THE EFFECT OF EXERCISES FOR AN EDUCATIONAL DEVICE IN DEVELOPING THE SKILL OF PREPARING VOLLEYBALL FOR JUNIOR PLAYERS

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ABSTRACT

The purpose of this paper is to developing the skill of preparation in volleyball for juniors by influencing the skill of preparation by using exercises specific to an educational device that facilitates the learning process and access to a high level of mastery of the skill, so the researchers decided to develop special exercises aimed at reaching the skill performance to a higher level than the player has reached, thus placing exercises between the hands of our coaches and players to be part of their educational curricula for the purpose of achieving better performance. The researchers used the experimental method, the research community was identified with young players aged (16-18) years for the Specialized School in Al-Qasim / Babylon Governorate, for the sports season (2020-2021), and they numbered (40) players, where the prepared players were chosen by the intentional method The number of (10) players, and the researchers divided the sample in a simple random way (the lottery) into two groups (experimental - control) equally (5) players for each group. the most important results reached by the researchers is that the exercises for the educational system manufactured and prepared according to the correct scientific mechanical foundations to perform the skill of numbers in volleyball led to the players being able to perform this skill smoothly and with complete ease.

I. INTRODUCTION:

The basic idea in education depends on the individual’s ability and willingness and the amount of time that the learner needs for the purpose of learning, as the learner is the focus of the educational process, and the development of his abilities and his physical and skill ability is the main goal in this process, which requires comprehensive and careful attention in the practice of special exercises that serve the education process For young people and the opportunity to achieve optimal performance of the different preparation skills that reflect the learner's ability to understand the parts of the skill or movement and its components.

Therefore, science came to accelerate the learning process and develop performance through modern educational methods that do not stop at a certain level. There are methods in teaching motor skills that have success rates from one level to another, but they are still used. Therefore, researchers seek from time to time to find new methods and methods that serve the development of motor duty. In all sports activities in proportion to the age group, whether these events are team or individual, and we need in these new methods to link mental and physical abilities and special exercises to employ the skill side in the required manner.

The game of volleyball has spread widely in the world and has developed rapidly in the last two decades, and it is in a constant development in the level of skill performance, as most of its offensive and defensive skills have been promoted in technical performance, especially offensive ones. The team from the defensive state to the offensive state and on the basis of which all the tactical plans of the team are adopted to acquire the match points. The skill of preparation requires special physical and mental abilities. Therefore, we note the lack of prepared players at the local level because this skill needs special specifications and special exercises for numbers because it needs high accuracy in The process of learning because of the specificity in the team players’ dependence on attacking performance to obtain match points, so you must reach higher than the required level in performing special exercises well
The importance of the research lies in developing the skill of preparation in volleyball for juniors by influencing the skill of preparation by using exercises specific to an educational device that facilitates the process of learning and access to a high level of mastery of the skill. Therefore, putting exercises in the hands of our coaches and players to be part of their educational curricula for the purpose of achieving better performance.

II. RESEARCH PROBLEM:

By observing the researchers and watching the volleyball tournaments held by the Directorate of Education and School Activities in Babylon Governorate, there is a weakness in the preparation skill by not delivering the ball to the appropriate height for the striking player, which generated researchers with several ideas and questions, the most important of which are: Are the educational or training units lacking exercises? The special tools that would raise the player's skill level, or not use appropriate means and tools that increase the players' interaction during the educational units.

Therefore, the researchers decided to delve into this study by designing an educational device and preparing special exercises for the device to develop the preparation skill for young volleyball players.

Research objective:

- Preparing exercises for an educational device to influence the development of preparation in volleyball for young people, identifying the effect of exercises for an educational device in developing the skill of preparation in volleyball for junior players.

Research hypotheses:

There is a significant effect of exercises for an educational device in developing the skill of preparation in volleyball for junior players; there is a preference for the experimental group over the control group in the post-test in developing the skill of preparation in volleyball for junior players.

Research fields:

- Human field: young players in the Specialized Volleyball School for Juniors in Al-Qasim for the season (2020-2021)
- Time field: (4/1/2021) to (7/1/2021)
- Spatial field: The closed hall of Al-Qasim Club and the scientific laboratory in the College of Physical Education and Sports Sciences - University of Babylon.

III. RESEARCH METHODOLOGY AND FIELD PROCEDURES:

Research Methodology:

The researchers use of the experimental method because it is compatible with the nature of the research problem, and by designing the method of two equal groups (experimental and control) with two tests, pre and post.

Community and sample research:

The research community was identified with young players aged (16-18) years for the Specialized School in Al-Qasim / Babylon Governorate, for the sports season (2020-2021), and their number is (40) players, where the players were chosen in a deliberate way and their number (10) players. The researchers divided the sample in a simple random way (the lottery) into two groups (experimental and control) equally (5) players for each group.

IV. FIELD RESEARCH PROCEDURES:

Identify the tests for the variables:

First: The technical performance test for the preparation skill: (1)

- The objective of the test: evaluating the technical performance of the preparation skill through the three sections of the skill (preparatory, final head).
- Tools used: a legal volleyball court, volleyballs (3), a pre-made assessment form.
Method of performance: The tested player performs the preparation skill in the specified area for preparation, i.e. from the center (3), trying to perform the preparation skill correctly and for three attempts, provided that the ball and the player’s body do not touch the net, or cross the opponent’s court, as shown in Figure (1).

Registration: Three assessors evaluate the three attempts for each test player, and three marks are awarded for each assessment, noting that the final assessment score for each attempt is (10) degrees, divided into the three skill sections, which are (3) marks for the preparatory section, and (5) marks for the section. The president, and (2) a score for the final section, after which the best score is selected for each component and by extracting the arithmetic mean of the best three scores, the final score is extracted for each tested player.

Note: The evaluation was done by videography and then present to the assessors.

Figure (1) shows the evaluation of the technical performance of the skill of preparing volleyball.

Second: The performance accuracy test for the skill of preparation in volleyball: (1)

- The objective of the test: to measure the accuracy of the preparation skill

- Tools used: basketball pole, (5) legal volleyballs, pre-prepared accuracy assessment form.

- Method of performance: The tested player stands facing the basket at the free-throw line on the circular line, raises the ball up, and then passes it to the basket, trying to pass it inside the basket, as shown in Figure (2). Each player is given (5) attempts.

- Registration
  - The ball is away from the board is zero.
  - The ball is away from the basket (2) points.
  - Touching the ball for the ring (3) points.
  - Passing the ball inside the ring (5) points.

* The maximum score for the test is (25) degree
Figure (2) shows the accuracy test of the skill of preparation in volleyball

Exploratory experiment:
The exploratory experiment was conducted before starting the basic experiment in order to know the most important obstacles and negatives in order to be addressed, and that the purpose of the exploratory experiment is:

- Knowing the suitability of the tests to the research sample and measuring the time of its performance.
- Ensuring the validity of the playing field and the tools used and their suitability for the tests.
- Preparing the auxiliary work team, as well as identifying the difficulties they may face.
- Knowing the suitability of the compound exercises in the method of frequent high-intensity training for the members of the research sample and the possibility of their application.
- Knowing the difficulties that may face the course of work and developing the most appropriate solutions to them.

V. MAIN EXPERIMENT:

Pre-tests:
After the data that the researchers came out of the reconnaissance experiment, they distributed the tasks to the auxiliary work team and installed cameras in the places we reached in the reconnaissance experiment, and the main experiment was conducted on Thursday (3/25/2021). At ten o'clock in the morning, after conducting the general and special warm-up process, giving each player three attempts that were not registered for the purpose of preparation, and then giving (5) attempts to each player that were approved.

Preparation and application of exercise vocabulary for the device:
The researchers prepared special exercises for an innovative educational device in developing the skill of preparing in volleyball for juniors.

They applied the special exercises to the members of the experimental research sample on Thursday (1/4/2021), and the application of the special exercises used took (8) weeks by (2) training units per week, bringing the total of the training units for special exercises (16) training units. The time allocated for special exercises was between (35-45) minutes for each training unit, taking into account the level of the research sample and their capabilities, with regard to the experimental group. As for the control group, the vocabulary of the training curriculum followed by the trainer was applied during the same period, and the application of the vocabulary of special exercises to the members of the experimental research sample ended on Monday (24/5/2021).
The vocabulary of special exercises was applied in the main section of the training unit, as the training unit included exercises aimed at developing the skill of preparing in volleyball.

The researchers took into account many things during the implementation of special exercises, the most important of which is the principle of gradation from easy to difficult and also the use of several variables at the same time and special exercises similar to cases of play and also the use of tools and aids, as well as encouragement and motivation during the performance, knowing that the researchers were present during the application of the sample to these exercises.

Post-test:
The post-test was conducted after completing the subject training curriculum, on Thursday (27/5/2021), and the researchers followed the same procedures and steps in the testing, imaging, and measurement procedures that were conducted in the pre-test.

Statistical methods:
The search data was processed through the Statistical Package for the Social Sciences (SPSS).

Presentation, analysis, and discussion of the results:
Presentation and discussion of the results of the pre and post-tests for the control and experimental groups for the variables under study.

Presentation of the results of the pre and post-tests of the control group for the variables investigated.

Table (1) shows the arithmetic means, standard deviations, the (t) value calculated for the correlated samples, the level of the test significance, and the significance of the difference for the pre and post-tests of the control group for the researched variables.

<table>
<thead>
<tr>
<th>variables</th>
<th>Measuring unit</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>T value</th>
<th>Sig level</th>
<th>Sig type</th>
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<tr>
<td></td>
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<td>standard deviation</td>
<td>Mean</td>
<td>standard deviation</td>
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<td>13.10</td>
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</table>

**Presentation of the results of the pre and post-tests of the experimental group for the variables investigated:**

Table (2) shows the arithmetic means, standard deviations, the (t) value calculated for the interconnected samples, the level of test significance, and the significance of the difference for the pre and post-tests of the experimental group for the variables investigated.

<table>
<thead>
<tr>
<th>variables</th>
<th>Measuring unit</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>T value</th>
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<tr>
<td></td>
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<td>Mean</td>
<td>standard deviation</td>
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<td>1.35</td>
<td>15.10</td>
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**Presentation of the results of the tests (post-test, post-test) for the two experimental and control groups for the variables investigated.**

Table (3) shows the value of (T) calculated for the independent samples, the level of test significance, and the significance of the differences between the test results (post-test, post-test) for the two experimental and control groups for the studied variables.
VI. DISCUSSION OF THE RESULTS:

Through the results presented in Tables (1 and 2), which show the presence of significant differences between the pre and post-tests of some of the preparation skill (technical performance and accuracy) in volleyball for juniors and in favor of the post-tests, and for both experimental and control groups, researchers attribute the reason for these differences for the control group to the practice of the members of this group the exercises used for the skill of preparation in volleyball and the use of equal frequencies for members of this group in implementing what is required of them in the training units, which are equal opportunities to obtain a good amount of skillful enemies to prepare for volleyball, as repetition is “a semi-typical process of repetition without a noticeable change in the motor responses.” (5), and this is what may they are familiar with the used training units, which led to an increase in their regularity in implementing the vocabulary of this skill and its parts, and clearly applying the usual and specific exercises, as well as their individual performance of this skill and its repetition. According to the theory that a successful response is the most frequent and recent response (3).

As for the experimental group, the results of which showed in Tables (1 and 2) that there are significant differences between the tribal and remote tests and in favor of the post-test. During the training units, as it proved to have a positive and important impact on the development of technical performance and accuracy of the preparation skill, because “the training units are integrated with training tools” (4). And the use of the innovative device as an auxiliary factor has an effective impact that led to the development of technical performance and accuracy of the preparation skill from During the economy in the time and effort expended by the coach and the player, and this was confirmed in the fact that the training tools are important in “saving the time and effort expended by the player and the coach.” (5), and the use of exercises for the innovative device during training units is considered as a motivation for individuals The experimental group, as ”stimulus is one of the important factors that facilitate learning motor skills and developing their performance, and that motivation works to direct behavior towards effective It has a significant role in delaying fatigue, as well as increasing the player’s attention and accuracy.” (6)

The improvement in the performance requirements of the preparation skill and the gradual use of exercises for the device manufactured in each training unit accompanied by training on the technical performance of the skill led to the development of the work of the muscles contributing to the motor performance, i.e. the muscles of the legs, trunk, and arms, and consequently the improvement of the motor transfer in the performance of this skill, which is one of the offensive skills that have an effective impact on the outcome of the match, as the skill of preparation is “the most important skill for the defense and attack plans that the team uses in play, as it is linked to other skills such as receiving transmissions and crushing beating, through the team players mastering the performance of the setup accurately and efficiently. He can surprise the opponent by performing all kinds of crushing strikes and successfully implement the game plans set by the coach to win (7).

And through the results presented in Table (3) for some of the technical performance and accuracy of the skill of preparation in volleyball for the post-tests between the experimental and control groups, all the values of the investigated variables were significant and in favor of the experimental group. Worked to improve the values of the angles of the body joints investigated (shoulder, wrist, knee, torso) Through the diversity of exercises and their repetitions on the manufactured device, repetitions have a major role in improving the player’s performance, and this is consistent with what was indicated that "the coaches emphasize the repetition of the basic skills of each game so that its implementation is automatic.” In addition, repetition plays an important role in bringing the player to a high level in technical performance and accuracy of skill, meaning that the exercises for the manufactured device and the device’s manufacturing mechanism and in proportion to the ideal performance of the preparation skill helped open the corners and joints of the body in the skill performance vessel through repetition of exercises On the device and the use of sensors and a display panel for the attempts that we do not accept the players, which in turn developed their sense of speed and accuracy of preparing the ball at this stage, in addition to performing the skill according to the correct motor path, which prompted the players to invest in
extending the corners of the joints of the body to obtain an elaborate and distinct performance, and thus an appropriate height of the ball qualifies them to perform the next stage.

The researchers believe that the variables related to the arms represented by the (shoulder-wrist) angles if they improve well and achieve ideal or close to ideal values, are mainly reflected in the ball gaining an appropriate linear velocity, which thus increases its height and reaches to the specified place for the colleague to carry out his motor duty, and this must happen In a short period of time, from the foregoing, we find that all the variables of the arms have a great and important relationship with the previous and subsequent stages of performance., and this is what the researcher worked on, as he took into account in his preparation for special exercises as well as for the type of design of the manufactured device to give freedom to the players to perform and control the angles of the joints of the body So that it gives an appropriate height and dimension for the preparation stage, as the researchers confirmed that the angle should be close to (180) this helps him to better control the place and height of the ball, so that the ball is at an appropriate angle to allow good technical performance in order to achieve the desired goal, as “the less the difference between the starting and landing level, the greater the value of the optimal angle for starting in the sports skill.” Also, the increase in the values of the angles of the body joints of the arms (shoulder, wrist), in the performance of the preparation skill means that the value of the angle of the ball's launch towards the fellow hitter, and as it is known that the angle of the launch of the projectile is one of the important things that affect the trajectory of his movement and since the player gives The ball is angled at a certain angle by the movement of the wrist when preparing and following the ball, resulting in an appropriate height for the ball and taking the correct motor path.

The researchers also believe that the preparatory stage for the skill of preparation has a basic role in converting the values of the mechanical variables from the legs to the arms to the ball through the motor transfer quickly, as this should be done with an appropriate period of time and the effect of the force used is greater, and thus obtaining a better result, as well as The preparatory stage for the skill of preparation, represented by the player’s stance and the position of the knee joint, which is slightly bent with the torso slightly tilted forward, as the goal that is drawn for this stage is to achieve the base of the pivot, meaning balance so that the directing force for the next stages of this stage has been achieved through the distance between the feet The inclination of the torso in the direction of movement, and this means trying to build momentum and horizontal speed that is transferred to the arms, which allows and helps to gain speed.

The researchers also attribute the significant differences achieved in the technical performance of the preparation skill and its accuracy to the level of response of the experimental group members to the exercises of the manufactured device, like learning or training this skill needs diversification in the exercises for the duration as it is one of the skills that need the capabilities of the nervous system, which must be In good condition in order to work on good motor and skill linkage, as well as developing this skill through the application of exercises on the manufactured device that will simulate the variables that occur in the game because these changes in the playing style of the prepared player require him to focus towards specific centers after seeing the visual stimulus in the device, and this What has been mentioned agrees that “diversity in the use of assistive devices and tools contributes to developing the performance and accuracy of technical skills for sports.”

VII. CONCLUSIONS AND RECOMMENDATIONS:

Conclusions:

- Based on the research results that were reached within the limits of the research community, the following conclusions were reached:

- The exercises of the manufactured educational system contributed to the development of the technical performance and its accuracy of the skill of preparation in volleyball.

- The exercises of the educational system manufactured and prepared according to the correct scientific mechanical foundations to perform the skill of numbers in volleyball, which led to the players being able to perform this skill smoothly and with complete ease.
Recommendations:

In light of the conclusions reached by the researchers, the researchers recommend several recommendations:

- The necessity of adopting the manufactured device in the training of young players for the skill of preparation in volleyball, emphasizing the introduction of special exercises prepared with the manufactured device during the training unit for the skill of preparation in volleyball.

- The necessity of applying the special exercises prepared with the manufactured device to a larger number of juniors at the club level to improve technical performance and accuracy for the skill of preparation in volleyball.

- Conducting similar studies on different activities and age groups.

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