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Original article

EFFECT OF USING DIFFERENT TRAINING STYLES ON DEVELOPMENT OF BADMINTON SERVING ACCURACY

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Abstract

Problem Statement. Different training styles results in a substantial development in performance of badminton serving accuracy. Distributor and intensive exercises are important training styles to improve badminton high and low serves and accuracy of serve. However, it is indistinct whether distributor and intensive exercises are sufficient to improve high and low serve skill and accuracy of serve in badminton.

The aim of the research; Present study aimed to investigate whether distributor and intensive exercises conferred any greater alterations in accuracy of high and low serve skills performance.

Methods of research; Sixteen badminton players completed a set of performance tests in the week before and after a 4-week training period. Performance tests consisted of high and low serve test and accuracy of serve test. After pretesting, pair matched participants were randomly assigned in two experiment groups. First experiment group undertook distributor style training and second experiment group undertook intensive style training.

Results. Results of current study revealed that the maximum (mean (SD)) high serve, low serve, high serve performance, and low serve performance tests recorded during the tests were 6(0.32), 7(0.64), 4(0.45), 3(0.55) respectively. Mean (SD) values for intensive group at the study variables after training were 13(1.42), 12(0.42), 7(0.43), 6(0.46) respectively. T-test calculated on the basis of these data is presented in Table (3) 8.14, 6.22, 5.02, 4.33 respectively.

Conclusions. Researchers concluded the intensive exercise group reported improvements in all tests better than distributor exercise group. Then, different training styles appear to lead to worthwhile growths in high and low and serving accuracy test with badminton players.

Keywords. Different training styles, Badminton and Serving accuracy.

Introduction

Badminton is a racquet sport played by either two opposing pairs (doubles) or two opposing players (single), who take positions on opposite halves of a rectangular court that is separated by a net. Badminton has been an Olympic sport with five events: men's and women's doubles, men's and women's singles, and mixed doubles. The sport demands excellent fitness: players need strength, precision, agility, speed and aerobic stamina. It is also a technical sport, requiring the improvement of sophisticated racquet movement and good motor coordination (Salim *et al.*, 2010). One of the typical and powerful badminton techniques to offensive the opponent is the low and high serves.

Today, badminton can consider as one of the well-known sport in the world. Among sports, serving accuracy is very important in the badminton skills and techniques, low and high serve are consider most powerful badminton technique (Mazin *et al.*, 2013). Sport skills are dependent to learning and training to structure a level of basic sport activities. Different training styles have important role in motor skills learning, which one of them is the serving accuracy of learning. Important issue in serving accuracy is the training styles (e.g distributor and intensive) that are

most sensible way to accelerate the process of individual success (Mahjoub., 2000). Correct training and learning of a skill by using different instruments and styles are expedited learning high level of skill (Mohamed., 1987).

Since training program can't be completed without study of the many variables which accompany with training, for example, type of activity and skill, level of learning, experience, gender, and training methods. Many authors and examination studies about badminton training and learning have been carried out by many faculties of physical education. Most of the journals published and available through the internet review the studies involve badminton training and learning such as interval training, continuous training, random learning, and etc, on differences between elite players and collegiate players, notational analysis of competitions, injuries and so on. Mustafa (2009) showed that partial, thorough, and mix methods are new styles to improve performance of badminton skills which involving (ongoing, random, stable, changeable, intensive, and distributor exercises). Hamdan (2011) was investigated the effect of learning styles (e.g intensive and distributor exercises) on flick serve, he reported that

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happened a more positive learning of flick serve through using these styles. Also, Jassim and Mohammad (2010) were examined the intensive and distributor exercises on throwing skills in 12 years old youngsters and the results of their work indicated has increased greatly high serve.

In current study, the aims were to investigate whether distributor and intensive exercises conferred any greater alterations in accuracy of high and low serve skills performance. Furthermore, identify the best exercise of these exercises intensive or distributor.

Methodology

This research was conducted field and experimental methods.

Participants

The participant groups involved in this project were male, mainly selected among sport Akad club. Participants were selected with controlled parameters, where they are in ideal 5MI level (10-15) and good

physical condition, age from 12 to 16. The participants have basic knowledge in badminton. Sixteen junior players, served as the participants for this project. They were assigned randomly into two groups each group involves 8 subjects (Intensive style group and distributor style group). The racquet used in this project is Yonex Carbonex. The participant was directed to stand on the position of the serving area which was within the measurement. Participant was given time for warming up with some basic strokes, and to slightly adjust their location of serving and serve to perform in a more comfortable way during the test.

In order to adjust some of the variables which affect the accuracy of the study results for the purpose of adjusting and identify the differences and isolate the independent variable (the methods of Exercise), the researchers conducted a homogeneity and equal to the sample in the following variables which may affect more on the serve learning in badminton as shown in table (1 and 2).

Table (1) shows homogeneity of the study participants.

Groups Variables	Intensive style group				distributor style group				
	Mean	SD	Median	Skewness Coefficient	Mean	SD	Median	Skewness Coefficient	
Height\ cm	153	2,31	148	0,370	152,7	Article I.	1,98	146	0,33
Weight\ kg	39,05	2,17	38,5	0,18	38,27	Article II.	1,75	38,5	0,42
Medical ball throwing	69,9	2,18	70	0,36	70,4	Article III.	1,26	69,4	0,22

Skewness Coefficient arrange (3±), it means homogeneity of the study participants.

Table (2) demonstrates T-test of pre-tests between two groups.

Groups	Intensive style group		distributor style group		Calculate T	Tabulate T	Significant Level	Statistic significant
	Mean	SD	Mean	SD				
High serve	6	0.32	5	0.46	1,22	2,26	0,05	No
Low serve	7	0.64	6	0.64	1,88	2,26	0,05	No

Calculate T is less than tabulate T, this means the differences are no significant between groups in pre-tests.

Measurements

High and Long-Serve Test: (Tamer., 2004)

- The purpose of test was measure the ability to serve accurately with a high and long placement (degree of serving skill should be developed before the test is administered). Validity and reliability coefficients reported. Serve must pass between rope (20 inches above net) and net and land in target area. Court markings showed in Figure 1.
- Tools: Badminton court, Badminton Rackets, Measure tape, Information form, Signs to know the degrees, Rope sticky in pillars, Table to place the shuttlecock.
- Descriptive of Performance: After explained the tests to the players, the players are given appropriate

time for warm up and then the player get (5) experiment attempts.

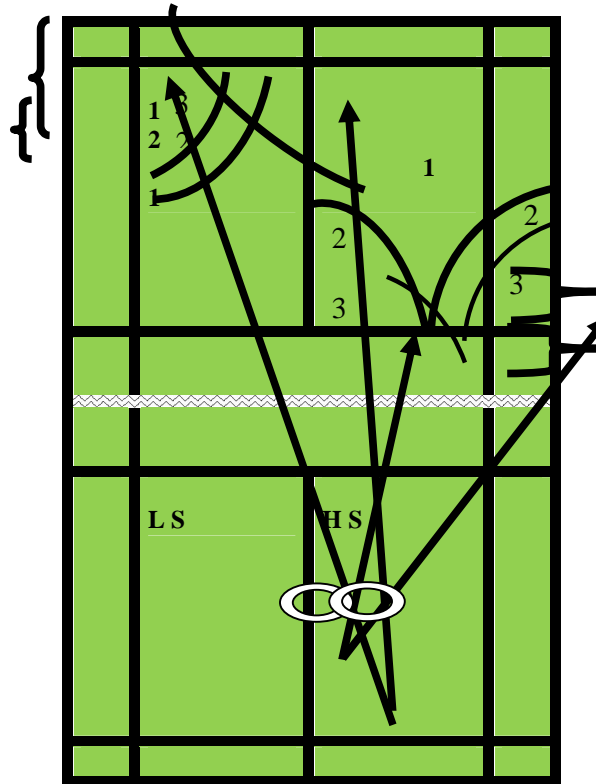
- * Player stand up in determined area with (X).
- * Player begin serving with high and long to cross shuttlecock the net and then upove rope to fall down in determined area.
- * Player is given (12) attempts and calculate the best (10) attempts only.
- Evaluation of Performance:
- * Player is given (5) points in the case of the fall of shuttlecock in the determined area with distance (4.5 cm) outside the boundaries of the court on the background increase (40 cm) within the boundaries of the court after the back line of the yard directly.

- * Player is given points (2,3,4) in the case of the fall of shuttlecock in specific areas with distance (40 cm), respectively, after the determined area (5) points.
- * Player is given (1) point in the case of the fall of shuttlecock in the determined area with distance (175 cm), which starts from the end of zone 2 and to the imaginary line down the rope.
- Subtraction one point for every attempt does not shuttlecock pass over the rope.
- In the case of the fall of shuttlecock on the line between the two areas gives the highest degree.
- A shuttlecock which coming out beyond the borders of the court (except the determined area) or hang to the net are not given any point.

- Total 10 best attempts are (50 points).

Short-Serve Test

The purpose of test was measure the ability to serve accurately with a low and short placement (degree of serving skill should be developed before the test is administered). Validity and reliability coefficients reported. Serve must pass between rope (20 inches above net) and net and land in target area. Court markings showed in Figure 1, Researchers were followed the same steps of long serve test but different ball fallen area.



→ Line movement of the ball

Measurements of area numbered 3= 91.4 cm and numbered 2= 61 cm.

Figure 1. Shows badminton court

Pre-Test

Subjects were instructed to perform 12 serves for each test from the baseline into the service court, following a 10min warm-up protocol on March 1, 2013.

Learning curriculum

Our curriculum included (8) learning units, (2) units a week, time of each learning unit (90m) assigned into three sections:

- Preparatory section of (10) minutes.
- The main section of (70) minutes.
- Concluding section of (10) minutes.



Players need to use badminton rackets and shuttlecock through learning. One of Groups used intensive style and other used distributor style, the training started on March 2, 2013 to April 26, 2013.

Post-Test

Subjects were instructed to perform 12 serves for each test from the baseline into the service court, following a 10min warm-up protocol on April 27, 2013.

Statistical analysis

Furthermore using descriptive tests, such as mean, standard deviation, and median were used of the inferential tests. Paired t- test to compare pre-test and post-test in both groups and took advantage from independent t-test for comparison between groups. Significant level was considered in all parts $P < 0.05$.

Results

The results obtained for the intensive group before and after training are presented in Table (3). The maximum (mean (SD)) high serve, low serve, high serve performance, and low serve performance tests recorded during the tests were 6(0.32), 7(0.64), 4(0.45),

3(0.55) respectively. Mean (SD) values for intensive group at the study variables after training were 13(1.42), 12(0.42), 7(0.43), 6(0.46) respectively. T-test calculated on the basis of these data is presented in Table (3) 8.14, 6.22, 5.02, 4.33 respectively. T-test coefficients were compared with the corresponding coefficients derived from the rank order list. There was a high improvement between pre and post training ($P > 0.05$).

The baseline characteristics and performance for distributor group are depicted in Table (4). There were in substantial differences in performance in all tests of skills between pre and post training. However, there were high improvements in each of high serve, low serve, high serve performance, and low serve performance tests in the same group. T-test calculated on the basis of these data is presented in Table (4) 4.18, 5.22, 3.12, 2.77 respectively.

The baseline features and performance for both groups in post-tests are described in Table (5). There were in significant differences in current study variables. However, high serve, low serve, high serve performance, and low serve performance tests were improved in intensive group more than distributor group.

Table (3) shows pre and post-tests for intensive group in study variables.

Variables	Pre-test		Post-test		Calculate T test	Tabulate T test	Significant
	Mean	SD	Mean	SD			
HS	6	0.32	13	1.42	8.14	2.57	S
LS	7	0.64	12	0.42	6.22	2.57	S
HS performance	4	0.45	7	0.43	5.02	2.57	S
LS performance	3	0.55	6	0.46	4.33	2.57	S

Significant at level of (0.05) and freedom degree (7).

Table (4) shows pre and post-tests for distributor group in study variables.

Variables	Pre-test		Post-test		Calculate T test	Tabulate T test	Significant
	Mean	SD	Mean	SD			
HS	5	0.46	11	0.64	4.18	2.57	S
LS	6	0.33	10	1.22	5.22	2.57	S
HS performance	4	0.44	6	0.33	3.12	2.57	S
LS performance	4	0.37	5	0.42	2.77	2.57	S

Significant at level of (0.05) and freedom degree (7).

Table (5) shows post-tests for both groups in study variables.

Variables	Post-test of Intensive group		Post-test of distributor group		Calculate T test	Tabulate T test	Significant
	Mean	SD	Mean	SD			
	HS	13	1.42	11			
LS	12	0.42	10	1.22	5.22	2.18	S
HS performance	7	0.43	6	0.33	3.12	2.18	S
LS performance	6	0.46	5	0.42	2.77	2.18	S

Significant at level of (0.05) and freedom degree (14).



Discussion

The results showed that both groups in learning of accuracy skills performance have been improved through 8 learning units, 4 learning units of high serve and 4 learning units of low serve and were repeated as possible player as. Also suitable feedback using through faults correction, using the tools correctly, helpful of working team, clear target and dealing with junior were resulted in develops of performance. Since beginners' faster progress in skills learning and superior to sports techniques performance in skilled persons depends on the use of different training methods for more success in sports (Fouad., 1989).

The results of this study showed that intensive exercise is the best exercise which contributed to improve accuracy of high and low serves. In this field can be expressed feedback, was cause to improve performance. Signer (1980) demonstrated that repeat performance alone doesn't lead to required learn, but needs to provide feedback necessary. However, intensive style leads to faults corrections of the player during performance. About the usefulness of serving accuracy, be seen who can applying both serves high and low are more successful than incorrect applying. In addition, when there was no rest time through training leading to develop skills due to gives enough time to the learner to adjust and repeat the skill. Schmidt and Wrisberg (2000) displayed that teachers or coaches encourage learners to the performance of the largest possible number of attempts to exercise as much as possible to improve their performance level. Moreover, the results exposed that the serving accuracy were significant difference between two styles and in favor of intensive style. These results are contradicting the Fouad findings. For he believes the intensive style is best than other styles in learning. Ports in research that was done on learning styles concluded that the intensive and distributor styles are higher effect in serving from other learning styles (Tariq., 2010). In generally, several theories have been advanced to explain the possible reasons for the important of learning methods.

Conclusion

The inclusion, 2 times per week, of either intensive exercise or distributor exercise programs to normal badminton training sessions represents an effective means of increasing performance-related serving accuracy in junior-level badminton players. The intensive style induced greater improvements in high and low serves-specific accuracy and distributor led to a significant improvement in high and low serves. Despite the proven efficiency of the distributor style in

improving specific demands for badminton players (i.e., high and low serves), from a practical point of view, a combination of different learning strategies appears to be more effective because several requirements are involved during badminton. However, the intensive exercise group reported improvements in all tests better than distributor exercise group. Also, different training styles appear to lead to worthwhile growths in high and low and serving accuracy test with badminton players.

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