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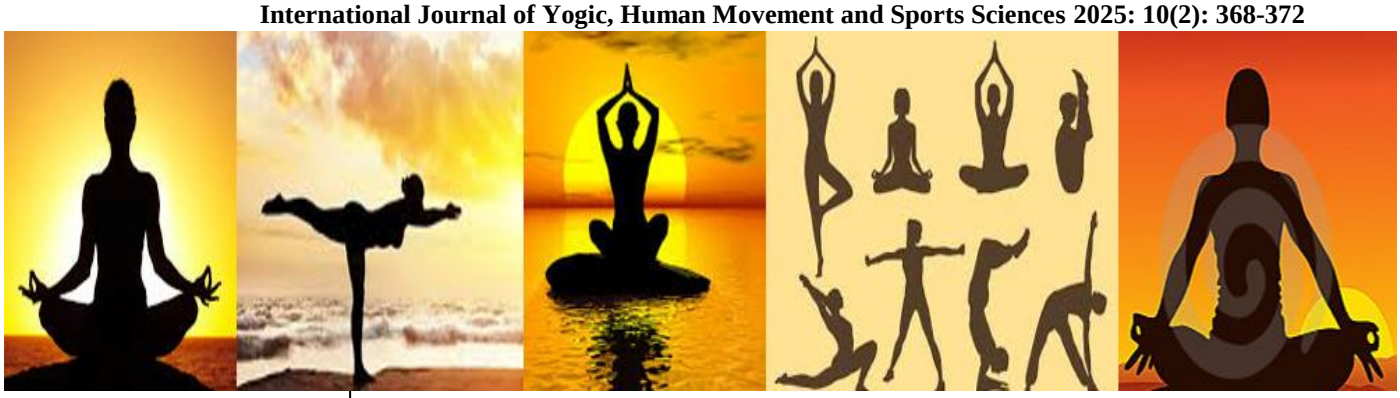

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The effectiveness of special training in developing the strength characterized by speed and performance of the dribbling skill in basketball for students

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Abstract
Basketball is an exciting team sport that attracts players and spectators alike, creating an atmosphere of intense competition. This game has become widely popular due to its artistic attractiveness, in numerous nations worldwide, both on an individual and team level, as well as the strength and speed of players and teams. Therefore, those involved must pay focus on the necessary physical and skill criteria that need to be considered when designing and implementing training exercises for the game, to keep up with the latest developments in this field. Development in the world of games and sporting events can only be achieved through improving and developing the level of achievement, which requires continuing the sports training process based on sound scientific foundations. Therefore, the research gained its importance through preparing special training exercises to develop and enhance one of the important physical and motor elements in the game of basketball, which is the strength distinguished by speed, by preparing special exercises to develop this characteristic, which is positively reflected in developing the high dribbling skill in basketball on a sample of 20 fourth-year students from the University of Kufa's College of Physical Education and Sports Sciences were split equally into two groups: a control group and an experimental group.

Keywords: Special training, dribbling skill

Introduction
Scientific development has witnessed a remarkable renaissance in all fields and has had a significant impact, particularly in the realm of athletic training. This is evident in the outstanding achievements in various sports and events, thanks to the sciences associated with sports training, which have opened up countless new horizons in this field. This development has contributed to addressing many of the challenges faced by players and coaches during training and competitions.

As a result of continuous efforts to enhance a deep understanding of the foundations, rules, and the idea behind sports training, we seek to improve the quality of instruction performance to higher levels. This is achieved through continuous research and exposure to everything new, with the aim of adding new and undiscovered information, while adhering to modern and organized scientific methods and approaches.

Studies that focus on the physical preparation of athletes in various sports are of great importance, as they take into account measuring the physical characteristics specific to each sport. These studies aim to provide coaches and players with the necessary information about these characteristics, clarify their importance and role in the distinction of each sport, and their connection to the development and improvement of the fundamental abilities associated with each sport (the skill aspect).

Basketball is one of the most prominent team sports, enjoying great popularity in many countries around the world. The number of its players increases daily, as it is an enjoyable game suitable for all ages, depending on their abilities and capabilities, making it suitable for both genders. This game boasts numerous educational, physical, and skill-based benefits that distinguish it from other games. This has contributed to its increasing number of followers and made it competitive with other games that have been popular for a long time.

Hence, the importance of research into improving speed-related strength through the use of special training emerges. This will effectively contribute to enhancing the dribbling skill of students in the College of Physical Education and Sports Sciences at the University of Kufa.

Research Problem

The education sector has received significant attention from the Ministry of Education, due to the social and economic transformations taking place in the country. The Ministry has paid special attention to in-service training, given the effective role teachers play in the educational process. Developing the skills and competencies of teachers and keeping them informed of the latest developments in their field positively impacts the outcomes of the educational process. In line with this trend, the training process has witnessed significant developments in both quantity and quality in recent years. The structure, level, methods, and programs of training have been re-evaluated, utilizing training technologies in implementing these processes, in addition to the advancements in training methods.

Based on the researcher's modest experience in this game of basketball, having played it as a player, she observed fluctuations in physical abilities and offensive skill performance. This is due to a lack of experimentation and monitoring of the types of modern training that affect performance, or to a lack of research into these training-related facts. Thus, the researcher chose to investigate this issue. And conduct specific training, noting a weakness among players in performing the tapping skill. From this, she decided to develop a training program based on the use of specific training exercises to improve strength, speed, and tapping skill performance for a sample of fourth-year students in the University of Kufa's College of Physical Education for the 2024-2025 school year.

Research Objectives

- To develop specific training exercises to develop speed-related strength and the performance of the dribbling skill in basketball for students.
- To identify the effect of specific training exercises on developing speed-related strength and the performance of the dribbling skill in basketball for students.

Investigational Theory

Certain training activities have a beneficial impact on students' performance of the basketball dribbling skill and the development of speed-related strength.

Domains of research

- **Human field:** fourth-year University of Kufa College of Physical Education students.
- **Time field:** (10/12/2024) to (22/1/2025).
- The college's basketball court serves as the spatial field.

Research methodology and field procedures

Research Methodology

Methodology is an essential element of scientific research, as the value and results of the research are closely linked to the method followed by the researcher. Since scientific research has identified several ways that are appropriate for the nature of any scientific topic that needs to be explored and investigated, the researcher is free to choose the one that best suits her research problem. Consequently, the investigator utilized the experimental methodology, which is based on purposefully altering the particular conditions of the reality or phenomenon under study and then monitoring the results of this alteration. (Amer: 2008, 141) [1]

Community and sample research

Given the need to select a sample that accurately represents the initial population, the study sample is regarded as one of the fundamental components of scientific research. A sample means " the segment of society chosen in accordance with scientific guidelines and procedures to ensure that it appropriately represents the traits of society overall" (Nouri Ibrahim Al-Shawk and Rafi Saleh Fathi, 2004) [7]. Accordingly, there were fifty-two fourth-year students from the University of Kufa's College of Physical Education and Sports Sciences who represented the research community. The primary sample consisted of twenty students who were selected at random through a lottery. They were divided into two factions: the experimental group, which included ten students, received training, and the control group, which included ten students, received standard instruction. (4) To carry out exploratory experiments, additionally recruited were students from the same scientific community.

Sample Homogeneity

To achieve a uniform and equal level of homogeneity the researcher conducted a homogeneity method on the research sample in order to exclude variables that could impact the study's findings because of individual student variances using growth indicators (age, height, mass). These variables were then statistically processed using the skewness coefficient law, with values ranging between (±3), indicating a good distribution of the sample and a moderate spread within the two groups as shown in Table (1).

Table 1: The sample homogeneity

Factors	Unit of measurement	Insensitive	Average	Standard Deviations	Lack of skewness	outcome
Height	Cm	173.65	173	3.937	0.256	Homogeneous
Mass	Kg	72.65	72.5	3.199	0.579	Homogeneous
Age in chronological terms	Year	22.5	22	1.147	0.465	Homogeneous

Research Techniques, Tools, and Instruments

Methods for Collecting Information

- Arabic and foreign sources and references.
- One-on-one interviews.
- Measurements and tests.
- Forms specifically designed to record female students' test results.

Instruments and Equipment Utilized

- One laptop computer
- two electronic stopwatches of the [type] variety
- (12) Markers made of plastic.
- Basketball court.
- (6) Legal basketballs.
- Two whistles.

- Adhesive tape.
- Test outcome recording forms.

Field Methods

Description of the Test

- **First:** Arm Flexion and Extension Test from the Prone Position for (10) Seconds (Jamil Qasim Muhammad Al-Badri and Ahmad Khamis Radhi: 2011, 259) [4]
- **Test Purpose:** To measure the speed-dependent strength of the arms.
- **Needed Equipment:** A timer and a whistle.
- **Performance Description:** Within ten seconds, flex and extend your arms as far as you can from the prone position.

Conditions

- Lift the body from the correct prone position.
- Ensure that the chest touches the ground while flexing the arms, then extending them fully.
- **Guidance and Documentation:** The examiner will note how many times the flexion and extension are executed in ten seconds.

- **Second:** High Start Test for the High-Speed dribbling (20 m) with the dominant arm (Al-Mandlawi, 1999, 68) [8]
- The test's objective is to assess the high tap-out's performance.
- **Equipment used:** A basketball court, two (2) legal basketballs, a whistle to signify the start, a measuring tape, and chalk as a shooting command.

Procedure

- The start and rotation lines from the second line to the first line are represented by two parallel lines that are 20 meters apart (A, B).

Description of the Test

- With the ball in hand, the student takes the ready position from the high start behind the start line (A) marked on the ground.
- The student receives the start signal, runs as fast as he can with the dominant arm's high tap-out until he crosses line (B), and then returns to the start line from behind the cone.
- Registration: Using the technical performance evaluation form, three assessors sum the scores of the skill sections (preparatory, main, and final) to get the evaluation score for each of the two tries.

Investigative Test

Because they serve as a miniature preliminary study for the main experiment, explorations carried out by researchers in a variety of research fields particularly experimental research are quite important. This kind of experiment seeks to choose suitable research instruments and procedures, enabling initial findings. (Wajih Mahjoub: 1993, 229) [9]

As a result, on Thursday, December 12, 2024, the researcher carried out the exploratory experiment on a sample of four students who were chosen at random from the research community. The following were the experiment's goals:

- To evaluate the tests' level of difficulty, ease of use, and implementation strategies in order to make sure they are appropriate for the research sample.
- To confirm that the instruments and equipment utilized in the study are legitimate.
- To calculate the amount of time needed to complete the tests.
- To determine possible mistakes that could happen during experimental work and how to fix them.

Prior to tests

The pre-tests were administered on Sunday, December 15, 2024, in the college's basketball hall to a research sample of 20 students who represented the control and experimental groups. The results of the speed-specific strength tests and the tapping skill test were recorded. The researcher, with the assistance of the work team, provided a brief explanation of how to perform the tests and their sequence. The researcher also ensured that all conditions related to the tests were established in terms of time, place, and climate, to ensure the possibility of creating similar or comparable circumstances when administering the post-tests.

Main Experiment

Using her own expertise as a guide, the researcher planned and coordinated the particular training sessions, in addition to benefiting from the opinions of some experts and specialists she obtained through personal interviews in the field of sports training science and basketball. The training sessions were conducted from December 17, 2024, to January 20, 2025, on the experimental group. The following were the specifics of the training sessions:

- On Tuesday, December 17, 2024, the drills got underway.
- The activities were used with fourth-grade pupils while they were playing and getting ready.
- The trial lasted four weeks and was broken up into eight training sessions, with two training sessions per week (Tuesday through Thursday).
- They were given the specific exercises scheduled at the beginning of the main lecture. After completing the specific exercises, they were combined with the control group to complete their training session under the supervision of the course instructor.
- The researcher closely supervised the course instructor as they carried out these exercises.
- The researcher used both high-intensity interval training and repetitive training methods.
- The workouts were designed to increase the research sample's arm strength in relation to speed.

After the test

Fourth-year students in the experimental and control groups were given post-tests by the researcher after they had finished the provided training modules. These featured the same conditions, standards, and specifications as the pre-test, including assessments of tapping skill and arm speed-specific strength. To get more precise results, this was carried out on Sunday, January 20, 2025, under the researcher's close supervision.

Methods of Statistics

The statistical package (SPSS) was utilized by the researcher to examine the findings.

Results and discussion

Presentation and Discussion of the Pre- and Post-test Results for the Control Group

Table 2: The test findings for the control research group

Factors	Unit of Measure	Prior to the test		After the test		T value computed.	Sig Level	Type-Sig
		arithmetic average	Typical deviation	arithmetic average	Typical deviation			
Strength characterized by speed	Repetition	9.5	0.971	12.12	0.721	3.124	0.003	Sig
Dribbling	Degree	4.54	0.933	6.22	0.942	3.112	0.006	Sig

Results of the experimental group's pre- and post-tests are presented and discussed:

Table 3: The test findings for the experimental research group

Factors	Unit of Measure	Prior to the test		After the test		T value computed.	Sig Level	Type-Sig
		arithmetic average	Typical deviation	arithmetic average	Typical deviation			
Strength characterized by speed	Repetition	10.4	1.043	14.2	0.996	5.053	0.001	Sig
Dribbling	Degree	4.94	0.954	7.68	0.896	4.775	0.000	Sig

Results of the two groups' post-tests are presented and discussed

Table 4: The test results for the experimental and control study groups

Factors	Unit of Measure	Post-test (control)		Post-test (experimental)		T value computed.	Sig Level	Type-Sig
		arithmetic average	Typical deviation	arithmetic average	Typical deviation			
Strength characterized by speed	Repetition	12.12	0.721	14.2	0.996	2.172	0.006	Sig
Dribbling	Degree	6.22	0.942	7.68	0.896	2.056	0.009	Sig

Analysis of the Findings

The arm speed-specific strength and tapping skill test results, which are shown in Tables (2) and (3), showed a significant difference between the pre- and post-tests in favor of the post-tests for the control group. The researcher credits the subject teacher's preparation of the exercises and drills during the instructional and training units for the notable difference between the members of the control group, as these exercises contributed to enhancing the players' strength. The researcher also believes that the significant difference in the accuracy of the tapping skill among the members of the control group as a result of the students practicing the teacher-designed exercises repeatedly throughout the instructional units. These repetitions help consolidate the student's motor program, which expands their awareness and concepts to better understand the skill. Table (3) also shows significant differences favoring the experimental group's post-test. The researcher credits the experimental sample's improvement to this group's exposure to the suggested training program, which included specific exercises for the game's skill type. This development was observed in the arm strength and speed, which contributed to the improvement of the tapping skill asserts that physical qualities enable an athlete to perform a variety of motor skills in various activities and are the foundation upon which an individual can reach the highest athletic levels. (Muhammad Hasan Alawi: 1996, 52) [5]

Basketball is a game that requires mastery of all basic skills, whether physical, skill-based, or tactical, to achieve the success of established offensive plans and, consequently, score the greatest number of points to win matches. These requirements depend on the players possessing appropriate physical fitness, as the close relationship between physical qualities and skill performance is what leads a team to achieve perform at your best and achieve your greatest potential, even under the most trying conditions. It is evident that physical characteristics like explosive power and strength related to speed improve a player's effectiveness, enabling them to deliver outstanding performances. Sports training relies on improving the efficiency of physical abilities through external loads, which leads to the body's systems adapting to the pressures exerted on the player. Handball training also focuses on the importance of correctly applying the principle of intensity (training load) and rest. This was pointed out, who stated that "Understanding the fundamental energy supply system is necessary to calculate the training load" (Amr Allah Ahmad Al-Basati: 1998, 75: Hashem, *et al*., 2022) [2, 3]

The researcher also attributes the development of the skill performance of the tapping skill to the improvement of the students' speed-related strength capacity. This contributed to their increased ability to sustain strong and rapid performance, resulting in a reduction in the time required to perform without any decline in performance. This was confirmed by Bobby Knight, who said: "A basketball player must possess the physical abilities that enable him to perform basketball skills, which are considered complex skills that require the interaction of several variables." (2007 NBA.com)

Resulting Recommendations

Conclusion

- The application of particular training had a positive impact on developing the speed-specific strength of the arm muscles using the high-intensity interval training method.
- Continued implementation of the training program resulted in physical adaptation and improved skill performance, which led to the advancement of all research variables regarding the experimental group members and the improvement of their physical abilities due to their exposure to a standardized training program.
- The organization of the exercises and the excitement included in the training program contributed to enhancing the students' effective implementation of the exercise components, leading to their continued commitment throughout the program. This positively impacted their physical and skill performance in basketball.

Recommendations

- The use of specific training to develop speed-specific strength and basketball dribbling skills for students.
- Conduct additional studies and research that include different age groups and both genders, with the aim of establishing a basic foundation of capabilities for students during their initial preparation phase.
- Conduct similar research to find training methods that include these exercises, aiming to develop general and specific physical preparation and other qualities and abilities, and thus develop offensive skills.

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