International Journal of Psychosocial Rehabilitation, Vol. 24, Issue 10, 2020
ISSN: 1475-7192

The impact of special exercises to develop the speed of the kinetic response of jumping skill on (horse) among Players of Baghdad education team first AL-Rusafa

[1]Dr. Iqbal Ammar Lifta

Abstract

The world is witnessing in the current stage a broad scientific rising in all fields, including the sports field, which all its chapters witness this scientific renaissance by the benefit of various studies and researches, In the forefront, the kinetic learning research, which assigns developing individual's physical, skill and motor capacity in order to be able to fulfill the requirements Athletic achievement. Gymnastics activities need strength and speed, because gymnastics has its own physical characteristics. One of these characteristics is the kinetic response that players should have, so horse jumping activity needs speed and strength together. In order for the educational process to be thrives and enhance its results through techniques for using special exercises, learning and education are concepts related to one process which its goal to complete the educational process, develop it, and master it, learning and education have a close link and cannot be separated, learning represents to concepts and principles that belongs to the learner while the education process represent to practical applications of learning concepts. Learning is a complex process that takes a person's entire life and includes different types of activity and experiences with multiple life situations, It is all what individual seeks to obtain information from different directions, habits and skills, mentally, dynamic or ethical, whether it is this acquisition, subconsciously or non-subconsciously, the complete mastery of the motor skills in gymnastics represents the ultimate goal of motor learning process that is based on reaching the level of players to the highest levels because whatever the level of physical characteristics of player, improvement , development, moral and willful features, it does not achieve the desired results unless all of this is related to the complete mastery of the motor skills represented gymnastic movements on various devices. The motor learning process takes place between brain and muscles, so the brain gives orders (stimuli) to the muscles so these muscles respond to these orders by doing the work (stretching and relaxing), then sends a copy (a picture) of what it has done (movement mastery) to the brain for comparison and errors correction, and thus this process (movement mastery) is done in circle between brain orders and muscle response.

[1] Asst. Prof., Ministry of Education/ College of Open Education/ Department of Physical Education and Sports Science

Received: 15 May 2020 | Revised: 5 Jun 2020| Accepted: 20 July 2020

Keywords: *jumping skill, kinetic, Gymnastics*

I. Introduction

The gymnastics devices are multiple and different in terms of their technical performance, their own requirements and even degrees of difficulty during ruling. By following the researcher being a specialist in gymnastics, she noticed a problem that lies in poor performance of female players in skills of horse jumping device represented by falling some students from the device, and others are unable to perform motor skills with high difficulties, this leads to reducing the final score of the player by deducting (0.5) from the player's score as a result of his fall as well as deduction (0.2) of each special requirement that the player cannot perform, as well as not being able to obtain improvements degree that player get through good connectivity and upgrading the difficulty level Through the kinetic chain on the device. The researcher finds that the poor level of performance, due to the progress of the learning process for players teams on Legal devices without the use of assistant tools and devices due to the lack of most of them, which led the researcher to prepare special exercises to develop the motor response to facilitate the educating process for players, here lies the importance of the research using special exercises to develop the speed of kinetic response for horse jumping skill of Baghdad Education team players, the first Rusafa. The exercises will contribute to the development of some elements of fitness and shorten teaching process time of some special requirements skills, in addition to that it sends a sense of confidence and safety during the movement performance.

II. Research methodology and its field procedures:

2-1 Research Methodology:

The researcher used the experimental approach because it fits the nature of the problem to be solved, which is "an attempt to control all the variables and basic factors except one variable, as the researcher adapts or changes it in order to define and measure its effect in the process, and is considered the closest research approach to solve problems in a practical way.

2-2 Research community and its sample:

The research community was chosen by players of Baghdad Rusafa Education Team, (12) players and (4) players were excluded in order to represent the exploratory sample and thus the research sample became (8) players were divided into two experimental group and control group each group has (4) players and thus represents a sample The research (80%) of the total research community. To assure the homogeneity of sample and the correct distribution between its individuals, the researcher used the twist Coefficient in all search variables for both groups (experimental and control) it is acceptable, as the value of the coefficient is between (3 + _). Table (1) shows mean, standard deviations, and the variation coefficient for the experimental group in all search variables:

T	variables	mean	Standard deviation	Twist Coefficient
1	Length(cm)	144.500	3.316	2.294
2	Weight(kg)	34.250	1.500	4.379
3	Age(year)	12.750	0.500	3.921

Table (2)

T	variables	mean	Standard deviation	variation coefficient
1	Length(cm)	143.000	2.943	2.058
2	Weight(kg)	33.500	1.290	3.850
3	Age(year)	12.500	1.000	8.000

Shows mean, standard deviations, and the coefficient of variation for control group in all search variables.

2.3 Information collection methods, research tools and equipment:

2-3-1 means for information collection:

- The researcher used the technical scientific observation as a method for collecting information, by watching TV show for special jumping test skills from the evaluators, Appendix No. ().

- Arbitration form appendix (), Arab and foreign sources.

- Tests and measurements, International information Internet (Internet).

2-3-2 Research tools and equipment:

- Floor moving carpet. CDs. Film camera (Sony) (4) ml, 2. Restameter device for measuring length. Medical scale device for measuring weight. Video camera (Sony Digital) number 1. Computer type (Pentium 1111) with its accessories. Parallel device. Legal knobs horse device. Dynamometer to measure fist strength.

- Electronic calculator.

2-4 Measurements and tests used in the research:

2-4-1 Height, Weight and Age Measurements:

The researcher made the following measurements:

2-4-2- Length: The researcher used the restameter, which is a stand vertically fixed on a wooden edge, the stand is 250 cm long, so the zero level is near the wooden base, and there is a holder fixed horizontally on the stand so it can be moved down and up, the examiner stands on the base without wearing shoes, her back facing the stand, the examiner must take into account the body lifting up and looking forward. The holder is downloading until it touches the top edge of the head, as the number facing the holder expresses the length of the tester to the nearest one centimeter.

2-4-3-weight: - The researcher used medical scale, as the examiner stands upright on the scale without wearing shoes so that her weight is distributed evenly across the feet, the reading that the indicator gives to the nearest kilogram is taken, the age of each player is recorded, based on the identity of civil status day, month, year and subtracting the birth day , day, month and year from the test day, day, month and year, we obtained the age by year and month (*).

2-4-4 tests of fitness elements:

1- Test name: Fist Strength Test (1):

Test Purpose: This test is intended to measure the Fist Strength.

Tools used: Manual dynamometer, magnesium carbonite powder.

Performance specifications: the examined dips her hand in magnesium carbonite powder, then hold the device in the hand palm, then press it with the greatest possible strength.

The conditions:

- It is preferable to test the Fist strength of the right hand then the left hand.

- Note the arm that holds device should not touch any external thing or the player's body herself, also avoid wiggling the arm when performing.

- Return the device indicator to (zero) after each attempt.

Recording: the device indicator indicates the strength of the examine r's Fist in kilograms (the examiner has three attempts to register the best of them)

2- **Test name**: pushing test on parallel device (2):

Test Purpose: This test aims to measure the rapid strength for arms and shoulders.

Age and gender level: From 10 years to university age for boys only.

Tools used: Parallel device a slightly higher than the shoulder height and fitting the chest relative to any examiner.

Performance description: from Pivot position on the hands-on the parallel device the player bends the arms and extends them, the test is repeated as quickly as possible for (10) seconds.

Registration:

- Calculates one time for each batch and begins to bend the arms and extend them to reach the primary position.

- The test ends and the number stops whenever the time reaches (10) seconds.

3- **Test name:** The sitting test from the Lying down (knees bent position) (10) seconds (1):

Test purpose: This test aims to measure the rapid strength of the abdominal muscles.

Tools used: electronic stopwatch, gymnasium rug.

Performance description: The examiner lies on his back over the rug with open feet (20) cm so the palms touch the neck, the elbows are bent as well as the knees (the colleague fixes the legs)

once hearing the starting signal, the examiner bends the trunk to reach the sitting position lengthwise, the knees are bent, then repeat it quickly as many times as possible within (10) seconds.

Recording: recording the number of correct performance times within (10) seconds.

4- Test name: **Tradition imitations**

Test goal: to improve response speed.

- Performance description: The teacher performs various sport movements and the player performs these movements, for example, teacher performs arms rotation movement, and the student performs this movement at the same time. The teacher diversifies these movements with each student.

- Registration: The student is awarding (4 points) if the performance is in a picture, (3 points) if the performance has simple errors, (2 points) if the performance has many errors and one point if the player did not perform at all.

5- The horse jumping Test:

Test Purpose: This test is intended to measure a player's ability to perform horse riding skill

Tools used: horse jumping device, gymnastic rugs.

Performance descriptions: The player takes the run position then performs the jumping on the horse and land on the gymnastic rug with stability.

Registration: The skill has been evaluated by the agreement of committee members, with a final score of 10 points.

2-5 exploratory experience: The researcher conducted an exploratory experience on Wednesday 2/10/2019 on female players of the experimental group, and the researcher conducted the experiment to:

1- Verify the validity of the prepared approach.

2- Dealing with errors that may appear while doing the main experiment

2-6 Field research procedures:

2-6-1 Pre-tests:

After identifying the individuals of the research sample for two groups (experimental and control), the researcher conducted the pre-test on Monday 7/10/2019, and included:

- Fist strength of right and left hand.

- The rapid strength of the arms and abdomen.

-shoulders Flexibility, torso and legs.

-Fitness.

-Front and back swing scissor.

- swing circuit

2-6-2 the main experience (educational exercises):

The researcher prepared the educational exercises for the First Al-Rusafa education players for some required skills specified for horse jumping device and develop it using special exercises, taking into account the age and physical capabilities of the research sample, using the gymnastic literature and experts opinions appendix (82), the educational exercises consist of (16) units, continued for (8) weeks, at rate of (2) educational units per week, the duration of each educational unit (40 - 45) minutes the main section only, then implement the educational units, appendix (2) was started on Wednesday, 7/10/2019 The experimental group have undergone to practice educational exercises using special exercises, while the control group underwent the practice of the classic approach, the skills were evaluated on the basis of the complete skill, each skill was evaluated on (10) points, the researcher used five certified arbitrators in Iraqi Federation for Gymnastics as a committee to evaluate the swing scissor (front and back) and swing circuit for the two groups (experimental and controlling), I used the evaluation form specified for gymnastics championships, appendix() included the four judges score and the rule score, which is a measure of the four judges 'score, to know the homogeneity of the rulers' score according to the legal differences stipulated by International Gymnastic Arbitration Law, then the rule removes the highest and lowest scores, and the two intermediate scores are divided by (2), to extract the final player's score.

2-6-3 posttests:

The post-tests (fitness elements) of horse jumping device , the two groups (experimental and control) were conducted on Wednesday 13/11/2019, the researcher prepared as much as possible the conditions in which the pre tests were conducted in terms of time, place, tools and devices used with the help of educational staff themselves.

2-7 Statistical means:

For the purpose of processing the data obtained by the researcher, he used the statistical bag (SPSS). 4-1 Presentation and discussion the results of the experimental and control groups

Table (3) shows the arithmetic mean, standard deviations, and the calculated and tabulated value (T) for pre and posttests of the experimental group.

T	Tests / Data	Pre test		Posttest		Calculated T value	Error Rate	indication
		C	A	C	A			
1	Right hand Fist strength test.	18.45	1.75	22‹00	2.65	3.50	000	moral
2	Left hand Fist strength test.	16‹50	1.45	19‹00	1.75	2‹95	000	moral
3	Pushing test on a parallel device	50.425	2.75	57.750	2.89		000	moral
4	Sitting test in lying down position (knees bent position) (10) seconds	8.50	0.86	9‹75	1.00	2.85	0001	moral
5	Motion imitation test (developing response speed)	2‹70	0.60	3.70	0.33	2.34	000	moral
6	Horse jumping test	4.650	0.456	6‹540	0.856	2‹88	000	moral

Table (4) shows the arithmetic mean, standard deviations, and the calculated and tabulated value (T) of the pre and posttests of the control group**.**

T	Tests / Data	Pre tests		Posttests		Calculated T value	Error rate	indication
		C	A	C	A			
1	Right hand Fist strength test.	17.50	1.65	19.00	1.95	2.05	000	moral
2	Left hand Fist strength test.	15‹50	1.45	19‹00	1.95	2.05		
3	Pushing test on a parallel device	47.45	2.75	52.65	1‹98	7‹75	000	moral
4	Sitting test in lying down position (knees bent position) (10) seconds	7.00	0.66	8.85	0.956	1.97	0001	moral

Received: 15 May 2020 | Revised: 5 Jun 2020| Accepted: 20 July 2020

5	Motion imitation test (developing response speed)	**2‹60**	**0.55**	**2‹70**	**0.49**	**1.68**	**000**	moral
6	Horse jumping test	**4.50**	**0.50**	**5.50**	**0.80**	**2.55**	**000**	moral

Table (5) shows the arithmetic mean, standard deviations, calculated and tabulated (T) values for posttests results for the control and experimental groups.

T	**Groups** / **Tests**	**Experimental**		**control**		**Calculated T value**	**Error rate**	**indication**
		C	**A**	**C**	**A**			
1	Right hand Fist strength test.	**22‹00**	**2.65**	**19.00**	**1.95**	**3.56**	**000**	moral
2	Left hand Fist strength test.	**19‹00**	**1.75**	**19‹00**	**1.95**	**2.89**	**000**	moral
3	Pushing test on a parallel device	**57.750**	**2.89**	**52.65**	**1‹98**	**5.67**	**000**	moral
4	Sitting test in lying down position (knees bent position) (10) seconds	**9‹75**	**1.00**	**8.85**	**0.956**	**2.67**	**000**	moral
5	Motion imitation test (developing response speed)	**3.70**	**0.33**	**2‹70**	**0.49**	**2.65**	**000**	Moral
6	Horse jumping test	**6‹540**	**0.856**	**5.50**	**0.80**	**2.35**	**000**	moral

By discussing the results of pre and posttests of experimental and control groups for horse jumping activity of Baghdad First Al-Rusafa education players team, ages (10-12) years, through the results shown in tables (3,4,5), (T) value calculated in all the special tests for technical stages of horse jumping activity among the players was greater than the tabular (T) value and this means the difference is moral and works for posttests benefits for experimental group, the researcher assigned that the experimental group results learned with special exercises in developing the speed of the kinetic response for horse jumping skill of the players. In Fist strength test of the right and left for the experimental group benefit, the researcher found the reason that the special exercises in developing the speed of the kinetic response for horse jumping skill, requires perfect work of motor skills in gymnastics, representing the ultimate goal for motor learning process which is the base for reaching player level to the highest international levels, whatever physical characteristics of the player improved in developing and learning, and whatever moral and willful characteristics, it does not and will not achieve the desired results unless all of this is related to the complete mastery of motor skills that are represented in the movements of gymnastics on various devices (Muslim Badr, 2000, 28). The

researcher agrees with what (Hamed Ahmed Abdel Khaleq, 2003, 21) said, that muscle strength plays an important role in determining the level of player performance, especially the strength movements groups that stipulates by the International Gymnastic Law, that optional movements chain must include one or more skills that are performed using force "The researcher confirmed that the difficulty in performance comes from two factors. First, the player performs continuous rotational and pendulum movements on the horizontal surface of the device, second factor: the player does not require a long time in performance on the device, he is leaned on one hand as the other hand is lifted to lean on the second alternative pivot. For the pushing test on the parallel device, the improvement of shoulders and arms strength is due to training with special exercises in developing kinetic speed response for jumping on horse skill of education team players, and the researcher refers that the shoulders have an important role in jumping on horse, the researcher agrees with what(Qasim Hassan, 1998, 78) mentioned “the capability of player's body’s muscles Shows in pushing the body or part of it in forward, upper and backward motions”, in addition to that the strength of the arms and shoulders can develop as a result of long period of performance on leg holder device and what comes with this performance of carrying body weight by leaning on arms and shoulders, that reflected on occurrence of neuromuscular correspond. By recruiting more muscle fibers that led to develop the rapid strength of arms. The development requires increasing flexibility exercises continuously, it is necessary for sporting activities that require high flexibility in the joints such as gymnastics in addition to this result due to the effective performance on the devices, especially horse device has a positive impact on the rang of movement in shoulders joints, trunk and legs. "Gymnastic exercises lead to improvement in flexibility specialized for body joints and at the same time contribute in increasing the level of general flexibility "(Qasim Hassan Hussein, 1998, 274). As for the sitting test from lying down position (knees bent position) (10) seconds, the researcher assigned the reason for developing the experimental group in this variable value to the role of used exercises in developing the strength and speed of abdominal muscles contract. Moreover, the preparatory exercises that are included in the special exercises are important in developing many aspects of physical and motor qualities, including the characteristic of the rapid strength of abdominal muscles, this is consistent with what (Ali Muhammad and Mustafa Muhammad, 1985, 75) are indicated. There is a positive relationship with the use of skillful performance on legal devices and the assistance in developing the distinctive speed strength of abdominal muscles. As for the movements imitating test (developing the response speed), it is mentioned by (Abd Ali and Qasim Hassan Hussein) it has evolved into the special used exercises, the abstract training using only the tool does not reach the best result, so we note that there is a set of auxiliary tools that players use as instructed by the trainer to cover the shortfall, whether in the skill or physical aspect. (Muhammad Othman, 1990, 536) mentioned that the trainer must use modern methods in the educational process, and this means using different educational methods and devices in order to increase positively the educational process and influence the specifications and time of learning itself. This comes only through the neural pathways training on the ability to change positions in the air in different directions. The researcher agrees with what Singer mentioned, in order for the player to control the gymnastic skills performance, including aerobic skills, the player needs a high score of Kinetic and muscle sensation also, awareness of distance, time and body positions (Singer, R, 1980). As for test of jump on the horse, this is consistent with what (Abu Al-Ella, 1997, 15) mentioned, where the Kinetic units participate in muscle contraction according to the amount of resistance that the muscle is facing. In the case of lack of resistance, less Kinetic unit’s work that has less number of muscle

fibers. In case of increasing resistance, more Kinetic units participate, thus muscle fibers in producing the needed strength to confront or overcome resistance

III. Conclusions

In light of the researcher's findings, she concluded the following:

1. The used exercises are suitable for the research sample, applied correctly and appropriately.

2. Prepared exercises have a positive effect in developing speed rate and frequency of jump on horse activity

3. The proposed exercises have an efficient effect in developing the capabilities of kinesthetic perception, teaching and developing the movements of catch and leave on the parallel device.

4. Evolution the ability of the research sample members to feel the spatial domain (sense of emptiness, sense of distance, ...) a good development through the results of the perceptual-kinesthetic tests that helped the player to estimate the horse's position when grabbing.

IV. Recommendations

1- The necessity of using exercises on horse’s device to develop skillful performance for other activities.

2 - Paying attention to the spinning and leave movements followed by the catch, as the development in these movements at global level, highly reflects the degree of progress in the parallel device.

3- 3- Confirmation the Iraqi players on closing the hip corner in the third position and then open it in the fourth position.

References

1. Dhafer Hashem Al-Kazemi: The intertwined teaching method and its effect on learning and development through spatial organizational experiences of the tennis education environment, PhD thesis, College of Physical Education, University of Baghdad, 2002, p. 9.
2. Muslim Badr Awad: Developing the speed of learning the Great Circle on the Al-Okla device using the rotating wheel (factory), PhD thesis, College of Physical Education, Basra University, 2000 AD, p. 11.
3. Jürken Larch (and others): Theoretical foundations in gymnastics, 2nd edition, Baghdad, and Offset Munir Press, 1978 AD, p. 180.
4. Ahmad Badr: Fundamentals and Methods of Scientific Research, 1st edition, Kuwait, Publications Agency, 1973, p. 256.
5. Muhammad Subhi Hassanein: Measurement and Evaluation in Physical Education and Sports, part 2, 3rd floor, Cairo, Dar Al-Fikr Al-Arabi, 1996, p. 250.

Received: 15 May 2020 | Revised: 5 Jun 2020| Accepted: 20 July 2020

6. Muhammad Hassan Allawi and Muhammad Nasruddin Radwan (1994 AD) quoted by Ismail Ibrahim Muhammad: The effect of special exercises on according to some biomechanical variables to teach diamidov skill on a parallel apparatus, PhD thesis, College of Physical Education, University of Baghdad, 2005 AD, pp. 75-76.
7. Abu Al-Ella Ahmed Abdel-Fattah, Athletic Training - Physiological Basis, Dar Al-Fikr Al-Arabi, 1997.
8. Ali Muhammad Abd al-Rahman and Mustafa Muhammad Shawqi (1985 AD) quoted by Ali Abd al-Wahid Lazim.
9. Qassem Hassan Hussein and Abdul Ali Nasif: Training Science, Mosul, Dar Al-Kutub for Printing, 1987.
10. Muhammad Othman: Encyclopedia of Athletics, 1st edition, Kuwait, Dar Al-Qalam Printing House, 1990
11. Qasim Hassan Hussein: Learning the rules of physical fitness, Amman, Dar Al-Fikr for printing and publishing, 1998. The science of sports training in different ages, 1st edition, Amman, Dar Al-Fikr Al-Arabi for printing, publishing and distribution, 1998.
12. Muslim Badr Awwad: Developing the speed of learning the Great Circle on the Al-Okla device using the spinning wheel (factory), PhD thesis, College of Physical Education, University of Basra, 2000 AD.
13. Hamed Ahmed Abdel-Khaleq (1983) quoted by Amer Sakran Hamza: The effect of using assistive devices in teaching and developing some skills requirements for the throat system for young adults, Master Thesis, College of Physical Education, University of Baghdad, 2003.
14. Singer, R Motor Learning and Human Perfor man ce an Application to Motor Skills and M ovement B ehaviars, Macmillan Publishing CO, Inc, 1980.