

Construction of combined forehand and backhand underarm clear with net shot in badminton

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■ ABSTRACT

The purpose of this study was to construct combined forehand and backhand underarm clear with net shot test in badminton. Forty male badminton players who participated in Inter-collegiate and Inter-district badminton Tournaments 2010-2011 of Devi Ahilya University, Indore were randomly selected to serve as subjects for this study. Validity (0.745) of the test was established by correlating the scores obtained on combined forehand and backhand underarm clear with net shot test with Lockhart and McPherson Badminton Test scores. Inter class correlation coefficient by analysis of variance method was employed to compute reliability of the test (0.950) through three trials administered by the same tester. Objectivity of the test was (0.916) through three trials administered independently by three different testers.

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Badminton has become a popular game in India and a number of changes in rules and practice have taken place (Roger, 1970; Downey, 1980; Ballou, 1982). The forehand and backhand underarm clears are the strokes in which the shuttle is sent high and deep into the air above the opponent's court. The underarm clear is principally a defensive shot and is normally used for gaining time to regain a good defensive position. Conversely, when an opponent has been caught off – stride, it can be turned into an attacking shot. The purpose of this study was to construct combined forehand and backhand underarm clear with net shot test in badminton.

■ METHODOLOGY

Forty male badminton players from different colleges of Devi Ahilya University, Indore who participated in Inter-collegiate and Inter-district badminton Tournaments conducted by Nirbhaya Singh Patel College of Science, Indore in the University, Gymnasium Hall from 12th to 13th August 2010 and Inter-district from 20th to 21st August 2010 were

randomly selected to serve as subjects for this study. The criterion measure for this study was the playing ability scores obtained by administering the Lockhart and McPherson Badminton Wall Volley Test.

The investigators initially conducted a pilot project by constructing three variations of the test *i.e.* combined forehand and backhand underarm clear with net shot test, combined forehand and backhand underarm clear with net shot test-1, combined forehand and backhand underarm clear with net shot test-2. Among these combined forehand and backhand underarm clear with net shot test was selected because its validity was higher than the other two tests.

The coaches and managers of the teams were consulted at personal level to conduct the test on badminton players, and a rapport was established with them for the testing programme. All those incharge of teams, coaches and managers were made fully conversant with the study. Tentative times were finalized with them. The researchers approached each player after giving proper and timely information before the test was conducted.

Before administering the test, the subjects were briefed about the purpose of the study and details of the test were explained to them. The subjects were given a demonstration of the test by a trained helper. They were also given sufficient number of trials to enable them to become absolutely familiar with the test. To ensure uniform testing conditions, the subjects were tested in the morning and evening sessions after warming-up during practice sessions. Sufficient time was given in between the tests, so that the subjects could show their best performance.

The purpose of the test was to test a player's ability to move to the shuttlecock quickly and successfully execute the combined forehand and backhand underarm clear with net shot, which landed in the desirable area of the opposite court. Test may be used with male inter-collegiate and Inter- district badminton players.

Four lines were drawn in the rear court and parallel to the back line. First line was drawn 3 inches behind the back boundary line and parallel to it. The second line was drawn 1½ feet from the back boundary line towards the short service line and parallel to it. The third and fourth lines were drawn 1½ feet and 3 feet, respectively from the long service line for doubles and parallel to it. The width of all line was 4 cm.

Four lines, four feet in length each one feet away from the other were drawn on both the sides (Right and left of the court) from the centre of the court towards the short service line and parallel to it. Two vertical line 4 feet in length were marked 4 feet inside both the sidelines for singles and parallel to it.

A 2½ feet x 2½ feet box for the tester (T_1) was marked, 2½ feet away from the short service line towards the back boundary line and equidistant from the centreline.

On other side of the court, three-square boxes were marked. First box (2½ feet x 2½ feet) for the subject (S) was marked 2½ feet away from the short service line and equidistant from the centreline.

The other two squares boxes (R_1 and R_2) 4 feet x 4 feet were marked towards the centreline from both the sidelines for singles and 9 inches away from the centre of the court.

The player being tested stood in the box (S) in the court opposite to the tester standing in the box (T). The tester alternately served 20 shuttles with the racket towards the marked areas R_1 or R_2 . The receiver played the shuttle consecutively using forehand underarm clear, backhand underarm clear, forehand net shot and backhand net shot and so on in a sequence one after the other.

The score was awarded according to the point values where the base of the shuttle struck the floor. Shuttles falling on a line were awarded higher point values. Shuttles going out bounds or falling short of the scoring zones scored no points. The subjects were given 3 trials of 20 chances each. The sum of the best of the 3 trials was the score of the subject. A maximum score of 100 was possible on this test.

■ OBSERVATIONS AND DISCUSSION

Validity of the combined forehand and backhand underarm clear with net shot test was established by correlating the test scores with the scores obtained by administering the Lockhart and McPherson Badminton Test. Results thus, obtained have been presented in Table 1.

Table 1 : Relationship of combined forehand and backhand underarm clear with net shot test scores to the criterion (n = 40)

Sr. No.	Variable correlated with criterion	'r'
1.	Combined forehand and backhand underarm clear with net shot- test combined forehand and backhand	0.745*
2.	Underarm clear with net shot- test-1	0.486*
3.	combined forehand and backhand underarm clear with net shot- test-2	0.476*

* indicate significance of value at $p=0.05$, respectively. $r_{0.05}(38) = 0.304$

Table 1 reveals that combined forehand and backhand underarm clear with net shot test was selected because its validity (0.745) was higher than the other two tests.

Interclass correlation by analysis of variance method was employed to compute the reliability and objectivity of the

Table 2 : Analysis of variance for reliability and objectivity estimates for the combined forehand and backhand underarm clear with net shot test (n=40)

Skill	S.V.	SS	df	MSS	F	R
Objectivity reliability	Sub	8690.99	39	222.846	2.255*	0.950**
	Trial	50.07	2	25.035		
	Inter	865.93	78	11.102		
	Total	9606.99	119			
Objectivity objectivity	Sub	4946.33	39	126.829	2.593*	0.916**
	Trial	56.52	2	28.258		
	Inter	850.15	78	10.899		
	Total	5853.00	119			

* and ** indicate significance of value at $p=0.05$ and 0.01 , respectively

tab F 0.05(78, 2) = 3.09, $R_{0.05}(38) = 0.304$

combined forehand and backhand underarm clear with net shot test. Reliability and objectivity estimates and the coefficients (R) values for the test have been presented in Table 2.

Table 2 reveals that the obtained inter class correlation values for reliability and objectivity of the combined forehand and backhand underarm clear with net shot test were from 0.950 and 0.916, respectively, and significant at 0.05 level because required value with 48 degree of freedom was 0.304.

Analysis of data on combined forehand and backhand underarm clear with net shot test in badminton indicated that the constructed test was found to be reliable and objective. The significant values showed that the directions for administration of the test were specific and clear for performance as well as evaluation.

Conclusion:

- The combined forehand and backhand underarm clear with net shot test in badminton showed significant relationship with the criterion.

- The newly developed combined forehand and backhand underarm clear with net shot test in badminton meet the criterion of scientific authenticity *i.e.* the test was reliable, objective and valid.

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