The Effect of Educational Exercises and Added Weights in Some Kinematic Variations of the Performance Angle of the Shudder Effect on the Horizontal Bar of Youngsters

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Abstract

The objective of the research was to prepare educational exercises and weights to improve and develop some kinetic variables for the performance angles of the skill of the generator on the young Horizontal bar machine and also to identify the kinetic variables for the performance angles of the skill either hypothesized. The research and training program had a positive effect on some kinetic variables for performance angles of the skill of the catalyst, Statistical significance between the results of the tribes and Posttests of the research sample in some kinetic parameters of the performance angles of the skill of the generator on the brain of young people. The researcher used the experimental method in designing a single group as well as the use of video imaging and determined the research community in a deliberate manner. The pilot experiment was conducted. The experiment was carried out by a group of six players, aged 10-13 years. And then the tests of the Pre group of research and then were applied educational exercises and exercises with weights added two (14) week and the existence of three training units per week and the number of educational units and training (42) training unit and when the program was completed tests dimensionality and processing the results statistically. The fourth part included presentation, analysis and discussion of the results. The researchers concluded that the educational exercises and the added weights contribute to the improvement of some kinematic variety of the performance angles of the skill of the skeletal system in the brain of young people and recommended the use of educational exercises and exercises in weights added to other skills in the gymnastic and other devices. The trainers should take into account the values of the biochemistry variables that have been achieved when training the performance angles of the skill of the generator on the brain of young people.

Keywords: *Educational Exercises, Weights Kinematic Variations, Performance Angle, Shudder Effect and the Horizontal bar.*

Introduction

Sports in most countries of the world have witnessed a great development. This is the development of the continuous efforts towards a deeper understanding of the learning and training required to prepare a fully integrated athlete in all respects, and then to reach high standards and achieve good and optimum performance. Therefore, most of the developed countries have sought to reach the best and most advanced methods to build education and training curricula according to the specificity of each effectiveness and the goal to be achieved through the interrelationship between the training process and the rest of the other sciences. Therefore, the coach has a great role in choosing the training method and reaching the correct training curriculum which contains on the exercises because the planning of the training process is of great importance in the success of the training curriculum. Here we show the role of the coach, which requires him to know in all aspects of the game in terms of choosing the method and exercises that fit the preparation period and the level of players Which in turn kinematics evolution [1].The machine is a device of the gymnastics, which requires the player special skill and accuracy in the performance of the nature of the movements that lead to this device of smoothness, flexibility and neuromuscular compatibility and since all movements performed on this device depends on the basis of the weighted body in different situations as required The performance of the movement, so attention must be paid to the player's fitness in all his different situations on the bar of the Horizontal bar so that he can perform the movements of extreme difficulty on the

Horizontal bar machine because the motor sentence on the device of the Horizontal bar consists of a range of skills weighted and long attachment and roll and close to the bar and skills musk The movement requires a high strength of the body parts so that it can perform the skill easily because the movement and the process of learning and the level of complexity requires physical and motor abilities as well as the mental abilities that fit the level The difficulty of skill Hence the attention of workers in the field of learning and training is very large in both practical and theoretical and training in additional weights of the methods used in the development of physical qualities, especially the development of muscle strength in the gymnastics and other games Wicket.

Mathematical analysis of sports skills is of great importance in rapid sports activities where kinetic analysis plays an important role in determining the biomechanics errors that accompany motor performance in the gymnastics, especially in movements characterized by speed and difficulty, because each sport activity has specific special physical requirements to be met and Here is the importance of research to the use of educational exercises and weights added in some variables of the angles of the performance of Kinematic skill it is a serious scientific attempt to add new in the field of educational and training programs and kinetic analysis in the gymnast through S.

The use of educational exercises and added weights that help to improve and develop kinematic performance angles [2].That many of the training programs may not match with the abilities of players leading to the progress or lack thereof in addition to the failure of young people and this offers them to withdraw from sports activity or exposure to early injury All this prompted the researcher to study the kinetic construction of the skill through kinetic analysis to identify the characteristics.

Kinematic characteristics of performance Contributes to raising the level of motor performance and development of this researcher decided to use these educational exercises and weights added in some variables of the angles of the performance of Kinematic for the skill of the generator on the device of young Horizontal bars [3].

The Research Aims

- Preparation of educational exercises and weights to improve some of the kinetic changes to the performance angles of the skill of the generator on the Horizontal bar of young people.

- Identification of some kinetic parameters of the performance angles of the skill of the brain.

Hypothesis

- The educational and training program has a positive effect on some of the kinetic changes to the performance angles of the skill of the generator on the brain of young people.

- There are statistically significant differences between the results of the tribes and Post tests of the research sample in some kinetic parameters of the performance angles of the skill of the generator on the brain of young people.

Research Methodology and Field Procedures

Research Methodology

The experimental method is one of the best and most appropriate methods, "because it allows for direct and accurate observation. It is the most efficient means of reaching the nature of the problem. Knowledge"[4].

Search Community and Design

The research community in a deliberate manner identified the players of the national youth team, Martyr Mustafa Al-Awadari Hall in Baghdad Governorate, housing for the youth group (ages 10-13) (2016-2017) and attendance and training participants (6) from the research community.(100%) of the population. The researcher used the one-group method as all the players perform the Pre tests and then the educational exercises and exercises are applied to the added weight and then the post-tests.

The researcher conducted a homogeneity of the sample in the variables of length, mass and age. It is proved that the values of the torsion coefficient are limited to ± 1 under the curve. This means that the sample of the research is the normal distribution.

Table 1: The homogeneity of the research sample shows the torsion factor in the variables of height, weight and age

Variables	Units	Mean	STD.EV.	Median	Skewness
Weight	Kg	41.666	5.316	41.000	0.530
Age	Year	12.333	0.816	12.500	0.857
Length	Cm	146.00	7.321	146.50	0.385

*The sample has a normal distribution when the torsion coefficient values are limited to ±1

Means of Gathering Information, Tools and Devices used in Research

Information Gathering Methods

- The data was processed by means of the Statistical Pouch (SPSS).

- Arab and foreign references and sources.

- Observation and kinetic analysis, tests and measurement.

Devices and Tools Used

- Casio camera number (2) frequency (120 frames per second) and digital camera (Nikon).

- A computer (DELL) and a Chinese (Lenovo) Chinese origin.

- CD (DVD) number (15).

- Legal reason for men.

- Bar Educational Low School.

- Magnesium.

- Sponges of various spikes and sizes.

- Metric measuring tape.

- Different weights (weights) according to each part of the body according to the relative weight of each part.

- German medical balance for body mass index (1).

- Stopwatch type (DlAM0ND) number (3).

- Kenova V.8.25.

Specify Additional Weights

Weights are bags of sand that are firmly anchored in three areas of the body without being validated and each part according to the Fisher division of the body parts

Example

The player who weighs 40 kg is the extra weight of his body parts as follows:

- For the arm = 6x 40/100 = 2.4 kg relative relief of the arm.

- Add 4% = 4 x 2,4 / 100 = 0.096 kg weight added to each arm.

- For trunk = 43 x40 / 100 = 17.2 kg relative weight of the trunk.

- Add 4% = 0.04x 17, 2 / 100 = 0.00688 kg added weight to the trunk.

- For men = 0.19 x40 / 100 = 0.076 kg relative attenuation of man.

- Add 4% = 0.04 x 0.076 = 0.304 Weight added per man.

The Pilot Study

The pilot study was carried out on Thursday, 8/3/2017. It was about the exercise and the exercises in weights and there were some obstacles that faced the players including the quality of the tools and put them in the right manner and also got a change In some exercises by the coach , the coach modified them to match the capabilities of players and we can conduct the main experiment easily without these obstacles that hamper the workflow, and also we have changed some devices so that the player to perform exercises easily and in shape Which serves to improve the correct variables kinematic angles performance skill on the horizontal bar and the emphasis on photography and video camera and place the appropriate heights and was intended to:

- Ensure the implementation of the educational unit and training on time.

- Ensure the times set by the researcher in the implementation of the exercises of the training module.

- Ensure the intensity of the training of the training units to suit the players.

- Ensure that the weights of the players according to the weight allocated to each player.

- Know the obstacles encountered by the trainer in the training module and avoid them.

- Validity of devices used in the experiment.

Conduct the Main Experiment

Pre Tests

The Pretests of the kinematic variables of the performance angles of the skill of the skeletal on the brain of young people were conducted for the research sample on (11/3/2017) in the forum of Youth and Sports Martyr Mustafa Al-Awari / Housing in Baghdad governorate for the gymnastics at 4:00 pm and with the help of the assistant team and the team coach A video camera was installed on the basis of the cross axis. The camera was above ground level (2.60) and the frequency speed (120 frames per second). Two attempts were given to each player and the best choice was made.

Preparation of Educational and Training Exercises with Additional Weights

- Special physical exercises have been prepared for the young men, after learning about the scientific sources as well as the educational and training programs, electronic and video, which is an opportunity to help in the collection of educational exercises and weights added.

- The educational program was implemented on Tuesday, 12/3/2017 until 13/4/2017, corresponding to Sunday at 4:00 pm

- The training program is composed of (15) educational units with three training units per week during the days (Sunday - Tuesday - Thursday).

The Training Program with Added Weights

- Training exercises were conducted on a group of experts and specialists in the field of training and teaching methods in the field of gymnastics.

- The researchers prepared a model of exercise containing (24) exercise.

- The duration of the implementation lasted (9) weeks from 18/4/2017 until 18/6/2017. The exercises were conducted within three training units per week during the days (Sunday, Tuesday, and Thursday). The total number of training units is 27 units with weights.

- The high intensity and low intensity training method was used to perform the weight exercises according to the requirements of the muscles working in the skill in question, ranging from 60% to 90%.

Posttests

The tests of the research sample were carried out on 21/6/2017 at the Youth and Sports Forum of Martyr Mustafa Al-Awadari / Housing at 4:00 pm and with the assistance of the auxiliary team. The post-tests were applied under the same conditions as the Pretests.

View, Analyze, and Discuss Results

View the Values of Variables for the Half-roll stage of the Skill of the Generator on the Brain of Young People

Table 2: The values of mean, standard deviations, mean differences, deviations of differences, calculated value (t), and error level between pre and posttest of the research group in the angle of performance (shoulder angle)

Variables	Pretest		Posttest		Mean diff.	Std. Deviation diff.	(t) calculated*	Standard error	Level of significance
	Mean	Std. Deviation	Mean	Std. Deviation					
Angle of the first phase shoulder degree	149.33	2.160	173.00	3.162	23.66	2.732	21.215	0.000	Sig.
Phase II	157.00	2.097	170.33	5.573	13.33	5.163	6.325	0.001	Sig.
Phase III	177.83	1.722	179.16	0.752	1.333	2.160	1.512	0.191	Non sig.
Phase IV	154.83	3.710	174.33	3.141	19.50	2.258	21.151	0.000	Sig.
Phase V	132.33	2.875	150.00	6.356	17.66	5.819	7.436	0.001	Sig.
Phase VI	77.00	2.097	88.000	1.788	11.00	2.097	12.845	0.000	Sig.
Phase VII	59.333	2.250	68.833	2.786	9.500	4.135	5.627	0.002	Sig.
Phase VIII	62.500	2.428	70.166	1.602	7.667	1.966	9.550	0.000	Sig.

*The degree of freedom (5) and below the level of significance (0.05)

Table (2)the shoulder arithmetic computed in performance in the pre-test of the eight stages (149.33) (157.83) (177.83) (154.83) (132.33) (77.00) (59.333) (62.500) and with standard deviations of 2.160 (2.097) (1.722) (2,828) (2,428) (2,450) (2,428) while the computation of the post-test (173.00) (170.33) (179.16) (174.33) (150.00) (88.000) (68.833) (70.166) and the standard deviations of (3.162) The difference between the two tests between the pre-test and the post-test (23.66) (13.33) (1.333) (19.50) (17.66) (11.00) (9.600) (2,828) (2,818) (2,750) (2,818) (2,818) (2,728) (2,925) (2,928) The calculated value of t (21,215) (6.325) (1.512) (21,151) (7,436) (12.84) (0.001) (0.000) (0.002) (0.000) at the level of significance (0.05) and the degree of freedom (6-1 = 5),.Indicating significant differences between the Pre and Posttests in the variable shoulder angle of the stages except the third stage were random differences. The results of this study indicate that the differences between the tests and the results of the study were not significant. The ability to sense that the exercises practiced by the sample has affected the internal variables through the receptors of the sense of movement, which allowed the sample to distinguish the sensation of placing

his body in the performance [5]. The development of sensory perception - the dynamic of the player includes the ability to determine his place during the Motor disease [6].The researcher believes that the principle of cognitive-motor integration must be available in the player's performance. The movement is affected by perception. The perception of the movement is also inseparable. The development of the sense of body conditions is an important and complementary factor for developing the sense of hands, trunk and legs during the performance of the skill stages. The player must be aware of the position of the body from the start of skill during the moment of musk to the end of the performance of the skill, in the case of weak sense of the position of the parts of the body, this will lead to a change in some of the variables Kinematic such as angular angle, knee angle, trunk angle, etc. This will then be reflected Colostrum on the technical performance of the skill, "Through training could develop a sense of vulnerability and perception of the player, as it enables him to control the motor performance, and can be seen through the emergence of skill in the performance of the movement characteristically [7].

Table 3: The values of the computation, the standard deviations, the mean differences, the deviations of the differences, the calculated value (t) and the error level between the pre and posttest of the research group in the angle of performance (angle of trunk)

Variables	Pretest		Posttest		Mean diff.	Std. Deviation diff.	(t) calculated*	Standard error	Level of significance
	Mean	Std. Deviation	Mean	Std. Deviation					
Angle trunk first stage degree	173.83	2.401	179.16	0.750	5.333	2.503	5.219	0.003	Sig.
Phase II	177.50	1.643	179.50	0.459	2.000	1.673	2.928	0.033	Sig.
Phase III	151.00	3.346	166.16	1.471	15.167	4.665	7.963	0.001	Sig.
Phase IV	142.500	3.391	169.33	6.562	26.83	5.154	12.752	0.00	Sig.

The degree of freedom (5) and below the level of significance (0.05)

Table (3) the torsion angle of the four stages (173.83) (177.50) (151.00) (142.500) and standard deviations of (2.401) (1.643) (3.346) (3.391), while the computation of the post-test 179.16 (179.50) (16.33) and (0.659) (1,471) (6.562) respectively. The mean difference between the Pretest and the intermediate test (5.333) (2000) (15.167) (26.83) and standard deviations of (2.503) (0.005) (0.033) (0.001) (0.00) at the level of (0.05) and against the degree of freedom (0.05) and (0.003) 6-1 = 5), indicating

significant differences between the Pre and post-test Variable torso angle for the performance of the four stages The results of Table (3) showed that the exercises used have significantly influenced the development of the improvement of stem values in accordance with the ideal conditions for the performance of the Staler skill stages between the pre-test and the post-test. The proposed exercises helped the player to increase his ability to visualize the motor, which works to visualize the correct motor

path of the skill, and through the player's performance of the correct motor path, it will inevitably achieve the appropriate kinetic variables for the performance of good energy kinetic energy The body passes the deep point as high as possible because it is weighted towards the gravity as well as the tension in the muscles of the body by the player, and because of the investment of these points enables the player to overcome the negative impact of gravity at the end of the front swing, (the player must increase kinetic energy (180°), thus increasing the radius of rotation and increasing the torque as the torque (power = x), as well as approximation Center the mass of the body mass of the axis of the Rotation during the large swing in the third phase of the movement performance to reduce the negative impact of the force of gravity on the pendulum [8].The researcher sees that this is achieved through the investment of kinetic energy derived from the forward weight as well as increasing the angular velocity at the right time so the researcher believes that any error from any player due to weak physical abilities will give negative results on the performance of the skill Relying on the

results of the kinetic analysis of the research sample contributed to the diagnosis of individual performance, which included the calculations of mechanical indicators, including the performance of the performance stages of the skill of the studded (angle of the shoulder, trunk and knee) Improve performance. Strength training is a key tool to improve the performance of the starter's skill through muscle development. Because of its increasing importance, special force training is independent from other exercises. Some researchers have suggested that any development of the special strength of any muscle group means a progression in the motor path. The part of the body associated with these muscle groups, which are important indicators of the development of the speed of the player's angle and flow, which are linked and related to the development of technical skill, especially that these exercises were accompanied by weighting of the body parts, which confirmed [9].

View, Analyze and discuss the Performance Angles (Knee Angle) of the Subtler Skill with a Half-roll

Table 4: Mean values, standard deviations, mean differences, variance of differences, calculated value (t), and error level between pre and posttest of the research group at angles of performance (knee angle)

Variables	Pretest		Posttest		Mean diff.	Std. Deviation diff	(t) calculated*	Standard error	Level of significance
	Mean	Std. Deviation	Mean	Std. Deviation					
Angle knee first stage degree	164.00	1.414	179.00	1.264	15.00	1.673	21.958	0.000	Sig.
Phase II	172.50	1.378	175.83	1.471	3.333	1.966	4.152	0.009	Sig.
Phase III	173.66	1.505	176.16	2.135	2.500	3.146	1.946	0.109	Non sig.
Phase IV	162.16	2.562	173.66	3.326	11.50	1.378	20.436	0.000	Sig.

At the degree of freedom (5) and below the level of significance (0.05)

Table (4) shows that the arithmetic angle of the knee in the four stage test (164.00) (172.50) (173.66) (162.16) and the standard deviations of (1.414) (1.378) (1.505) (2.562) (2,135) (1,471) (2,135) (3.326) respectively, and the mean difference between the pre-test and the post-test (15.00) (3.333) (2.500) (11.50) With a standard deviation of (1.673) (1.966) (3.146) (1.378) and the calculated value of t (21.958) (4.152) (1,946) (20.436) and the level of error (0.000) (0.009) (0.109) (0.000) (0.05) and the degree of freedom (6-1 = 5), through the results of table (4) of the angle joint All the differences were significant between the pre-test and the post-

test, except for the third stage, where the researchers instruct the significance of the differences to the effect of the educational exercises and the repetitions of these exercises had a positive effect. The researchers also found that the various exercises performed by the sample showed an improvement in the condition of the muscular nervous system which leads to perfecting motor performance. In addition, the applied exercises have improved the ability of the sample to merge the types of movements in a single mold and the advantage of this template is dynamic flow and good performance [10], as the compatibility

requires collaboration of the nervous and muscular systems to perform movements in the best image, Of the sample is to be used in the performance of more than one part of the body at the same time as we conducted in our exercises on the sample to find a situation of homogeneous movements based on the correct time and accurate between certain parts of the body such as compatibility between the movement of the arm with the trunk and movement with the man Transition between phases Harrah's Shtadler This reflects the evolution of the high efficiency of the device motor sample commensurate with the skill performance and what is required from him to act and achieve a smooth path to the corners of the body such as the knee, trunk and shoulder angle for the purpose of achieving the appropriate transition speed in order to achieve optimal performance and best to perform the skill Shtadler [11].

Conclusions

- The educational exercises and exercises with added weights have a positive effect on some kinematic variables of the performance angles of the skill of the generator on the brain of young people.

- The shoulder angle gives the correct indicator of the success of the performance and the extent to which the rest of the skill can be completed.

- The educational and training program led to significant differences between the Pre and post-test.

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