

*Didactic model for the teaching-learning of pendulous movement in
pioneer boxing*
*Modelo didáctico para la enseñanza-aprendizaje del movimiento
pendular en el boxeo pioneril*

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ABSTRACT

The objective of the research is to elaborate a didactic model to contribute to the pendulum movement teaching-learning during the technical preparation of pioneer boxer. The diagnoses made showed the existing insufficiencies in the process under study. In the investigation, theoretical methods such as analysis-synthesis, induction-deduction, interview, survey and observation were used, which allowed to study epistemologically the teaching-learning process of the technical element investigated, as well as to identify the deficiencies that hinder said process in the boxers who begin their sports training, which were taken into account for the development of the proposed model.

Keywords

Didactic model; Pendulous movement; Pioneer boxing; Teaching-learning process.

RESUMEN

El objetivo fundamental de la investigación es elaborar un modelo didáctico para contribuir a la enseñanza-aprendizaje del movimiento pendular durante la preparación técnica del boxeador pioneril. En el diagnóstico realizado se utilizaron métodos y técnicas de investigación tales como análisis - síntesis, inducción - deducción, entrevista, encuesta y observación que permitieron estudiar epistemológicamente el proceso de enseñanza aprendizaje del elemento técnico investigado, así como, identificar y revelar las deficiencias que obstaculizan dicho proceso en los boxeadores que inician su formación deportiva, las cuales se tuvieron en cuenta como punto de partida para la elaboración del modelo que se propone.

Palabras

Palabras claves

Modelo didáctico; Movimiento pendular; Boxeo pioneril; Proceso de enseñanza aprendizaje.

INTRODUCTION

Sports technique is a fundamental part of the theory and methodology of sports training. Within the sport there is great specialization of movements that through many years of research have been studied with great care in order to obtain the best results with them.

"For this reason, boxing is made up of a varied number of techniques, these being determined by a special sequence of movements, positions and attitudes based on biomechanics, so boxing performance will be based on coordination of movements and the intensity with which it is performed. The sum of the technical and physical preparation will then give us the ideal means so that we can increase the ability to carry out the different boxing gestures." (Jimenez, 1998, p.45).

In order to complete what was previously expressed, in the sport of boxing, it is necessary to continue perfecting the teaching-learning process (TLP) of the technical foundations of this sport. In this sense, it is necessary to continue doing science and apply technology for its development. To fulfill this objective, it is of great importance to continue studying the technical foundations of boxing from an early age.

Previous studies show that research on boxing at an early age, pioneers, are not renumbered, and many are addressed to the school category, and directed primarily to combat stoppage, displacements and fundamental blows. However, the pendulum movement is a component of the technical foundations of boxing, but the treatment from the theory is limited, nor is it conceived as a technical skill within the didactic models for the teaching-learning of this sport, this being a limitation. in the preparation of boxers who begin their sports training.

According to Balmaseda (2009) who coincides with Degtiariov (1983), Domínguez and Llanos (1987), Zamora (1995) *"the pendulum in boxing is the execution of the flat step forward and backward with uninterrupted rhythmic movement."* (p.90)

This element plays a role in the further learning of the technical aspects of contemporary boxing, especially when it comes to teaching children and young people who have never practiced this sport. Due to its biomechanical essence, it represents the intermediate point or link between all the technical and tactical elements of boxing.

In this sense, the Comprehensive Athlete Preparation Program (PIPD) "urges to continue working on the solution of boxer training programs, methodology and systems

in accordance with current regulations and competition system, as well as defining the pattern of the Cuban boxer.” (Collective of authors, 2016, p.7)

The results obtained from the theoretical systematization and the preliminary diagnostic study allowed us to define as the objective of the research to develop a methodology based on a didactic model to contribute to the teaching-learning of the pendulum movement during the process of technical preparation of pioneer boxing.

Referring to the didactic model, Valle (2012) considers that the model *“is a representation of those essential characteristics of the object, of how it can be changed and implemented, as well as evaluated, which allows discovering and studying new relationships and qualities with a view to the transformation of reality”* (p. 139), and suggests from this perspective specifying its components.

On the other hand, it expresses that it is an ideal representation of the object or phenomenon to be investigated that reflects, reproduces and simplifies the theory, forming a mentally conceived system and makes possible the study of new qualities and relationships in the object, responding to a concrete-historical need.

While Bayer (1987), refers to vertical models of teaching centered on the game. In these models, the orientation of the teaching takes place from the beginning, within the chosen sport.

On the other hand, López (2004) considers that one of the most important aspects of the coach's work is to determine the model, style and game system that his team will try to apply during matches.

From the philosophical point of view, the Marxist-Leninist conception of the world is assumed. Great value is given to Ausubel's (2002) postulates on meaningful learning where the student associates new information with what he already knows, readjusting and reconstructing both information. That is, the structure of prior knowledge conditions new knowledge and experiences.

These theoretical references are essential for the research under study. To achieve these purposes, a systemic, flexible, dynamic and contextualized methodological didactic model is required that allows the integration of the pendulum movement in boxing with the rest of the technical foundations of this sport, with the aim of guaranteeing the reserve sports and continuity of boxing in Cuba.

METHODS

For the development of the research, a population of 76 boxers from the pioneer category was chosen, who belong to 7 Sports Combinations of the Guantánamo province and 14 coaches who work with this category in the sports training areas. Of these, 24 athletes (31.6%) were selected that make up the preselection of the team for the 2022 National Pioneer Games and their 3 (21.4%) coaches as the sample under study.

A study was carried out on different national and international bibliographies to obtain information and criteria from different authors on the research problem, and the solution paths that they propose to date to give an answer to the problem by boxing researchers at a national level. international, and choose from them the positive part of their studies. The Comprehensive Athlete Preparation Programs (PIPD) of the 2016-2020 and 2021-2024 cycles were reviewed, among other regulatory and governing documents that are part of the documentation of the coaches to carry out the teaching-learning process of this sport in the areas of sports training; as well as several doctoral, master's and specialty theses, related to the problem under investigation.

The analysis of the reviewed bibliographies also allowed us to synthesize the necessary theoretical foundations that support the TLP of the pendulum movement in pioneer boxers, as well as the didactic model that is proposed.

RESULTS

Structure and operation of the didactic model for the teaching-learning of the pendulum movement in boxing of the pioneer category

The logic in the elaboration of the didactic model for the teaching-learning process of the pendulum movement of pioneer boxing, emerged from the diagnostic study, from the systematization of the theoretical methodological referents, from the practical experience of the investigation and from the considerations of Valle (2012) that proposes theoretical and procedural elements for its design.

Therefore, the proposed model is designed and structured from different subsystems, which are called:

The conceptual *theoretical subsystem* related to the determination of the didactic components of the pendulum movement in pioneer boxing.

On the other hand, the *methodological subsystem* is in function of offering general orientations and methodological precisions to implement the content of the pendulum movement in pioneer boxing during the teaching-learning process.

Likewise, the *intervention subsystem* is related to the planning process for the intervention in practice during the TLP of the pendulum movement in pioneer boxing. For the teaching-learning process of the pendulum steps in the pioneer boxers of the category 11-12 years, the subsystems that are exposed in the previous paragraph were taken into account. In the conceptual theory, the contents of the pendulum movements in boxing are determined, such as:

1. Pendulum movement for teaching (MPPE) which is the action carried out by the boxer from the combat stance, moving forward and backward with a flat step with the support of the metatarsals of the feet, in a continuous and coordinated manner, maintaining the rhythm without interruption and without deforming the structure of the boxer's fighting position.
2. Pendulum movement with combat rhythm (MPCRC) which, according to the authors' criteria, is the rhythmic, coordinated and more dynamic movement than the MPPE.

Actions are also taken into account to develop the teaching-learning of pendulum movements such as:

Action 1. Define the objective of the action to be carried out.

Action 2. Prepare and apply the instruments to evaluate pendulum movements with the help of a partner.

Action 3. Collect, process and interpret the information.

Action 4. Discuss in the group of coaches and boxers the results obtained from this technical skill and make new suggestions.

Action 5. Projection of new joint actions with the boxing trainers of the municipality and province.

To use indicators to evaluate the performance of the pioneer boxers in the use of the pendulum steps under study during the combat during the stops and competitions.

Determine the appropriate methodology for teaching pendulum steps based on the results obtained throughout the investigative process.

Implement the methodology for teaching-learning of the pendulum steps in the areas of sports training.

The methodological subsystem is based on the design through the following methodological guidelines:

1. The evaluation: this allows to measure the quality of the execution of the pendulum steps and the different changes that materialize in the boxing school.
2. During the evaluation of the pendulum steps, it is necessary to measure their continuous, qualitative, quantitative, integrating nature, based fundamentally on the boxer's performance against his opponents.
3. Chair groups, individual and group offices must be developed that allow systematic checking to make the necessary adjustments and continuous feedback of the pendulum step.
4. The control and evaluation of the development of the boxing pendulum step in the pioneering category must be carried out in a systematic, partial (at the end of each stage) and final way.
 - In the intervention subsystem, the didactic requirements for the instrumentation of the boxing pendulum step in the pioneering category are provided, for this:
 - Coaches who intend to use this model must take into account: The essential theoretical assumptions that support it.
 - The systemic, integrating, contextualized and developing character of boxing technical preparation.
 - The development of methodological activities in the group of coaches of the sports teams related to the methodology for teaching the technical fundamentals of boxing.
 - Carry out theoretical-methodological workshops related to the technical ability of pendulum steps in boxing.
 - Conceive the pendulum movement in boxing as a technical skill with its didactic components within the methodology for teaching boxing.
 - Determine the methodology for teaching pendulum movement in boxing
 - Plan the pendulum movement as a boxing technical skill in the teaching program, in the same way in the weekly dynamics and training unit.

- Demonstrate in practice the methodological actions for teaching pendulum movement in pioneer boxers.

DISCUSSION

The didactic model is fundamentally aimed at teaching-learning the pendulum steps of boxing in the pioneering category 11-12 years. Its novelty is characterized by having a systemic, integrative and contextualized approach that contrasts with traditional conceptions for teaching this technical element in boxers who are beginning sports training.

The criteria provided on models by Valle (2012), make it possible to study new qualities for the teaching-learning process of pioneer boxing 11-12 years old, with the incorporation of the pendulum movement within the methodology for teaching the technical fundamentals of boxing. In addition, it allows discovering and studying new relationships and qualities of the pendulum movement as an object of investigation with the rest of the pioneering boxing techniques.

Related to the models proposed by Balmaseda (2009), Degtiariov (1983), Domínguez and Llanos (1987) as well as Zamora (1995), for the teaching-learning of boxing from an early age in which the combat stoppage is taken into account (PC), displacements (D), turns (Gr) and fundamental blows (GF), which allow a better understanding for both coaches and boxers both in theory and in practice. However, these authors do not conceive pendulum movement as a technical skill, although they treat it in a conceptualized way, but its presence is not evident in the models proposed for teaching boxing in the pioneer category.

In addition, the postulates of Ausubel (2002) on meaningful learning were taken into account, which allowed establishing the necessary links between the contents to be learned and those already known, in such a way that a coherent system is formed and, in this way, promote the construction of technical skills in the assimilation of the boxer's pendulum movement against opponents, in training and competitions.

The studies carried out by Bayer (1986) and López (2004) allowed us to know the current trends of the models for teaching the technical foundations of boxing, where these must take place from the initiation of the child in this sport. It should also be noted that the coach must determine the ideal model, style and system of actions for teaching and learning the technical foundations of pioneering boxing, also incorporating the

pendulum movement as a technical element within the model for teaching boxing at older ages early.

On the other hand, the characterization made by Jiménez, 1998, on the number of techniques determined for a sequence of movements in boxing, gives the possibility of incorporating the pendulum movement within the models for the PEA of the technical foundations of this sport. Hence the importance that coaches know the types of pendulum movements to take into account in the preparation of pioneer boxers 11-12 years old.

According to what was proposed by the PIPD, 2016, it is necessary to continue perfecting the PEA of pioneer boxing. In this sense, the research is directed towards a didactic model that allows the integration of all the technical fundamentals of boxing, incorporating pendulum movements as a technical skill within the methodology for teaching this sport.

Finally, it can be concluded by stating that the model developed for the teaching-learning of the pendulum step is based on theoretical foundations: philosophical, sociological, psychological, pedagogical, didactic; that consists of two fundamental parts and each of them contains a system of actions to contribute to the improvement of the technical preparation of boxing in the pioneering category.

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