The Effect of Special Exercises According to the Physical Biorhythm in the Development of Some Bio-Kinetic Abilities and the Accuracy of Offensive Punches for Junior Boxing

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Abstract

The purpose of this paper is to applying training types according to different stresses during the physical biorhythmic phase and during the positive and negative biorhythmic phases in developing some bio-kinetic abilities and offensive skills in boxing among juniors. And by noting the researcher being a boxing player, notices that there is a problem that most of the coaches organize their training units in the form of a single pace throughout the daily, weekly and monthly times, and they are not aware of the biorhythmic cycles and do not take into account the existence of such vital courses. As for the most important objectives, to identify the effect of special exercises according to the cycle of physical biorhythm to develop some biokinetic abilities and offensive skills of the young boxing players. The research community was represented in the Specialized School for Boxing in Wasit Governorate, affiliated to the Ministry of Youth and Sports, as the number of boxers in the junior category, aged (15-16) years, was (15) boxers. (5) boxers for the exploratory experiment and the sample was then divided into two control groups and a number of (5) boxers in each group and also intentionally, i.e. (33%) of the research community of the experimental group and (33%) of the research community of the control group, in order to take Boxers closest in their level of physical biorhythm. The researchers concluded that the training program, which was in terms of the physical biorhythm of each player, had a significant influence on the development of the experimental group at the expense of the control group, so all its variables appeared and were of significant significance and greater value compared to the post-tests of the control group, and therefore the training program had a significant influence on the development.

Introduction:

Biorhythm is one of the important and basic physiological topics unfamiliar to some of our trainers, which can be used in organizing the training process and their daily lives and investing effort and time in obtaining advanced results in learning and performance, by organizing training and increasing and decreasing its intensity in light of the positive and negative stages. For the physical biorhythm cycle that this player goes through on one hand and on the other hand and the use of scientific foundations and diversification of training with different intensity may lead to developing the level and achieving sports achievements

Punches that are difficult to perform are among the offensive skills that require experience, compatibility and accuracy of performance, as well as require boxers to have bio-kinetic capabilities that serve the position of competitive play to score many points or settle the round by technical knockout, hence the importance of research in the application of training types according to different stresses during the stage Physical biorhythm and during the positive and negative biorhythmic phases in the development of some bio-kinetic abilities and offensive skills in boxing.

Research problem:

By noting the researchers being a boxing player, he noticed that there is a problem that most of the trainers organize their training units in the form of a single pace throughout the daily, weekly and monthly times and their lack of knowledge of the biorhythmic cycles and the failure to take into account the existence of such vital cycles, including the physical biorhythm cycle with its positive and negative phases, which does not achieve the optimal investment for the positive stage, and in the negative stage, the trainers do not take into account this stage that the boxer goes through every 11.5 days, despite the delay in training processes for young people.

Research objective:

- Preparing special exercises according to the physical biorhythm to develop some of the bio-kinetic abilities and offensive skills of the junior boxing players.

Research hypotheses:

- There are statistically significant differences between the experimental and control groups in the post-tests and in favor of the experimental group in some bio-kinetic abilities and offensive skills of young boxing players

Research fields:

- **Human field:** the juniors of the specialized school in the Department of Sports Talent Care in the game of boxing in Wasit Governorate.
- **Time field:** from 5/1/2021 to 5/6/2021
- Spatial field : Al-Haidariah Forum Hall in the Sports Talent Care Department in Wasit.

Research methodology and field procedures: Research Methodology:

The researcher used the Experimental Research method for its suitability and the nature of the research, and because the experimental method from the point of view of Nuri al-Shawk and Rafi Al-Kubaisi is "an attempt to control all the basic factors affecting the variable or dependent variables in the experiment, except for one factor that the researcher controls and changes in a certain way with the intention of determining and measuring its effect on the variable or dependent variables" ⁽¹⁾.as shows in the table (1).

Table (1) the experimental design adopted by the researcher.

experimental	Pre-test T1	The training curriculum according to the physical biorhythm	Post-test T2
control	Pre-test T1	Coach's Approach	Post-test T2

Community and sample research:

The research community was represented in the Specialized School for Boxing in Wasit Governorate, affiliated to the Ministry of Youth and Sports. The number of boxers in the junior category, aged (15-16) years, was (15) boxers. A sample was taken from them and by simple random method (10) boxers for the main experiment and (5) boxers for the exploratory experiment. The sample was then divided into two control groups with (5) boxers in each group and also intentionally, i.e. (33%) of the research community of the experimental group and (33%) of the research community of the control group, in order to Boxers took the closest in their physical biorhythm level.

Description of physical and kinetic tests:

First: The test of flexion and extension of the arms from the current prone position in ten seconds: ⁽²⁾

- **Purpose of the test**: To measure the speed characteristic of the muscles of the arms.
- **Tools used:** A colleague to calculate the number of times of bending and stretching during ten seconds
- **Performance description:** From a prone position, observing the body taking the good and correct position touching the chest while bending the arms completely and then extending the arms completely.

- **Calculation of the degree:** the number of times of flexion and extension in ten seconds, an indicator of the muscular capacity of the arms.

Second: Nelson test to measure response speed: ⁽³⁾

- **Purpose of the test:** To measure the response speed with which the hand responds to a visual stimulus.
- **Tools used:** the included Nelson ruler for calculating the response speed and a chair table.
- **Performance description**: The tester sits on the chair and then places the forearm and hand on the table in a comfortable position so that the hand is protruding on the edge of the table with a distance of (8-10) cm so that the thumb is facing the thumb. The arbitrator holds the ruler from its upper end. While the tester holds the ruler from its lower end in a position attached between the thumb and forefinger. The first gradient line of the ruler is at a level directly above the thumb, and the laboratory directs its eyes to the area painted in black (the area of focus and confined to the two numbers (12-13) which is the area between the ruler left by the arbitrator in order to hold it The laboratory is in the area painted black.
- **Calculation of the degree:** When the tester is able to hold the ruler, the score is read according to the graded score that lies directly above the thumb. The highest five attempts and the lowest five attempts are excluded from the measurement, and the average of the ten grades between the attempts is calculated.

Third: Accuracy Test: ⁽⁴⁾

- **Purpose of the test:** Accuracy coupled with response speed.
- **Tools used:** a punching bag with numbers (1-6) attached to it, not arranged in sequence, gloves, a stopwatch, a registration form.
- **Performance description** The boxer faces the bag and the coach stands next to it, who determines the numbers required to be hit after each call, and thus stands on the other side of the recorder who counts the number of punches fired and in his hand is the stopwatch that plays when the first number is launched and stops it when the call is on the last number and takes into account that the call is The numbers are not sequential. For example, 6.3.4.2.1.5 etc. Also, the coach must not have the sequence of numbers fixed and monotonous so that the boxer does not memorize it when repeating it, and because the test depends on the snap.

- **Recording the test result:** The previous method is used to record the test. In the event that the boxer does not hit the required number, one point is deducted from the sum of six for each wrong punch.

Pre-tests:

The pre-tests were conducted for the days 15-16/1/2021 and for all tests at the Specialized School for Boxing in Wasit. The tests were conducted under the supervision of the researcher and with the help of the assistant team.

Equivalence:

In order to extract equivalence, the researcher made comparisons between the tests in the experimental and control groups, and it became clear to the researcher that there were no differences, allowing the researcher to initiate a currency from a single starting point for the experimental and control groups, as shows in the table (2).

Groups	variables	strength characteristic of speed	reaction speed	Accuracy
experimental	Median	10	19	25
	Mode	10	18	25
	Standard deviation	0.89	0.84	1.48
control	Arithmetic mean	11	20	25
	Mode	10	17	26
	Standard deviation	0.84	3.19	1.30
Mann-Whitney		10.5	7.5	10.5
Error rate		0.65	0.287	0.667
Type sig		Non sig	Non sig	Non sig

Table (2) shows the equivalence between the experimental and control groups in the research variables.

Main experience:

The training curriculum began on 20/1/2021, and the sample was divided into two groups by lottery, an experimental group and a control group.

Description of the training curriculum for the development of some bio-kinetic abilities and offensive skills:

The researcher relied on the two training methods (repetitive and period of

high intensity) in the formation of intensity and volume of exercises of the curriculum during the phase of physical biorhythm (positive and negative). In order for the researcher to avoid randomness in the formation of training loads and to avoid excessive training or training below the impact threshold, the heart rate was used to ration training loads.

Post-tests:

After completing the training modules on 1/4/2021, post-tests were conducted.

Statistical methods:

The search data was processed through the Statistical Package for the Social Sciences (SPSS).

Presentation, analysis and discussion of the results:

Presentation and analysis of the results of the post-tests in the research variables for the experimental and control groups.

Groups	variables	strength characteristic of speed	reaction speed	Accuracy
experimental	Median	13	14	27
	Mode	13	13	27
	Standard deviation	0.84	0.84	0.84
control	Arithmetic mean	11	18	25
	Mode	11	18	25
	Standard deviation	0.84	1.52	0.55
Mann-Whitney		10.5	1	0.5
Error rate		0.65	0.014	0.011
Type sig		sig	sig	sig

Table (3) shows the post-tests between the experimental and control groups in the research variables.

We find that the statistical functions in table (3) for the experimental group represented by the median, mode, and Standard deviation were for the explosive ability and strength characteristic of speed, reaction speed, accuracy and performance of offensive skills as follows: The median was in order (13, 14, 27), as for the mode was (13, 13, 27) The value of the Standard deviation was (0.84, .84,0.84) This was for the experimental group, as for the control group, the

arithmetic median, respectively, was (11, 18, 25), and the mode was (11, 18). , 25). As for the standard deviation, it was (0.84, 1.52, 0.55), and in order to extract the value between the independent, control and experimental groups for the nonparametric tests, the researcher did not find a better means than the Mann-Whitney test, which had the following values for the strength characteristic of speed , which was (1) and with an error rate of (0.014) As for the reaction speed, the value of Mann-Whitney was (0.5) with an error rate of (0.011), which is significant as well. The experimental and control group tests were statistically significant.

Discuss the results:

There are significant differences in the pre and post-tests for the experimental and control groups, as they were statistically significant and for the post-tests were better than the tribal tests, which gives us an indication of the contribution of the training program based on the physical biorhythm cycle in the development of research variables (strength characteristic of speed, reaction speed, accuracy) and thus the player's arrival to achievement, as the use of stress in an appropriate and accurate manner and its calculation according to the effectiveness of the body and its willingness to receive those exercises according to the specific stresses gives it a high moral significance in the development of playing and thus reaching achievement and improvement in performance. Leading and very important in motor performance for the boxer, who is credited with reaching the achievement and thus controlling the fight and achieving the appropriate points.

Conclusions and Recommendations:

Conclusions:

- The training program, which was in terms of the physical biorhythm of each player, had a significant impact on the development of the experimental group at the expense of the control group, so all its variables appeared and were of significant significance and greater value compared to the post-test of the control group, and therefore the training program had a significant impact on the development.

Recommendations:

- It was important to use the training program according to the physical biorhythm of each player in order to apply the individual training methodology, especially in individual games

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