

THE EFFECT OF A TRAINING CURRICULUM IN DEVELOPING THE SPEED ENDURANCE AND STRENGTH CHARACTERIZED BY SPEED FOR THE MUSCLES OF THE LEGS FOR FEMALE BASKETBALL STUDENTS

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Abstract

The game of basketball is one of the collective games that has attracted the attention of many amateurs and has won the lead in terms of spread in many countries of the world, as this game depends on basic skills as an important base on which to base it, the aim of the research is to prepare a training curriculum to develop the characteristics of endurance speed and strength distinguished by speed for the muscles of the legs for female students in basketball. And to identify the impact of the training curriculum to develop the characteristics of endurance speed and strength characteristic of the speed of the muscles of the two legs for female students in basketball, so the importance of research lies in developing the characteristics of endurance of speed and strength characteristic of speed in the muscles of the legs for female students in basketball. These two characteristics are of great importance, so the two researchers decided to prepare a standardized training curriculum to develop the characteristics of speed endurance and the strength characteristic of the speed of the muscles of the two legs for female basketball students, and the two researchers used the experimental approach by making a comparison between the pre and posttest between the experimental and control research groups, and the research community was identified and sampled by the intentional method. They are the students of the third stage in the College of Physical Education and Sports Sciences for Girls, Division (A), and they number 25 students, and they represent the same research community. The two researchers used the design of the experimental and control groups, where the students were divided into two groups, the two groups perform the pre-tests, then the training unit is applied to the experimental group only. After that, the experimental and control groups are tested with a post-test. The researchers concluded that the training curriculum had a clear effect on the development of the characteristics of endurance speed and strength characteristic of the speed of the muscles of the two legs for female students in basketball on the experimental group.

Keywords: Training curriculum. Endurance of speed and strength characterized by speed. Basketball

Introduction

The game of basketball is one of the collective games that has attracted the attention of many amateurs and has won the lead in terms of spread in many countries of the world, as this game relies on basic skills as an important base upon which it is based, and arbitration skills are no less important than the basic skills of the game of basketball, as This game is receiving increasing attention from players, coaches, administrators, referees and spectators, as the literature has proven that basketball is the second most popular and widespread

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team game in most countries of the world, including Iraq. The progress in basketball and the development witnessed by the game. The research problem lies in the fact that it has been noticed recently that there has been a decline in the levels of female students for this activity in recent years compared to developments in the world, as this activity depends to achieve the highest level of performance on the physical capabilities of the student, which is reflected on the achievement.

The two goals of the research

1. Preparing a training curriculum to develop the qualities of endurance and strength characterized by the speed of the muscles of the legs for female basketball students.
2. Identifying the impact of the training curriculum to develop the speed endurance and strength characterized by speed for the muscles of legs for female basketball students.

The research objectives

1. There are no statistically significant differences between the pre and posttest in the characteristics of speed endurance and strength characterized by speed of the muscles of the legs for the experimental and control research groups.
2. There were no statistically significant differences between the posttests in the two qualities of speed endurance and strength characterized by speed of the muscles of the two legs for the experimental and control research groups.

Research fields

Human field: Female students of the College of Physical Education and Sports Sciences for the academic year 2022-2023.

Time field: from 11-13-2022 to 1/2/2023

Methods and Procedures

The two researchers used the experimental approach due to the suitability of the experimental approach to the nature of the research. The research community was selected from the students of the College of Physical Education and Sports Sciences for Girls in the third stage (Division A), and they numbered (25) students, and the research sample was chosen by the intentional method,

amounting to (10) students. Where The percentage of the sample from the community is (30%).The two researchers used the design of the experimental and control groups, where the students were divided into two groups, the two groups perform the pre-tests, then the training unit is applied to the experimental group only. Then the experimental and control groups are tested with the post-test.

Tools used: The two researchers used a set of tools, devices, means of collecting information, scientific sources, the international information network, personal interviews, observation and tests.

The tests used in the research

First: the shuttle run test 25 x 8 m from the high start (1: 45)

The purpose of the test: Measuring the speed tolerance of the muscles of the two legs

Tools used: Measuring tape - Adhesive tape - Stop watch - Flat yard 30 m long - Whistle

Test specifications: Two parallel lines are drawn, the distance between them is 25 m. The tester stands at the starting line, and at the start signal, he runs at full speed towards the second line, touches it with his foot, then turns around to return to the starting line. This performance is repeated 8 times, so that the distance covered is 25x8 equal to 200

Test instructions: The laboratory records two attempts and calculates the time for the best attempt

Recording: The tester records the time it took to cover the distance from one second and its parts (Figure 1).

Second: Testing three single leg hops for the largest possible distance for each leg separately (1:47)

The purpose of the test: Measuring the strength characterized by speed of the muscles that extend the knee.

Tools used: Measuring tape - Playground in the range of 20-25 meters.

Method of performance: The three single leg hops are performed by the leg for the largest possible distance using straight lines drawn on the ground, while adhering to these lines and not departing from them during the hopscotch,

and not touching any part of the body other than the hopscotch's leg to the ground.

Recording: Measure the largest possible distance and record in metres.

Evaluation: The distance traveled is an indicator of ability (the test is repeated on the other leg)

Training curriculum: In order to obtain a standardized training unit, it was necessary to look at modern sources and references for the science of sports training. The training curriculum took two and a half months, for a period of 10 weeks, and the number of units was (30) training units, at a rate of three training units per week: training days Sunday - Tuesday - Thursday, the time of the training units (90-120) minutes, the sub-maximal and medium-maximal intensity was used, the repetitive training method was used to develop speed endurance, the interval training method was used, the open training curriculum was implemented on 12/15/2022 until 3/1/ 2023.

Results

The results are discussed in tables (Tables 1-3).

Discussion

Table 3 shows that the researchers attribute that the percentage and priority of this characteristic is placed on the basis of each type of sporting event and the ability of the athlete to continue and maintain performance at his level and

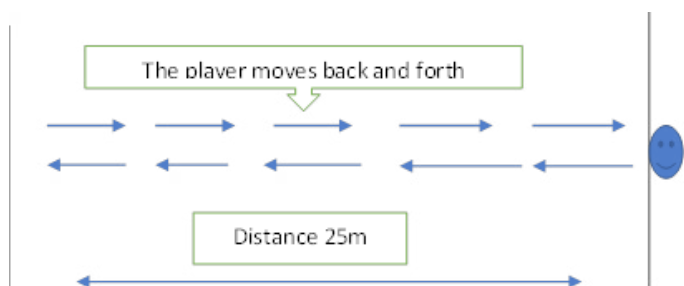


Figure 1: Shows the 25m×8 shuttle run test from the high start.

physical and functional efficiency for the longest period and under conditions in which muscular work is used with maximum or near-maximal effort and resists fatigue that occurs during Performance of sports activity, endurance of speed means the ability of the player to perform with different types of speed to perform duties with high efficiency without falling in level and resistance to fatigue when carrying a high degree of intensity of 75-100 of the individual's ability and overcoming anaerobic respiration to gain energy (6: 150) It is a combined ability of endurance and speed. Both (Ahmed Khater and Ali Al-Beik) defined it as "the ability to stand against fatigue in working conditions and sports performance" (2:222), and (Qasim Hassan Hussein) confirmed "the ability of muscles to resist fatigue during high speed So that the state of balance does not appear between the amount of oxygen reception and consumption" (8: 85), and (Shaker Mahmoud) mentions that "the need of the athletes to withstand the speed differs from one activity to another according to the characteristics of the activity in terms of its distance and the time it takes to perform it" (5: 23), Muhammad Hassan Allawi and Ahmed Nasreddin mentioned ((The most important thing that distinguishes outstanding athletes is that they possess a great deal of strength and speed, and they possess the ability to link them in an integrated manner to bring about movement and rapid force in order to achieve optimal performance)) (11: 78).

The study of (Professor Intisar Owaid Al-Darraj, Prof. Fatima Abdel-Maleh) indicated that the proposed training program has a positive effect on raising and developing special physical capabilities (9: 290). Easy to difficult matches and focusing on them in practical lessons led to the development and improvement of the performance of the skills related to the game, including the vehicle, as it requires high compatibility during its integration." An effective impact on the development of good skillful performance of female students, including the characteristics of agility and flexibility. (133:10) The study (Rana Saleh and Nadima Badr) confirmed the application of training programs contributes positively to the development of the level of skill performance in basketball for female students (26:3) and the study (Nihad Muhammad Wahba Fadel) indicated that the game of basketball is one of the competitive games of the nature of application The platform made the spirit of competition, and thus was reflected in the two characteristics discussed (8:13, and its relative importance increases in the advanced stages of training, and awareness has increased among coaches and athletes of the importance of the psychological aspect to reach the best levels of sports) (359:16).

And between the study of (Afaf Abdullah and others), "good teaching is the

Table 1: Shows the arithmetic means of the pre and posttests, the mean of the differences, the standard deviation of the differences, and the value of (t) calculated for the control group members of the research variables.

The variables	Arithmetic mean of pretest	Arithmetic mean of posttest	Mean of differences	Standard deviation of the differences	Calculated t value	Probability value	indication
Speed endurance	104.32	102.64	1.68	0.79	6.64	0.001	indicator
Strength characterized speed for right leg	4.96	5.28	0.32	0.13	6.96	0.000	indicator
Strength characterized speed for left leg	4.40	4.78	0.38	0.12	2.86	0.042	indicator

* Significant (D) when the probability value is less than the test significance value of (0.05).

Table 2: It shows the arithmetic mean of the pre and posttests, the mean of the differences, the standard deviation of the differences, and the value of (t) calculated for the experimental group members in the researched variables.

The variables	Arithmetic mean of pretest	Arithmetic mean of posttest	Mean of differences	Deviation of the differences	Calculated t value	Probability value	indication
Speed endurance	102.44	99.43	3.01	1.28	6.86	0.000	indicator
Strength characterized speed for right leg	4.65	5.38	0.73	0.8	2.60	0.041	indicator
Strength characterized speed for left leg	4.25	4.96	0.71	0.7	2.84	0.037	indicator

* Significant (D) when the probability value is less than the test significance value of (0.05).

Table 3: It shows the arithmetic mean and standard deviation of the post-tests and the value of (t) calculated between the results of the control and experimental groups in the variables studied.

no	The tests	the control group		experimental group		Calculated t value	Error value	Statistical indication
		Arithmetic	Standard deviation	Arithmetic	Standard deviation			
1	Speed endurance	102.64	1.88	99.43	1.87	3.20	0.04	indicator
3	Strength characterized speed for right leg	5.28	0.18	5.38	0.14	1.16	0.54	Non indicator
4	Strength characterized speed for left leg	4.78	0.22	4.96	0.19	2.13	0.51	Non indicator

one that leaves positive effects on the behavior of the learner and helps in the integration and development of the personality and does not make it only a recipient of information and spends most of the time in the lesson listening to explanations. A critical examiner rather than looking at them as facts and abstract ideas taught by the teacher" (119:7). The study (Suha Ali and Abeer Dakhil) confirmed that the application of a training curriculum based on the correct foundations leads to the achievement of the desired goals, and this is what the current study reached by developing the characteristics of speed endurance and the strength distinguished by the speed of the two men (14:67). The study (Diana Ghanem and Aseel Jalil) showed that "the special exercises in developing some physical abilities and the level of achievement for the long jump." This confirms the role of special exercises in developing motor abilities (4: 9).

Conclusions

Where the two researchers concluded

1. The training curriculum had a positive impact on the development of the characteristics of speed endurance and strength characterized by speed of the muscles of the legs for female basketball students.
2. There is a clear difference between the test results of the experimental group and the control group in favor of the experimental group.

The two researchers recommend

Using the method of training units within the lesson in order to raise the physical capabilities of the students in addition to the skills of the lesson.

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