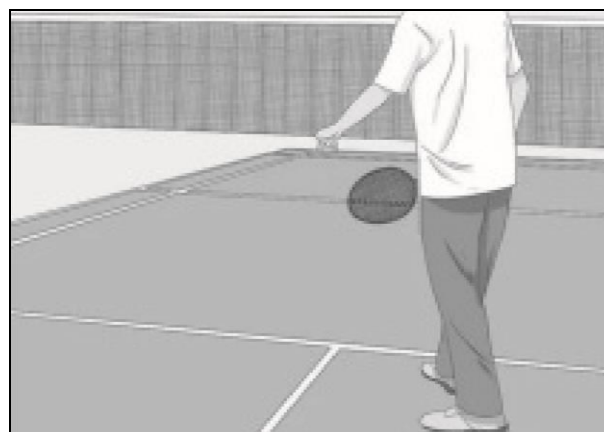
Short Serve

Long Serve

Statistical Technique
The following statistical procedure was employed to estimate the influence of video analysis on the selected skill performance variables of college level badminton players. "t" ratio was used to test the significant differences between the pre test and post test.

Table 1: Calculation of Mean, Standard Deviation, Standard Error of Mean, Mean Difference and 'T' Value of Pre Test and Post Test on Short Serve

Variables	Test	Mean	MD	SD	Sta. Error of Mean	Df	't' ratio
	Pre test	21.75		8.53	2.46		2.32*
Short serve			5.08			11	
	Post test	26.83		10.17	2.94		
	Pre test	31.75		8.08	2.33		2.40*
Long serve			4.17			11	
	Post test	35.92		5.09	1.47		

(Table Value for 0.05 Level for df11 =2.20)

Results of Short Serve
An examination of table –I indicated that the difference between pre and post test on short serve of the players. 't' ratio was employed and the level of significance was set at 0.05. It seen that the dependent 't' test value between pre test and post test means of experimental group is 21.75 and 26.83 respectively, difference of mean value 5.08. The obtained't' ratio 2.32 was greater than the table value 2.20. So it was found to be significant.

Results of Long Serve
An examination of Table 1 indicated that the difference between pre and post test on long serve of the players. 't' ratio was employed and the level of significance was set at 0.05. It seen that the dependent 't' test value between pre test and post test means of experimental group is 31.75 and 35.92 respectively, difference of mean value 4.17. The obtained 't' ratio 2.40 was greater than the table value 2.20. So it was found to be significant.

Adjusted mean differences of the video analysistraining groupon the selected skill performance variables was given in Figure 1.
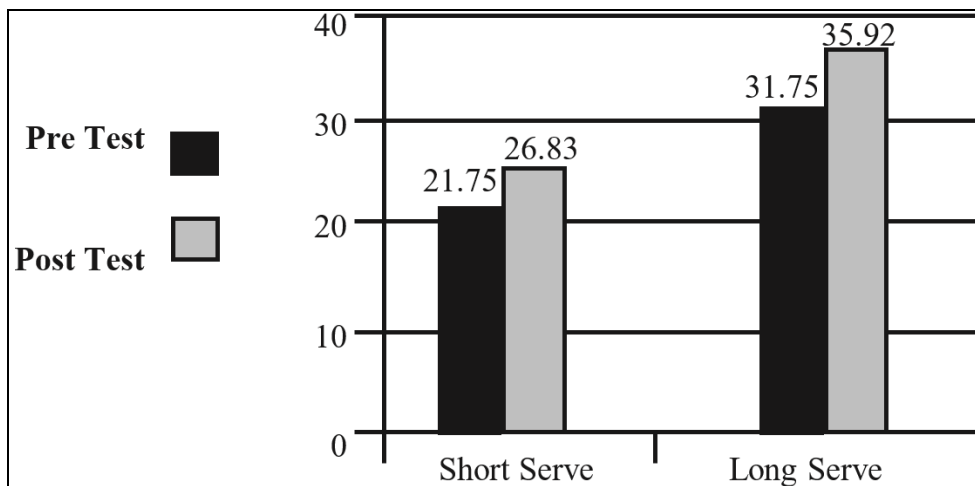
Fig 1: Pre Test and Post-Test Mean Differences on the Selected Skill Performance Variables

Conclusion
It was concluded that the video analysis group showed a statistically significance positive sign over the course so the training period on the selected skill performance variables such as short serve and long serve of college level badminton players.

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