

Your Experimental Study on Many Balls Training Method in Badminton Teaching of the Teenagers

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Abstract

An experimental study is carried in the badminton teaching and training of the teenagers based on many balls training method. A set of teaching and training methods are proposed, that can effectively promote the badminton competitive ability of the teenagers. The learning interest of the teenagers can be improved and the basic skills of badminton can be more mastered. At the same time, the reaction speed of the upper and lower limbs of the teenagers can be increased, and the predictability of the badminton point can be enhanced.

Keywords

Many balls training method, Teenagers, Badminton teaching, Experimental study.

1. Introduction

Many balls training method is an important training method, which means the athlete catches the badmintons continuously that be thrown by the coach. It is an essential teaching method that can increase the exercise intensity and technical level by repeated practice. For the badminton training of teenagers, physical quality trainings and basic stills are the main. The technical movements of them are not standard in the primary stage. Therefore, the reaction ability, body coordination ability and technical skills can be improved by the diversity and different frequency service. The physical and specific technical training level can be promoted. Badminton technical trainings include: the net forehand and backhand chop, pick, push, tick in their corner, flapping skill, smash in the midfield, high clear of backcourt, driven clear, splitting lob or skateboard drop, drive, backhand. According to the characteristics of different techniques, the athletes' different metabolic abilities can be improved by controlling the speed of different serves and the number of serves. For example, the coach can use a set of multiple balls of 50-100 for serving. In the practice of many balls with medium serving speed, aerobic metabolic capacity can be effectively improved by the long-term practice. the coach can serve 10 to 30 balls with higher speed as a group once, the anaerobic metabolic capacity can be effectively improved after intermittent multi-group training.

2. Research Objects and Methods

2.1. Research Objects

There are 325 the teenagers from 8 badminton clubs of the different cities in Heilongjiang province. Four clubs were randomly selected as the experimental group and the other four clubs as the control group.

2.2. Research Methods

2.2.1. Literature Method

By the method of literature research, 51 papers about the teaching methods of badminton for teenagers have been consulted through the internet literature library, and books on sports, that can provide references for the writing of this paper.

2.2.2. Comparative Analysis Method

Comparative analysis method is a scientific method, that compare objective things, generally using the experimental group and the control group for comparison, in order to understand the nature of things, the law, and make a correct evaluation. The experimental class adopts the many balls training method, and the control class adopts the traditional teaching method. In this paper, comparative analysis method is used to compare two related experimental objects, and the differences and similarities in basic physical quality level and initial technical level of the research objects are illustrated by the data comparison.

2.2.3. Mathematical Statistics

In this paper, mathematical statistics are used to test the sample mean of experimental group and control group by using SPSS software.

Statistical tests are conducted on the physical qualities and special skills of 325 club players from eight clubs. The sports on physical qualities include 50-meter run, one-minute rope skipping, standing long jump and 12-minute run. The sports on Special techniques include forehand high clear, forehand and backhand pick, forehand backcourt high clear, forehand backcourt lob. The coach serves 12 balls with many balls method, the player hits these balls to the designated area. Then, the success rate is calculated. The physical qualities and special skills of the experimental group and the control group are consistent and comparable, it can be shown in Table 1.

Table 1. Statistical table of physical qualities of experimental group and control group before experiment ($\bar{x}\pm s$)

group	gender	age	50 -meter run	1-minute rope skipping	standing long jump	12-minute run
experimental group	male	16.6±1	8.85±1.6	136± 44	207±35	2400± 400
	female	16.4±1	9.64±1.6	131± 43	168±35	1800± 440
control group	male	16.7±1	8.81±1.6	136± 47	208±35	2400± 400
	female	16.5±1	9.63±1.6	130± 46	169±35	1800± 440

3. Experimental Results and Analysis

The players of the experimental group and the control group underwent 72 badminton lessons for 6 months, and the data about physical qualities and special skills of the experimental group and the control group were tested. The results of physical qualities are shown in Table 2, and the results of specific skills are shown in Table 3.

The experimental results in Table 2 and Table 3 are analyzed by the SPSS software. T test is conducted, and the sig value is less than 0.05. It indicates that the difference is significant. The physical qualities of the experimental group are significantly higher than the control group. From Table 3, the success rates of the five special skills of forehand high clear, forehand pick, backhand pick, forehand backcourt high clear and forehand backcourt lob of the experimental group are far better than the control group. Besides, the technical movements are standardized and correct, the ball performance is good, and the consciousness of continuous badminton hit

is outstanding. However, the players in the control group have higher error rates and are likely to miss the balls when they hit them continuously. The experimental results show that many balls training method is significantly better than the traditional teaching method. The P value is less than 0.05, and it shows a significant difference. Many balls training method for badminton teaching of the teenagers not only has a good effect on establishing the correct technical movements, but also has a significant help to the improvement of physical qualities and special skills. It can improve the teenagers' moving speed, reaction speed and batting speed, and the batting power and the training intensity can be increased. The combination training of physical quality, technique and tactics and step movement is an ideal badminton teaching method of the teenagers. In the special technique training, the fixed movements can be repeated and the wrong movements can be corrected in time by using many balls training method. Meanwhile, the accuracy of the movements and the stability of the badminton point can be improved. It is helpful to master the basic skills of badminton and improve the practical skills.

Table 2. Statistical table of physical qualities of experimental group and control group after experiment ($\bar{x}\pm s$)

group	gender	age	50 -meter run	1-minute rope skipping	standing long jump	12-minute run
experimental group	male	16.6 \pm 1	8.60 \pm 1.6	146 \pm 45	215 \pm 45	2550 \pm 400
	female	16.4 \pm 1	9.45 \pm 1.6	138 \pm 40	177 \pm 40	1950 \pm 440
control group	male	16.7 \pm 1	8.79 \pm 1.6	141 \pm 45	209 \pm 45	2450 \pm 400
	female	16.5 \pm 1	9.61 \pm 1.6	131 \pm 40	170 \pm 40	1850 \pm 440

Table 3. Special technical statistics table

group	gender	forehand high clear	forehand pick	backhand pick	forehand backcourt high clear	forehand backcourt lob
experimental group	male	8.21	8.83	7.72	8.43	8.16
	female	8.32	9.10	6.68	7.35	7.57
control group	male	6.72	6.31	5.86	5.62	4.68
	female	6.56	6.52	5.32	4.12	4.20

4. Conclusion

This paper focuses on the experimental study on many balls training method in badminton teaching of the teenagers, and following conclusions can be drawn:

4.1. Stimulating the Teenagers' Learning Interest

Badminton is a kind of flexible, changeable and netted sport, which is easy for different people to grasp. The advantage of many balls training method is that it can promote the players to improve the sports achievements quickly, and can effectively train the players' body coordination and judgment abilities. In the practice of continuous hitting, the players can feel the pleasure brought by the hitting strength and speed. Therefore, the practice of many balls can stimulate the players' learning interest, and help them master the correct key points of movements, and lay a good foundation for the primary training of the teenagers. In practice, players are required to hit the ball in the corresponding area, making the ball fall into the corresponding area as far as possible, so that the monotonous and boring practice is full of fun.

4.2. Mastering the Basic Skills of Badminton

When the teenagers just began to practice badminton, they can not have a good grasp of the basic skills of badminton, and they have not a clear understanding of the key points of some technical movements. For the initial learning stage, the practice of many balls training can quickly improve the grasp of basic badminton skills, shorten the training time, effectively improve the movement and mobilization skills, and achieve good results. In many balls training, the cerebral cortex activities of the teenagers are characterized by a process from generalization to differentiation. So, the coach need continuously throw the badminton to the specified area, and let the players repeat the same movement in the specified area. Thus, the coach can correct the mistakable actions in time and fix the correct actions quickly. Then, the teenagers can accurately grasp the skills. The coach will increase the adaptabilities of the players step by step when serving many balls, from light to heavy, from slow to fast.

4.3. Improving the Reaction Speed of the Teenagers

In badminton, the reaction speed of players is particularly important. Reaction speed refers to how fast the human body reacts to various stimuli. For example, in the judgment of the incoming ball moment, how to choose the direction and line of return ball is based on the reaction of nervous system. The reaction time is so short that the reaction speed is fast. However, in the many balls training, the reaction speed of players can be significantly improved when coaches use different power and speed to serve. Players with a certain foundation can use different strength, speed, fall, and fast movement to hit the ball, so as to promote the rapid improvement of the reaction speed of the movement. Because this training has a greater intensity of exercise, therefore, the training schedule is more suitable in the middle of the class, and the practice time should not be too long, the numbers of groups should not be too many, the interval time of the group should be extended, the players should hit all the balls to the designated area.

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