

Control of conditional physical directions determining performance in boxers

El control de las direcciones físicas condicionales determinantes del rendimiento en los boxeadores

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ABSTRACT

The present research aims to propose tests to help improve the control of the conditional physical directions that determine performance in boxers of the first category in Guantánamo, taking into account the characteristics of this sport and the age of the athletes, taking as a path of concretion the control of the physical preparation and like center of direction of the process to the coaches. For its development, methods of the theoretical and empirical level were used, such as the survey, the interview and the documentary study, which made possible to collect the necessary information to prepare the proposal and determine its effectiveness.

Key words: Control; Conditional physical directions; General tests; Specific tests; Sports performance

RESUMEN

La presente investigación tiene como objetivo proponer pruebas para contribuir a perfeccionar el control de las direcciones físicas condicionales determinantes del rendimiento en los boxeadores de la primera categoría en Guantánamo, teniendo en cuenta las características de este deporte y la edad de los atletas, tomando como vía de concreción el control de la preparación física y como centro de

dirección del proceso a los entrenadores. Para el desarrollo de la misma se utilizaron métodos del nivel teórico y empírico como la encuesta, la entrevista y el estudio documental que permitieron recopilar la información necesaria para elaborar la propuesta y determinar su efectividad.

Palabras clave: Control; Direcciones físicas condicionales; Pruebas generales; Pruebas específicas; Rendimiento deportivo

INTRODUCCTION

Modern sport forces to prepare increasingly technical athletes, but for this it is necessary for the athlete to have an adequate development of physical capacities, which will allow them to perform competitive activities without reducing effectiveness, even when the appearance of the fatigue.

Physical preparation is the fundamental aspect of the athlete's preparation, which guarantees the mastery of skills and their effectiveness, and it encourages the development of basic sports performance capabilities.

Physical capacities are biopsychic aptitudes of the human being, which are expressed in various ways in which man interacts with the environment he lives and that, in the field of sports and physical education, is observed in the physical potential shown by an individual in the different existing sports modalities.

The physical motor capacities are conditioned in the own biological structure of the organism, which depend considerably on certain genetic or hereditary factors, their development over time occurs naturally but at certain levels, however, to reach higher levels of development, we have necessarily to take advantage of the sensitive periods of each one of the physical capacities, fulfilling for it with a numerous group of biomethodological aspects.

The development of current sports training acquires characteristics that exert a great influence on the organization of the preparation of athletes, an aspect that becomes new tasks and more complex demands for the coach, thus stimulating the search for various forms that differ from those used in a traditional way when it comes to organizing the training process.

For this reason, in recent years, advances in science and technology applied to sports activities require the application of new alternatives in order to increase the

results achieved, hence the permanent need for new studies that promote multilateral preparation and control of it at different times of the athlete's preparation.

It is not enough to train or compete, but the effect of these processes must be verified through efficient control, for which tests are generally used that allow the measurement of selected parameters.

In this sense, Collazo et al. (2006, p.13) state that "... one of the fundamental aspects to take into account in the process of evaluation and control of training is precisely the necessary test determination for each direction that has been selected, because the tests allow at the beginning to diagnose and later to check how the athletes have been assimilating the physical charges, in addition to knowing the quality of the applied teaching process... ". In order to carry out the training control in practice, it is necessary to know the structure of the object to be controlled, as well as the laws that regulate the passage from one state of the object to another.

The specific orientation of the control in the training process must be carried out from the establishment of specific quantitative parameters, which refer to the athlete's conditions and the training program, as an interactive system of the process that is carried out according to the tasks that are directed at an object and manifested at a pre-established level of improvement in sports performance.

In relation to this, Collazo et al. (2006, p.14) refers "... in this aspect is where the coach projects and predicts the objective or goal to be achieved for the next tests to be carried out, with the purpose of increasing the development levels of each of the selected directions, as this is the only way to guarantee effective control of the sports training process. The proposed objectives or goals determine the contents of the training to be used ... "

The control of the effectiveness of the training process is achieved, comparing the expected results and if necessary, making the correction of this process, constituting the final operations of the indicated cycle, naturally all this is possible and effective to the extent that a precise idea is had and if possible, supported by quantitative data of the structure of the competition.

According to Ranzola, J. cited by Collazo et al. (2006, p.12). "... We start from the basis that evaluation cannot be carried out and therefore predict results, if we do not apply a system of controls with its methodological and organizational mechanisms, and its evaluation coders, whether qualitative or quantitative, as long as it is fulfilled with the established pedagogical principles and their adaptation to the characteristics of the sport, the age of the athlete and its level of preparation. The measurement provides us with the necessary data that allow us to corroborate and give us a criterion of the state of preparation and compliance with the system of objectives that have been proposed to be achieved in the trajectory of the training process. The evaluation then is the interpretation of the measure that leads us to express a judgment with precision and for this make the pertinent decisions ... "

The control, during a certain period of time, also allows organizing the planning work, since each of them reflects a set of particularities that allow guiding the coach in the dosage of the contents that characterize it.

When considering the physical condition, it is necessary and it is of great importance, the priority attention of this factor within sports training, starting from physical preparation, considering it as the base or first step that an athlete must take into account to achieve an optimal sports form. This preparation is aimed at strengthening organs and systems, raising their functional possibilities and developing motor skills.

Related to the need to carry out an adequate control of the athlete's physical preparation, the criteria of Harre (1988) stand out; Zatsiorsky (1989); Ruíz et al. (1989); Ranzola (1989); Platonov (1991), among others, who generally agree on the importance of applying different forms and means to guarantee the effectiveness of this process, defending the idea that pedagogical tests constitute an instrument, procedure or technique used to obtain information, through which the grade of efficiency and skills achieved by the athlete can be quantitatively determined, allowing to verify the effectiveness of the training process and assert or modify the contents depending on the fulfillment of the objectives, performance standards and forecasts.

Between these and other authors in the general and specialized literature there are common points regarding the regulation that occurs in training and the close relationship that exists and occurs between control and other no less important concepts stands out to a greater or lesser extent. A rigorous control on scientific bases is a guarantee of a good direction in the athlete's preparation.

In this direction, the author of this work has been given the task of applying diagnostics related to control to the physical preparation of boxers in the first category of Guantánamo, obtaining as a deficiency that coaches generally do not control some determining conditional capacities of the performance that they work in training, performing an inefficient control of physical preparation, an aspect that affects the scientific nature that contemporary training requires.

DEVELOPMENT

For the development of this work, the following aspects are considered:

1. The tests that are indicated in the Comprehensive Training Program for the Boxing Athlete to control physical preparation.
2. The inclusion by the coaches of new tests in the preparation program.
3. The correspondence of the physical tests that are applied with the conditional physical capacities determining performance, the characteristics of the sport and the age (category) of the athletes.

These aspects were assessed through the use of interviews with coaches, methodologists and what was referred to in the Comprehensive Athlete Preparation Program, verifying that:

- The generality of the coaches and methodologists show a good command of the determining physical directions of performance that should be worked on in boxers, although the Comprehensive Athlete Preparation Program does not express explicitly what the determining directions and the determining factors are performance in this sport.
- 100% stated that, in the Comprehensive Athlete Preparation Program, physical tests are indicated to control the development of the physical directions of boxers' performance and are specified in their application, not always taking into account the specific characteristics of the Guantánamo's boxer.

- The correspondence between the physical address being worked and the test for its control is not always reflected, taking into account the characteristics of the sport and the age (category) of the athletes.
- In the CAPP, tests are not indicated to control aerobic endurance and maximum strength.
- 100% recognize the need to be offered other tests to improve the control of the physical directions determining performance, taking into account the characteristics of the sport and the age (category) of the athletes.

Taking these aspects into account, the proposal of tests was carried out to control the conditional physical directions that determine performance in boxers of the first category in Guantánamo, taking into account that the pedagogical group (the coaches) constitutes the closest and most vivid source for planning, apply, control, evaluate and interpret physical tests in achieving the objectives of physical preparation, making necessary to organize their scientific work, through actions such as:

1. Mastery of the Comprehensive Athlete Preparation Program and, fundamentally, of the category they work, so that they consistently deliver the objective of physical preparation in correspondence with this.
2. Full command of the methodology of the physical tests that are planned, to ensure adequate control.
3. Determine the precise moments in which the tests should be applied within the training planning, taking into account the objective to be achieved with each test and each moment.
4. Establishment, if necessary, of previous contacts to guarantee the human and material conditions to apply, analyze and interpret the tests.
5. Direct the work with the athletes towards the achievement of the motivation that is needed for the correct application of the physical tests.
6. Always guarantee the same conditions and requirements for the application, analysis and interpretation of the tests.

An important element is that the coach makes the athletes aware of the need to carry out the tests with the greatest motivation, discipline and effort, in order to

achieve the proposed objectives based on understanding the importance that physical tests provide for them, the coach having to in his explanation, use a language that is familiar to the athletes, so that they receive the necessary and sufficient information.

The coaches are suggested the following contentive test proposal for each conditional physical direction that is considered a determining factor in boxing performance, with a general and a special test, and in each of these cases, the objective, the indications are set methodological and a brief justification of the usefulness of both tests for the corresponding direction are set.

The proposed tests are generally known by coaches and athletes, they are easy to apply, evaluate and interpret, they do not require the use of complex equipment or apparatus, and furthermore, they pursue the achievement of the proposed objective.

Direction: Quick reaction.

General test No. 1: Snatch of 10 meters.

Objective: To control the speed of reaction at the expense of energy intake through the power of the anaerobic alactacid system.

Methodological indications: This test will be carried out from the middle starting position and at the sound of the whistle the examinee will perform a race at the maximum possible speed for 10 meters of distance.

Special test No. 1: Defense to hits 1-2 with rotation of the trunk.

Objective: To control the reaction speed at the expense of the power of the anaerobic alactacid energy system.

Methodological indications: For the execution of this test the coach will use two athletes who will be placed in a fighting position, in the middle distance and statically. The non-examined athlete will launch a total of 10 isolated hits (1 or 2) (2 to 3 seconds between hits), for which they will execute said hits without an established order, always with the purpose of surprising the examinee. The examined athlete will try to respond as quickly as possible by performing defense with trunk rotation. The number of hits that the examinee dodges shall be counted.

Rationale. These tests in boxers allow to control the speed of reaction, necessary to execute intense actions that are executed in seconds during training or combat, such as: defensive, attack and counter-attack actions.

Direction: Frequency of movements.

General test No. 2: 60 meters race.

Objective: To control the frequency of movements in the lower limbs, at the expense of the power of the anaerobic alactacid energy system.

Methodological indications: The race will be carried out at maximum speed, guaranteeing that in each test only the number of athletes that makes it possible to take time with the required reliability will run.

Special test No. 2: Hit the bag for 10".

Objective: To control the frequency of movements in the upper limbs, at the expense of the power of the anaerobic alactacid system.

Methodological indications: The athlete will stand in front of the bag and at the coach's signal will begin to hit the bag at maximum speed with straight left and right hits for 10". The coach will be in charge of counting the number of hits that meet the necessary technical requirements.

Foundation: These tests allow to control the frequency of movement, through the execution of fast and intense actions that boxer executes, such as movements in different directions and the repetition of intense actions on offense and defense.

Direction: Explosive force.

General Test No. 3: Shot put.

Objective: To control the explosive strength of the arms, at the expense of the power of the anaerobic alactacid energy system.

Methodological indications: Starting from the initial position for the shot put in athletics and using a shot of those used for this age, 3 puts will be made and the greatest distance reached will be taken. The control will be carried out in the same way in both members.

Special Test No. 3: Shot put using the forward and back hand striking gesture.

Objective: To control the explosive strength of the arms, at the expense of the power of the anaerobic alactacid energy system.

Methodological indications: The boxer will be placed in the fighting position holding the shot in one hand, at the signal he will perform the movement of the straight hit of the hand that holds the shot with the possible highest technical demand, two attempts with each hand will be recorded the longest distance the shot traveled with each.

Foundation: These tests allow controlling the explosive force, necessary to execute isolated actions of maximum intensity that are carried out in seconds during training or combat such as: dodging hits, execution of straight hits, hooks, among others.

Direction: Quick force.

General test No. 4: Plates in 20 seconds.

Objective: To check the quick force in the upper limbs at the expense of energy intake through the capacity of the anaerobic alactacid system.

Methodological indications: From the lying position, perform the greatest amount of flexion-extensions in 20 seconds.

Special test No. 4: Straight of the front and back hand overcoming the resistance of an elastic band in 20".

Objective: To control quick arm force, at the expense of the capacity of the anaerobic alactacid energy system.

Methodological indications: The athlete placed on his back in a fighting position where an elastic band is attached and holding it in one of his hands, at the signal he will begin to launch straight hits at maximum speed with the hand that holds the band for 20", then perform the same action with the other hand. The coach will be responsible for counting the number of straight hits made with the necessary technical requirements with each hand.

Foundation: They allow to control the quick force, necessary to execute repeated actions at maximum intensity that are executed in seconds during training or combat.

Direction: Resistance to speed.

General test No. 5: 40-second race (Matzudo).

Objective: To control the resistance to the quickness of the lower limbs, at the expense of the anaerobic lactacid energy system.

Methodological indications: To carry out this field test, an athletics track marked meter by meter is used, mainly between 150 and 300 meters. Failing that, it must be marked every 10m. Two evaluators are needed (A and B), evaluator A will start the test together with the evaluated subject with the command words: "Ready ... go." Simultaneously he activates the stopwatch and walks in the direction of evaluator B, who will be provided with an auxiliary stopwatch and located at a midpoint between 200 and 300 meters that allows to adequately visualize the execution and location of the evaluated subject, mainly when he is completing the 40 seconds of running, a fact that will be indicated by evaluator A with the words "attention ... now". At this time, evaluator B must observe the last foot that was in contact with the ground and this point will be indicated as a reference point. With the aid of a tape measure and thanks to the previous measurement meter by meter, the total distance traveled by the evaluated will be determined, with precision for the last meter.

Special test No. 5: Hitting the bag in 40".

Objective: To control the resistance to rapidity in the upper limbs, at the expense of the capacity of the anaerobic lactacid energy system.

Methodological indications: Before starting the test, the coach will record the athlete's pulsations and at a signal known in advance by the athlete, he will begin to hit the bag at maximum intensity for 40". The number of hits executed will be counted and the load pulse will be taken (immediately upon completion of work).

Rationale: This test in boxers allows to control the resistance to rapidity, necessary to support the execution of predominantly fast repeated submaximal actions in training or combat.

Direction: Resistance to force.**General test No. 6: Push-ups in 2 minutes.**

Objective: To check the resistance to force in the upper limbs at the expense of energy intake through the capacity of the anaerobic lactic acid system.

Methodological indications: From the lying position, perform the greater amount of flexion-extensions in 2 minutes, the greater the number of repetitions, the greater the development of the lactic process in this muscular plane.

Special test No. 6: Rectum of the front and back hands overcoming the resistance of an elastic band (until rejection).

Objective: To control the resistance to force in the upper limbs, at the expense of the capacity of the anaerobic lactic acid energy system.

Methodological indications: The athlete placed on his back in a fighting position where an elastic band is attached and holding it in one of his hands, at the coach's signal he will begin to launch straight hits at a moderated intensity with the hand holding the band until the rejection, then perform the same action with the other hand. The coach will be responsible for counting the number of straight hits made with the necessary technical requirements with each of the hands.

Foundation: These tests allow to control the resistance to force, necessary to support the execution of repeated submaximal actions, predominantly force in training or combat.

Direction: Aerobic power (short duration).**General test No. 7: 1000 meters race (modified Matzudo).**

Objective: To control aerobic power in the lower limbs, at the expense of the aerobic energy system.

Methodological indications: The examinee must travel the distance of 1000 meters in the shortest possible time, not standing or walking during the test.

Special test No. 7: I hit the bag for 10'.

Objective: To control the aerobic power in the upper limbs, at the expense of the aerobic energy system.

Methodological indications: Before starting the test, one of the evaluators will record the athlete's pulsations and the voice of ready, ready, go ..., the athlete in

front of the bag in combat position moving around it will hit the device with each bell or whistle that one of the evaluators will emit it, doing it every second for 10 minutes. At the conclusion of the work, the pulse will be recorded to determine that the work is carried out in the specific zone, and the athlete's ability.

Foundation: They allow control of the aerobic power, necessary to withstand the time and demands of assaults and combat.

CONCLUSIONS

The result obtained from the study of the control to the conditional physical directions that determine the performance of boxers in the first category, confirms the insufficiencies that this work has in the group of coaches of this sport in Guantánamo, which corroborates the problem object of study in this research. In the research process, a solution was given to the this problem by proposing easy-to-apply tests that require almost or no equipment, taking into account the characteristics of this sport and the age of the athletes, to perfect the control of physical directions determining conditions of performance in boxers of the first category in Guantánamo, taking as a means of concretion the control of physical preparation and as the center of direction of the process to the coaches, which constitutes the contribution of this research.

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