Effect of Using the Innovative Light Zone to Develop the Accuracy of Performance the Forehand and Backhand Skills for Female in Tennis

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Abstract

The researchers designed an electric-powered appliance with different light-colored signs. These signs are shown on a wooden base. Exercises were used to develop motor precision and to perform forehand and backhand in tennis. The playing area was divided into several zones, and according to the direction of each skill, the tag was used. Thus, students were able to perform two skills accurately. The game of tennis requires visual kinetic compatibility between the eye, arm, eye and foot compatibility, a visual marker designed to make students more focused and accurate on performance in difficult areas of skills. The exercises were carried out by the experimental group for 12 weeks with two training units with 24 training modules. Arteries in the variables of the statistical results showed experimental superiority over control.

Keywords: Tennis exercises, Light zone appliance, Motor accuracy, Forehand and backhand in tennis.

Introduction

Sports training today takes great strides in the way of science and this is evidenced by the fact that the development of many of the training rules that were the result of that development in the results of higher levels of sports.[¹] As the access to the individual to the highest level possible sports in the type of sport practiced by requires the development of physical and motor capabilities,[²] and this is certainly done through the science of sports training, in addition to the technical performance of sports skills and tactical aspects in the sports required by, as well as psychological aspects of the individual athlete and try to use and guidance towards achieving the highest level possible in various sports activities.[³]

In tennis, motor precision is an important component according to the opinions of a number of experts. Larsson and Youkim defined it as “the ability of an individual to control his or her voluntary movements towards a certain goal”.⁴ The results of many field studies indicate that the player or team with accuracy can restore the team level in performance.[⁵] Therefore, the tennis player needs to have the motor precision in the skills of the forehand and backhand shots where the motor performance is useless unless there is a motor precision to win, the game of tennis of sports that suits the gender, and is compatible with the nature of the individuals and their tendencies and abilities and needs.⁶ One of the most important benefits is the development of the physical fitness of the individual and gaining public health and learning responsibility and respect for others and leisure time to entertain and achieve sports achievements.⁷

The Part of Practical Procedures of Field Research

The researchers used the experimental method and the two groups (experimental and control) method. The researchers selected their sample of [6] female players from the female college team for the academic year 2016-2017. The sample was
divided into two experimental and control groups. Thus, the sample represented 100%. The experimental group used some exercises on the light zone to improve the motor precision and performance of the forehand and rear backhand of tennis, as for the control group, it was based on the exercises prepared by the trainer without use of a light zone. The researchers also set up the necessary equipment and tools in their experiment, including a balance for measuring length and mass of the body, tennis balls (40), tennis rackets [12], Electronic timer (2), 4-plate carton, tape measure, Japanese-made Sony type camera (200 pictures / second) and computer a type of Lenovo.

The Tests

The Test of Hand-Shot on Overlapping Rectangles [8]

Test Objective The measure of arm accuracy

Material Used

Five tennis balls an imam's wall. A paved land that draws on the wall three overlapping rectangles. The bottom border of the large rectangle rises from the ground by 180 cm. It also draws a line on the ground that is five meters away from the wall.

How to Perform the Test

The student stands behind the line and then straightens the five balls (consecutive) on the rectangles trying to hit the small rectangle. The laboratory has the right to use any of the hands in the correction as desired.

The Method of Recording Data

- If the ball hits the small rectangle (inside the rectangle or on the lines specified for it), the laboratory is counted three degrees.
- If the ball hits the middle rectangle (inside the rectangles or on the lines), the laboratory counts two degrees.
- If the ball hits the large rectangle (inside the rectangle or on the lines specified for it), the laboratory will be counted one degree.
- If outside rectangles are calculated for the laboratory zero.

Tests of Chivies and Nieder for Strikes

Test Objective The measure of plane strikes force.

Material Used: One tennis racket per tested student and 10 balls.

How to Perform the Test The trainer stands at the base line and hits the ball to the tested player. The ball strikes from a distance of 3 meters from the grid. The student is given 10 balls to hit, including 5 balls forehand backhand 5 balls.

The Method of Recording Data

- Balls that fall off the individual pitch score zero.
- Balls falling within the individual field in the area between the network and transmission line get two degrees.
- Balls falling within the individual pitch in the area between the transmission line and the base line get four grades.
- Falling balls on the line take the highest score for the area specified in this line.

Pretest

The pretests were conducted on Wednesday 23/2/2017.

Training Units

The number of training units was (24) training units (12) weeks per week (2) training units, the duration of the training unit (90) where the training curriculum was implemented from 26/2/2017 to 21/5/2017. The main experiment included the training of the control group with the regular training curriculum.

The experimental group was trained using exercises on a light zone. The aim of the experimental sample was to achieve a level of development in motor precision. Simultaneous training curriculum between The two groups participate in the preparatory part of the training module, which includes public and private warm-up and in the final part of the training module which includes the calm exercises. The two teams differ in the implementation of the main part of the training unit. /University of Kufa.

The Appliance of Designed Electrical

The researchers designed a training apparatus that works in an electrical circuit consisting of several wooden parts, each of which is 5 cm wide (the first part is a rectangle measuring 1 × 2 meters, the second part is a measuring box of 1 × 1 meter and
the third part is a box measuring 50 × 50 cm) Each part is a collection of small colored lamps (the same measurements of that part) by means of plastic fasteners. These parts were placed on one of the two sides of the tennis court in the play area. The playing area was divided into several areas. The parts were distributed according to importance and difficulty of performance. Achieve a positive result on the player's opponent In addition, the appliance helps to improve the motor abilities by improving the performance accuracy of the basic skills and developing the motor compatibility, and the appliance generally helps to reduce the time and effort of the trainer and the speed of the player's awareness of the duties required and rely on the sense Vision and not hearing in the feedback provided by the coach to the player during the performance.

Figure 1: Shows the appliance of light zone

Post Test
The posttests were carried out on Thursday, 25/5/2017.

Statistical Means: The statistical program SPSS was used.

Results and Discussion

Table 1: Shows the computational dynamics, standard deviations, calculated t-test, Sig value, and the significance of differences for the results of the remote tests of the control and experimental groups

<table>
<thead>
<tr>
<th>Test Variables</th>
<th>Measuring unit</th>
<th>Experimental group</th>
<th>Control group</th>
<th>(t) calculate</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>STD.EV</td>
<td>Mean</td>
<td>STD.EV</td>
</tr>
<tr>
<td>Test of handshot on overlapping</td>
<td>Degree</td>
<td>16.67</td>
<td>1.84</td>
<td>20.13</td>
<td>2.48</td>
</tr>
<tr>
<td>rectangles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forehand</td>
<td>Degree</td>
<td>14.13</td>
<td>2.56</td>
<td>17.47</td>
<td>2.56</td>
</tr>
<tr>
<td>Backhand</td>
<td>Degree</td>
<td>11.87</td>
<td>2.78</td>
<td>14.53</td>
<td>2.93</td>
</tr>
</tbody>
</table>

The table (1) shows that there are differences in the computational environment, standard deviations and t-test value in the remote search tests of the experimental and control groups. As the sig value is smaller than (0.05), there are significant differences between the two groups and for the benefit of the experimental group. The researchers attributed the difference in the results to the training method of the experimental group that used the light zone, which positively affected the development of the accuracy of the performance of the skill (Forehand and backhand) by performing strikes based on the type of light bulletin identified from Before the trainer and the time of appearance, the focus and accuracy of the strikes was clear and good at the same time correcting the mistakes during the training, which means that the use of exercise and light zone has achieved a level in the development of precision tests of basic skills in tennis for the experimental group compare with control group.
The learning does not happen simply by repeating the movements and mathematical skills of the players. Rather, the training must be based on a codified scientific basis to advance the level of their abilities and skills towards the best. This is what has been done in the exercises used. "The improvement in the level of the individual's abilities resulting from the exercise of sports training is an important and necessary factor to ensure the increase in the level of motor abilities or at least to ensure that the level reached by the individual.

Conclusions

- The light zone has a positive effect in the development of the accuracy of the front impact and rear impact of the tennis skills.
- The exercises of the training curriculum and the exercises included in the use of the (light zone) contributed significantly to the speed of development of the accuracy of the performance of the skills of the front and back strike by tennis.
- The duration of training and the number of training units was sufficient in the emergence of statistical differences between the experimental and control groups.

Recommendations

- Need for the use of auxiliary appliances, including a light zone in improving the accuracy of technical performance, the skill of front impact and rear impact by tennis.
- Use of an appliance (light zone) improves the accuracy of the performance of the skill of the transmitter.
- The possibility of using a light zone in the education of young people to tennis skills.
- Emphasis on the use of a (light zone) in the lessons in the faculties and departments of physical education and science Riyadh in Iraq.
- Study of some psychological and functional variables for the use of the (light zone) on the learners from junior and junior players as well.

References


11. Mohamed Hassan Allawi (1994) The science of sports training, edition13, Cairo - Helwan University.78