

The effect of skill exercises in a fast-learning style accompanied by a designed device in learning the skill of preparation in volleyball for young people

By

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Abstract

The aim of this paper is to identify the effect of skill exercises in a fast learning style, accompanied by a designed device in learning the skill of preparation in volleyball for young people. In this paper, the researchers used the experimental method on the main research sample of (25) players from the neighborhood volleyball club, as the sample was divided into two groups, experimental and control. Before the trainer, and after the expiration of the application period of the experimental method, the results were obtained and processed statistically. The researchers reached a set of conclusions, the most important of which are:

- 1 There is an evolution in learning the skill of preparation in volleyball and for the two research groups.
- 2 The experimental group has an advantage in the research variables.

As for the most important recommendations:

The necessity of using skill exercises in a fast-learning style, accompanied by a designed device, especially volleyball, due to its tangible impact as shown by the research results.

Introduction and importance of the research

The world is witnessing great developments in many fields, including the sports field, as it witnessed a development of technical performance in all sports and games and events at various levels, which led to accelerating learning processes and shortening its time. As these exercises would be better if they were accompanied by auxiliary means, including designed devices, as working on methods, devices and auxiliary tools contribute greatly to learning movements and thus shortening time and effort, and thus we find the importance of modern methods in learning events and can be used with different age groups. To collect the largest amount of information in the least possible time, and in order to do this, the focus is on using a large part of the brain through the use of external influences that help to deliver information such as music, illustrations, video and paper publications. Certain, but also to train creativity and innovation in solving any problem facing the human later. It also creates an interactive

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environment for the learner through which he participates in the learning process... not only as a recipient but also as a transmitter of information. It provides an inspiring learning environment that mimics reality. Thus, through the learning process, you can diversify and increase the means and techniques you use to reach the goal.

The importance of the research lies in using skill exercises in a quick learning style, accompanied by a device designed to learn the skill of preparing in volleyball.

Research problem

Through studying and observing the researchers and getting to know the results of the teams, they noticed a discrepancy in the level of performance of the preparation skill for the players, due to their different levels, the lack of use of modern methods and effective aid tools, and the reliance entirely to teach skills on the methods used despite their different levels. The latest technological and simple means as well, accompanied by a device designed for preparation, does not only establish rapid learning in rigid methods, but also leaves a wide scope for flexibility as well as to use all the senses in learning and taking into account individual differences a role in learning for this skill.

As for the above, the researchers sought to study that problem, which can be summed up in the following question: Do skill exercises in a quick learning style and accompanied by a designed device have an effect on learning the skill of preparing in volleyball?

1-3 Research Objectives:

- 1 Preparing skill exercises in a fast-learning style, accompanied by a device designed to learn the skill of preparing volleyball for young people
- 2 Recognizing the effect of skill exercises in a quick learning style, accompanied by a device designed to learn the skill of preparing in volleyball for juniors.

1-4 Imposing search:

- 1 Skill exercises in a quick learning style, accompanied by a designed device, have an effect on learning the skill of preparing in volleyball for young people.

1-5 Research Areas:

The human field: the young players of the neighborhood volleyball club for the season 2021-2022

Time range: the period from 6/7/2022 to 9/15/2022

The spatial domain: Al-Hay closed club hall - Al-Hay District - Wasit Governorate.

Research methodology and field procedures

2.1 Research Methodology

The researchers used the experimental method, designing two equal groups with pre and posttests, in order to suit the nature of the research problem and its objectives.

2-2 The research community and its sample

2-2-1 Research community:

The research community was determined by the neighborhood volleyball club players, the junior category in Wasit Governorate, which numbered (25) "players.

2-2-2 the main research sample:

The research sample was selected from the research community and divided equally in a random way by lottery into two groups, the experimental group that worked with the research variable and the number of (10) juniors, and the control group that worked in the style followed by the coach and the number of (10) juniors, and the players of the exploratory experiment were selected with (5) players, and for this reason the research sample constituted a percentage of (74%).

2-2-3 The homogeneity of the sample and the equivalence of the two research groups:

2-2-3-1 Sample homogeneity:

The researchers verified the homogeneity of the research sample in the variables related to anthropometric measurements (height, mass, chronological age, and training age), as shown in Table (1) It shows the homogeneity of the research sample in the variables (length, mass, chronological age, and training age)

variables	Unit of measure	Arithmetic mean	Median	Standard deviation	Skew coefficient
Height	cm	149.67	153.0	5.15	0.77 -
Mass	kg	43.37	42.50	2.81	0.93
Chronological age	year	15.38	15.50	0.71	0.50 -
Training age	year	1.58	1.62	0.81	0.15 -

The results of Table (1) show that the values of the skewness coefficient calculated for all the variables are smaller (± 1), which indicates the homogeneity of the sample members in all the variables (length, mass, chronological age, and training age).

2-3 Tools and devices used in the research

2.3.1 Data collection methods

The researchers used the following research methods to collect the data concerned with the research, including:

Resolution. • Tests and measurement. • Observation.

2-3-2 Devices and tools used in the research

Researchers used many devices and tools in their work, including:

- Volleyball number (10) type Molten. • Two (2) Chinese-made whistles. • Laptop type (Lenovo), 1 pcs. • Stationery (papers, pens) • Colorful adhesive tape (5 cm wide) • Camera stand number 1 .
- 10 colored plastic cones. • Medical scale type (Chinese), number (1). • Camera • Designed device

Device description and features

The device consists of several parts:

- 1- The base of the device: The base is mobile, controlled by remote control, with a length of (100) cm and a width of (20) cm. It has been modified, where the movement is in two directions, front and back. Work and implementation of the base of the device.



2- Horizontal column connected to the base: The column in the designed device represents the height of the device and its length is (200) cm. It is installed at the base of the device. This tube is a cavity that allows the entry of the lever arm (the jack), which is movable up and down as in Figure (10).



3- The jack: extends in two directions, right and left, at an angle of 180 degrees, for each angle, by moving the throat by means of a motor (engine) satellite (12) volts, and it has a height of (2) meters, in addition to the use of a small and another large shower.



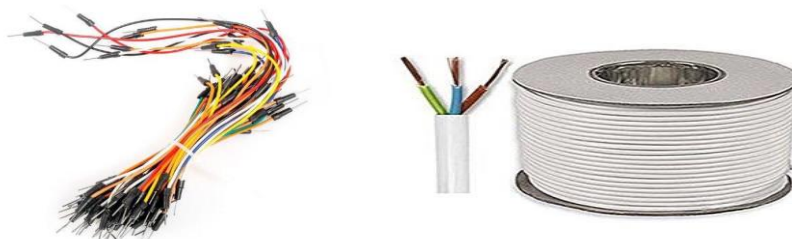
4- The ring and the fixing column: This ring represents the goal of the device, as it is considered the place where the player prepared with numbers directs the ball towards it, which consists of three rings, and each ring has a special diameter and is represented by the circumference of its area (50) cm and (70) cm (90) cm. Its length is (40) cm and its width is (3) cm, in addition to the rotation of the ring in both directions, right and left, at an angle of 180 degrees for each direction.



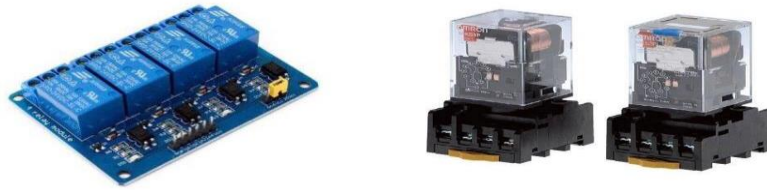
5- The digital screen: The electronic screen box consists of calculating the time for the attempts that are given to the players and the timing of the performance. 10 mm measuring 60 x 30 cm with white acrylic plastic 2.5 mm measuring 60 x 30 cm, and as shown in the figures (13).



The digital screen consists of the following parts:
Flex wire (10 m) and Singulardino wire (13 m), as shown in Figures (14).



A binary number (1) and a quadruple number (1) were used, as shown in Figures (15)



LED number (50) size (125) mm colored small board PCB as in Figure (16).



Arduino, number (1), and ArduinoMega number (1), as shown in Figures (17).



Device Features

Some of the most important features of this device can be identified as follows:

- 1 It can be used to develop numbers in volleyball and some mental operations.
- 2 Ease of transporting and carrying the device and installing it on the field.
- 3 The work of the device reflects the modern vision represented by the advanced devices from the traditional devices.
- 4 Low cost.
- 5 It works according to individual differences, as it serves the performance of different levels.

2-4-1 the exploratory experience of the proposed device

This experiment took place on Tuesday (10/7/2022) and the main objective of the exploratory experiment was to identify the suitability of the movement parts of the designed device, where the researchers modified some things for the device, and the experiment was applied to (5) players from the same research sample, where The performance of the device was confirmed in full form and the movement of the ring (high - low), and the base depending on the installation of the device.

2-4 Field Research Procedures

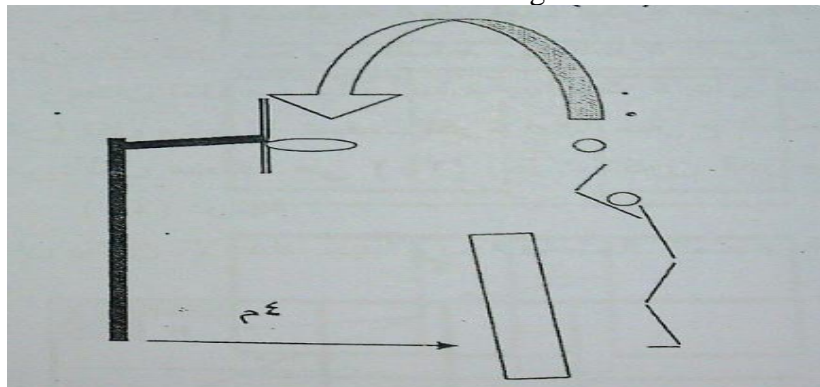
2-4-1 Accuracy test of preparation skill in volleyball: (1)

The objective of the test: to measure the accuracy of the numbers from the top.

Tools used: a goal board, a basket, a Swedish seat placed in front of the scoring board at a distance of (4) m, flying balls (5).

Performance specifications: The player passes the ball from the top in a manner similar to the performance of the preparation from behind the Swedish bench on the basketball ring and as best as possible for five attempts in the form (20) scoring points (4): degrees for the ball that passes in the ring without touching it.(3) degrees if the ball entered the ring.

If the ball is entered after touching the board. The maximum test score is (20) degrees.



Discuss the results

Through the results presented in the previous tables that show that there are differences between the experimental group and the control group, the researchers attribute the difference in the development that occurred in favor of the experimental group to the nature of rapid learning, the special exercises associated with the device and the preparation of the plane reel that were prepared according to the scientific foundations that based its exercises and scientific references. Experts through its reliance on methods and methods that contribute to the development of the muscles involved in motor performance, in addition to the nature of the exercises that were characterized by their performance, characterized by rapid performance resulting from the production of force at high speed, and then all the exercises contributed to the development of the physical racists that make up the mental processes and preparation for volleyball .

Which led to a clear improvement in their performance, and this is what (Fouad Suleiman Qallada) pointed out: “The clarity and identification of goals in light of certain behaviors or performance levels, they are meaningful and effective () ,

This is what the researchers adopted in designing the form of exercises with the device and according to the playing conditions, which led to the emergence of a significant difference between the pre- and post-test for the experimental group, and thus the performance of the experimental group for the skill in the post-test was less time than the pre-test, which indicates a development in the level of performance of the players for these The skill, as “the practice of organized training results in an increase in the individual’s performance ability as a result of performing physical exercises for several days, weeks, or months, through the adaptation of the body’s organs to perform such exercises.” The researchers believe that the effect of exercises mental processes stimulates muscle cells to adapt to the performance of the exercised activity and to be more economical in performing the intensity of work.” (1)

To use the device designed by performing and repeating special exercises in a manner that amounts to being close to the conditions of play, taking into account the change in the exercise and its plurality. Also, the player's rush towards performance skills. Performs repetitions with confidence and desire and work for the better "and among the basic principles in applying the skill is to use the capabilities and tools to the maximum extent possible."

Through this, the researchers point out that the players' superiority in the preparation test requires the player to use the designer's device through performing and repetition of special exercises and in a manner that amounts to a high ability of concentration through preparation for performance and directing the ball to the opponent's court and determining the location of its fall in the manner that can occur in it The team is on point during matches.

Which confirmed the previous results in the superiority of the skill of preparation over the rest of the other skills of the player with a high ability to focus, through the interaction between the player's levels and the results of skill tests, which came in line with the interpretation of the results for determining averages that focus is an important means to raise the level of athletes and their abilities to notice things With clear and elaborate accuracy and making the degree of concentration sharp and accurate, the volleyball game is one of the (dynamic) moving team games due to its surprise and surprise factor.

This was confirmed by Al-Atoum and others ((that attention is affected by external factors, including the novelty of the stimulus)) (2).

While the researchers find through the use that knowledge actively builds the learners themselves through the integration of information, new experiences and feedback, so that learning here becomes meaningful for the learner, and in this regard, Youssef Qatami (2013) stresses that learning according to this philosophy is a continuous, active and purposeful construction process that requires mental effort, and the individual builds his knowledge By itself and learning takes place, where the ideas that the learner possesses are modified or new information is added to it (3).

Kurt Meinel (1987) pointed out that "the continuous repetition of exercises, whether it is physical or skillful, increases the level of ability" (4).

The researchers confirm that exercises on the apparatus in which the performance was characterized by high speed and mental processes and repeatedly led to rapid adaptations in the nervous and muscular systems and the rapid harmonization between the states of contraction and diastole, and this is consistent with what he mentioned (Abdulaziz Ahmed Al-Nimr and Nariman Al-Khatib: 1996). ",

As for the control group, it is the method followed by the coach. It is imperative that the players adhere to the kinetic model and repeat continuously and not stay away from it until it can perform the game in a similar or identical style or training method. As the focus on a specific response makes players unable to provide new solutions and find it difficult to change ideas, "whereas a player who stands on a particular idea or hardens towards a method is less capable of creativity than a flexible player who is able to change where necessary" ()

. This is in agreement with (Amayreh - 2002), as "putting the player in situations, or educational environments to provide an effective environment to achieve the best performance, and that comes through helping him obtain information, skills and experiences in a scientifically studied and properly planned manner (2).

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