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An Educational Curriculum and its Effect on Improving the Values of Some Kinematic Variables and the Accuracy of the Smash Skill during the Feather Hitting Stage

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Abstract-Research Objectives: Preparing a curriculum for the Spiking Skill. Identify the impact of the educational curriculum on the values of some kinematic variables and the accuracy of the crushing blow skill during the hitting stage with the badminton.

Research community: The players of the Maysan Governorate national team were represented by the badminton for the category of applicants. The research sample and the method of its selection - and the research community was (8) players, while the research sample was (6) players, two players were excluded for conducting the exploratory experiment and the percentage was (75%) from the original community, and the researcher made homogeneity on some research variables (length Weight, age, arm length) of the subjects. The scientific method - the researcher used the experimental one-group approach to suit the solution of the research problem.
Statistical treatments: arithmetic mean standard deviation - t-law for correlated samples coefficient of variation.
Conclusions: the educational curriculum has an effective role in improving the accuracy of the smash skill, and the proposed exercises have a positive effect in improving the values of the kinematic variables in the research.
Recommendations: conducting other studies and research on different groups and different skills and for all sexes. The methods and methods of learning must be in line with the needs and capabilities of the players.
Keywords: Educational Curriculum, Effect on Improving the Values of Some Kinematic Variables

Definition of research

Introduction to research and its importance:

The modern era was characterized by scientific progress and development in all areas of life, including the mathematical field, so the development in this field came as a result of the ideas of scientists, researchers and specialists until it reached what we see today remarkably. The scientific level came as a result of sound planning based on the scientific and technical foundations in developing educational curricula. Training and attention to integrating her preparation in all skillful, physical, planning and psychological aspects will lead to progress in the sports field. Biomechanics can be used by analyzing sports movements to detect the most important technical errors related to technical performance that the trainer cannot accurately identify.

Badminton is one of the individual games practiced by both sexes, due to its ease of use and because it inspires the spirit of love and fun as it is practiced anywhere, and badminton is played with special rackets. Perhaps the most important characteristic of badminton is its light weight and cheapness, which makes it easy for everyone to acquire and easy to play with, in addition to its relatively small court. And that the badminton does not go away from the field while playing, all these things have made badminton the favorite game for many people, regardless of age, gender, and sometimes even fitness level, as smashing is an offensive skill and the player may use it a lot to filter points, which is one of the most important strikes Used that the shuttlecock is gaining high speed and accuracy and is difficult for the opponent.

Hence the importance of research by developing an educational approach and its impact on improving the values of some movement variables in order to discover the most important variables related to one of the most important skills in the game of badminton, which is the spike.

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Research problem:
The fact that the researcher, Wayne, coach Wayne, and the professors of the effectiveness of tennis matches, and by observing the field, noticed a weakness in the performance of badminton players, which negatively affected the level of accuracy of the crushing blow during hitting. I felt the piece researcher Wen to develop an educational curriculum, both of his attempts to improve the level of performance as well as some kinematic variables and the accuracy of the crushing blow is an attempt by him to put what is new in the hands of this coach.

Research aims:
- Preparing a curriculum for the skill of multiplication.
- Knowing the effect of the educational approach on the values of some kinematic variables and the accuracy of the crushing blow skill during hitting a badminton ball.

Research assumes:
There are statistically significant differences between the pre and post tests for the research variables and in favor of the post tests.
Research fields:
The human field: Badminton players from the Maysan Governorate national team for the advanced category of the 2018 season 8.
Time range: For the period 1/12/2018 8AD until 4/25/2018 8AD
Spatial scope: Hall of the martyr, Wissam Oribi, in Maysan Governorate.

Research Methodology:
The researcher used the appropriate experimental method for one group to solve the research problem.

Society and Research Sample:
The process of selecting the sample is closely related to the nature of the community from which the sample was taken, because it is "the part that represents the original community or the model on which the researcher performs all his work" (Wagih Mahjoub: 2001, 163). Therefore, the research community was chosen by the studied method represented by the players of the Maysan Governorate national team for the advanced category of badminton for the 8201 sports season, of whom (8) were players, and the number of players. The research sample was (6) players, and two players were excluded due to conducting the exploratory experiment on them, and the proportion was (75%) from the original community, and the researcher made homogeneity in some research variables (height, weight, age and arm length) for the members of the research sample as in Table No. (1).
Table No. (1) Shows the arithmetic mean, standard deviations and the relative coefficient of variation for the research sample.

Coefficient of variation	standard deviation	Arithmetic mean	Variables
5.52	1.03	18.67	Age / year
44 .3	2.86	17 . 3 8	Weight / kg
1.05	1.87	177.50	Total length is cm
20 .2	2 1.7	78.167	Arm length / cm

It is evident from Table (1) that the value of the coefficient of relative difference of the research variables is less than (25%). Joseph J. Monk and Byron L Newton: 1999, p. 351). This means that the research sample is homogeneous among themselves in these variables.

Means of collecting information:

- Tests and measurements
- Applications and programs used in the computer
- Arab and foreign scientific references

Devices and tools used in the research:

- As a video camera of the type (Sony, Japanese-made, with a frequency of 300 images / second, count (1).
- Tripod number (1).
- Scale (1 m) in length
- Tape measure length.
- Medicine balls of different weights
- Information registration form
- Manual electronic stopwatch, count (2).
- Badminton Court is legal.
- 4 rackets.
- 4 fins tray
- Elman for Arbitration.
- A medical scale for measuring weight and height.
- (2) whistle
- Rope fixed on poles.
- HP laptop type.
- Colored adhesive tape.
- Markers to determine points.

Experimental experience:

We conducted an exploratory experiment on Sunday, a brief summary of 12/1/2018 at 8 pm. 3 pm for (2) players from outside the research sample. The purpose of the experiment was to verify the validity of the tools and devices used in the research, as well as to identify the nature of the extra and spatial conditions that occur during the experiment.

Pre-tests:

Researcher Wen, in the Martyr Wissam Oribi Hall in Maysan Al-Qibli, on Wednesday, January 15, 2018, carried out tests for vital variables of the Knematique skill on using a Japanese (1) video camera - making a Sony type with a frequency of 300 images/ second.

Spike's test (Ray Collins and Patrick Hudges: 1978: Ibid., Pp. 35-89):

1. The test:

The player stands in the place assigned to him (X). He returns the shuttlecock sent to him from the opposite area with a strong crushing blow, trying to throw it in the area with a higher degree, provided that the shuttlecock passes over the net and under the area. He rides a rope behind the net at a distance of (60 cm) and a height (213 cm), and the player makes (12) attempts while observing the crushing force.

2. Calculating points:

- The player makes (12) attempts and calculates the sum of the best (10) attempts
- The result is given according to where the feathers fell
- If the feather does not cross the net and under the rope, or falls outside the designated areas, it is assigned a zero
- Feathers that are on a line between two areas give the highest score
- The scores are divided into (1,2,3,4,5).

3. Biomechanical variables:

- Elbow angle while hitting
- The angle of the knee while hitting
- Shoulder angle during hitting

Education programs:

Researcher one prepared educational lessons on gratitude using the mixed purpose method for T. R. The Teaching College (16) units, the duration of the educational unit was (90) minutes, and one educational unit divided as follows:

- Preparatory department: General warm-up, special warm-up, total time (5.20) hours, equivalent to (320) minutes, at a rate of (20) minutes in one educational unit.

- The main section: The educational part, the applied part, its total duration is (16) hours, equivalent to (960) minutes, at a rate of (60) minutes in one educational unit.
- The last topic: Relaxation and recreational exercises. Its total time was (2.40) hours, equivalent to (160) minutes, at a rate of (10) minutes per educational unit.

Videography:

Researcher Wen made a photographic video in order to identify some of the Bioenergetics Kinmetekih variables that affect achievement, and the video is also "an important means for detecting errors and adjusting the proximity or distance from the technical performance levels of the players" (Fouad Tawfiq Al-Samarrai: 1982, p. 328) The researcher used a type of video camera. Sony (Japanese-made at a frequency of 300 images / second), the camera was placed at a distance of (11.30) meters from the middle of the field and at a height of (1.37) meters measured from the ground to the focus of the focus. The camera lens was placed on the right side of the stadium perpendicularly. Draw (1) meter

Key Experience:

After applying the curriculum, the researcher conducted the main experiment on Saturday with a brief summary on 4/21/2018 AD. The third era: The tests for this procedure were conducted in the same way that they follow in the pre-tests, and the researcher tried as places that create the same conditions in the application, the preliminary tests, in terms of time, place, tools and auxiliary personnel, in order to eliminate the occurrence of circumstances variables in the subsequent tests. The researcher analyzed the variables using the Kinovea program.

Statistical methods the researcher used the statistical bag (SPSS).

Arithmetic mean.

standard deviation.

Coefficient of variation.

(T) Test of correlated samples.

Presentation, analysis and discussion of results:

Presentation, analysis and discussion of the pre and post test results of the research variables:

Table (2) it shows the arithmetic mean, standard deviations, and value (the level of calculated error and a statement of the differences between the pre and post tests in the search variables.

Indication level	Values (T)Calculated	Post -test		The pretest		the group
		standard deviation	Arithmetic mean	standard deviation	Arithmetic mean	
0.000	36,810	0.993	137.535	1.090	107.371	Zaoui of the attachment to dissuade beatings
0.000	33.989	0.895	140.130	0.778	166.99	Shoulder angle during hitting
0.000	42.796	0.569	125.440	0.528	1 1 1.408	Knee angle during hitting
0.000	17.402	0.689	19.161	0.669	15.100	Precision Crushing Skill

Significant at significance level(0.05) ≥

Looking at Table No. (2), we find a noticeable positive development through the differences between the mean values of the pre and post tests for all research variables and in favor of the post-tests as well as the law values (T-Test was calculated for the corresponding samples, whose significance levels for all variables were less than (0.05). Which means that the differences are statistically significant in favor of dimensional tests.

Discussing the results:

Through the spectrum it shows that the education curriculum prepared by the researcher Wayne has contributed to the development of the angle of attachment to the angle to deter the attribute. Dropping the shuttlecock to a place close to under the net in the opposing player's court, which is the most complex and difficult place for the opponent player, and this is done by raising the player's arm to the top of the elbow joint and rotating the forearm inward and this leads to an increase in the shoulder angle when hitting, because the feather is considered its tools (Bats (from light tools that can collide with tracks) those optical instruments can be thrown or struck across curved paths by lengthening the turning radius of the limbs used. In the feather hitting skill, the point where the beater meets the ball is better than the longitudinal axis of the shoulder as well as The longitudinal axis of the radial ulnar joint at the moment of striking, because this helps in the speed of beating. Performing the moment of striking (Talha Husam al-Din: 1993, p. 287).

The researcher attributed the development of the members of the sample to the educational curriculum prepared, as this exercise contributed to the development of the shoulder angle, bending the striking, and the angle may increase as the maximum height increases, because the player tries to draw a badminton below the opposing field to the shoulder from the internal rotation of the OCP forearm while hitting the badminton leads to The widening of the angle of the shoulder at the moment of hitting, where we note in this regard that "the skilled player tries to bring the racket closer to the axis of rotation as much as possible during rotation in order to obtain the largest possible circular speed and then move the racket away from the axis of rotation in order to invest the circular speed that is in Creating a greater circular velocity "(Nizar Majeed Al-Talib: 1976, p. 149), and this leads to an increase in the shoulder angle.

Through Table (2) it is clear that the teaching curriculum prepared by the researcher Wayne contributed to the development of the knee angle during the hitting and the researcher's ratio of the spectrum obtained to the educational curriculum, which contributed to the development of the angle of curvature in the angle of the knees accompanied by an increase in bending the thigh back, because the badminton player during the performance The smash skill tries to take advantage of the reactions of the body joints stipulated in Newton's law. This is in agreement with what Jack said: "The player gets the high speed of the racket movement from the kinematic transmission coming from the legs (bending and extending the knees), the pelvis and the hip, and in it the strength stage reaches the highest possible level because the player gets the most momentum of the pelvis and then hits With the arm and the moment of the striking tool "(Jack L. Groebel: 1984, p. 203).

Researcher Wen Malik attributes the progress in improving the accuracy of the immersive skill stroke to the educational equipment by the researcher Wayne, as well as to the regularity of the research sample in the educational lesson, i.e. the full extension of the body's joints to the moment of hitting a significant impact on the crushing blow, as this leads to an increase in the height of the feather starting point, Thus obtaining the lowest angle of fall for the shuttlecock, which is the most difficult area in the opponent's court. "The full extension of the body joints at the moment of hitting increases the starting point and this leads to an increase in the starting speed" (Qasim Hassan Husayn and Iman Shaker, 1998 226), "The player obtains the greatest momentum during bending and full extension of the knee joint and then to the striking arm at the moment of hitting" (Jack L. Groppel: 1984, P. 23).

Conclusions and recommendations:

Conclusions:

In light of the findings of the researcher, Wen through field experience and the use of appropriate statistical methods, the researcher concluded the following: -

1- The educational curriculum has an active role in improving the accuracy of the spike skill
2- With regard to the proposed effect of positive exercises in improving the values of the kinematic variables in the research.

Recommendations:

In light of the researcher's results, they recommend the following:

1- Conducting other studies and research on different groups and skills for both sexes
2- The learning styles and methods must be compatible with the needs and capabilities of the players.

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