

Control indicators to evaluated compliance with training in the sport of athletics in the Guantnamo province

Indicadores de control para evaluar el cumplimiento de la preparación en el deporte atletismo en la provincia Guantánamo

Teyunis Benitez Ravelo¹, Concepción Uberlinda Naranjo Caboverde²

¹***Bachelor. Hight Performance Department, Guantnamo. Cuba.***

²***Dr.C. Guantnamo University, Guantnamo. Cuba.***

Email:

concepcion@cug.co.cu

teyunisbr@cug.co.cu

Date of receipt: October 20, 2025

Date of acceptance: November 12, 2025

ABSTRACT

The objective of the research is to design a set of indicators for monitoring and evaluating athlete preparation that allows for feedback on the training effect and the athlete's performance status. The theoretical methods used will be dialectical-materialist analysis-synthesis and deductive-inductive reasoning. The empirical methods will be measurement and observation. The final result is a training monitoring and evaluation model that includes dimensions and indicators for a comprehensive assessment of the fulfillment of the sports preparation plan.

RESUMEN

El objetivo de la investigación es diseñar una propuesta de indicadores de control y evaluación de la preparación de los atletas que permita la retroalimentación del efecto entrenado y estado de rendimiento del deportista. Se utilizarán como métodos teóricos: dialéctico-materialista análisis-síntesis, deductivo-inductivo. Los métodos empíricos: la medición y la observación. El resultado final se concreta en un modelo de control y evaluación del entrenamiento que contiene dimensiones e indicadores para una evaluación integral del cumplimiento de la preparación deportiva.

Keywords

Sports Training; Control; Indicators.

Palabras clave

Entrenamiento Deportivo; Control; Indicadores.

INTRODUCTION

Monitoring, as an indispensable tool in any pedagogical process, plays a fundamental role in sports training planning. Every training plan must clearly and precisely outline the objectives so that they can be monitored later.

This allows the coach to regularly verify the achievement of objectives, recording all quantifiable aspects of the process, such as tasks and their volume, indicators of load intensity, results of planned competitions, pedagogical tests, and other types of assessments used as forms of control in each period, stage, and mesocycle defined during the training plan at the beginning of each academic year. Therefore, monitoring must be present at every stage of the athlete's preparation. Therefore, the analysis of the training process is linked to control and directed toward the fulfillment of qualitative aspects; that is, the evaluation of the achievement of the proposed objectives, the effectiveness of the means and methods employed, the levels of non-quantifiable workloads, and the demands related to technical, tactical, theoretical, and psychological preparation.

Thus, evaluation assigns a value, a judgment about something or someone based on an implicit or explicit project. In this sense, evaluation is a fairly common activity that is carried out on many occasions in daily life and usually involves actions such as gathering information, making a judgment based on an evaluation, and making a decision.

According to Glazman and Iborrolla (1991), evaluation is an essential component of the objective and continuous process that unfolds in a spiral fashion. It consists of verifying the objective reality and structure of the current plan against a model, so that the value judgments obtained in this verification act as feedback, allowing the plan to be adapted to reality or aspects of it to be changed.

In sports training, these ideas take on significant meaning because, through monitoring and evaluation, the coach can make modifications regarding factors that may hinder its normal execution. Therefore, evaluation in sports training is a systematic process that provides continuous and meaningful information to understand the situation, form value judgments about it, and make appropriate decisions to continue the educational activity, progressively improving it.

Regarding monitoring and evaluation in sports, Harre (1987) defines it as: (...) a record of each athlete's performance through measurement, counting, observation, and evaluation in the sport or discipline, with the objective of verifying the training effect of each load or the athlete's performance status. (p. 63)

According to the Comprehensive Athlete Preparation Program (2014), coaches need to use assessment measures for their athletes for various reasons, such as selecting future athletes, obtaining practical information on training orientation, and assessing the effects on the athletes they train.

This means that the training process should be systematically evaluated, every day, in every action the athlete performs, etc. However, written monitoring and evaluation are generally carried out at the end of each mesocycle during the week of reduced training load.

Despite these arguments, a PROBLEMATIC SITUATION has been observed in pedagogical practice regarding the way in which athlete preparation is monitored and evaluated, as it does not encompass all possible indicators from both a quantitative and qualitative perspective.

The contributing factors are:

1. Insufficient analysis considering indicators for each type of training.
2. Complete absence of an athlete's training log and daily evaluation of training effectiveness.
3. Failure to meet the practical requirement of monitoring and evaluation for process feedback.

All of the above led to the formulation of the following SCIENTIFIC PROBLEM: How can we contribute to improving the monitoring and evaluation of the training of athletes at the Guantánamo Sports Initiation School (EIDE)? Consequently, the OBJECT OF STUDY was determined to be: the process of monitoring and evaluating sports training.

In this sense, it is observed that the current focus of the topic lies in perfecting the way this process is carried out so that it allows for obtaining the necessary information and effectively conducting a comprehensive qualitative and quantitative evaluation of training monitoring.

To solve the problem, the following OBJECTIVE was proposed: to design a set of indicators for monitoring and evaluating athletes' training that allows for feedback on the training effect and the athlete's performance status. The SCOPE OF ACTION is defined as: the evaluation of the athlete's training indicators.

The following IDEA TO BE DEFENDED is proposed: if a proposal of indicators for the control and evaluation of the preparation of athletes is designed that allows feedback on the effect and performance status of the athlete, evaluative criteria of the objective reality of this process will be obtained.

To address the central idea, the following SCIENTIFIC TASKS are proposed:

1. Theoretical and methodological foundation of the references that support the process of monitoring and evaluating athletic training.
2. Characterization of the current state of the methods and indicators for monitoring and evaluating athlete training at the Guantánamo Sports Initiation School (EIDE).
3. Design of a proposed set of indicators for monitoring and evaluating athlete training at the Guantánamo EIDE.
4. Evaluation of the practical validity of the indicators for monitoring and evaluating athlete training and their implementation at the Guantánamo EIDE.

The theoretical methods used were: dialectical-materialist, analysis-synthesis, inductive-deductive, and systemic-structural-functional. The empirical methods included: document analysis, interviews, and user criteria. Finally, the mathematical methods employed were: descriptive statistics using percentage calculations; and absolute and relative frequency in processing the interviews and the criteria of the consulted specialists through the SPSS-23 program (Statistical Product and Service Solutions).

RESULTS

The research population consisted of 18 coaches with an average of 18.5 years of work experience, and five managers involved in athletics with an average of 5 years of experience in their positions.

The Training Plan, as defined by Martínez and Cruz (2008), is the “document that ensures better organization, dosage, and distribution of the different training loads, based on a theoretical foundation (written plan) and, subsequently, the graphic plan.” (p.168)

In relation to the above, another element to consider is sports preparation, which, according to Ramirez (1999), “is a multifactorial process that encompasses the training of athletes, preparation for competitions and participation in them, the organization of the training process (...), the scientific-methodological and technical-material provision of the preparation and competition process.”

Therefore, in sports training, theory must be considered first and foremost because it contains the laws that govern the process and the principles that regulate their strict application. The athlete's preparation process demands the cardinal law of training, which is none other than "The Law of Bioadaptation."

In this sense, the Law of Bioadaptation states that training must be adapted to each person's level; that is, the training stimuli must have a specific intensity according to the individual's level, age, psycho-emotional state, and so on.

At the same time, the Principle of Adaptation must be considered, which refers to the body's ability to adjust to the demands placed upon it. Therefore, by practicing the specific movements of a sport, mastery will be achieved over time, taking into account the individual's condition.

Given the existence of the Adaptive Reserve Principle, which involves achieving specific adaptations by applying minimal stimulus, in order to avoid prematurely depleting the athlete's organic resources for the subsequent adaptations necessary to reach their maximum potential, rigorous control and evaluation of athlete preparation are of vital importance.

Pedagogical practice has shown that many talented young athletes fail to succeed at the highest level due to multiple physical, technical, and psychosocial factors that could explain their failure to reach their full potential. However, the Adaptive Reserve Principle partially explains this phenomenon from an organic and physiological perspective.

According to Mader (1989), the adaptive reserve *is the limit of the total volume of the organism's adaptive capacity and is individually conditioned and genetically determined. In other words, it is the margin for improvement from the current level with respect to the athlete's maximum potential.* It is essential to emphasize the need for monitoring and evaluation of sports training, taking into account indicators that make this process more objective.

Monitoring is considered a primary function oriented towards the management objectives of an organization. Evaluation must be fully aligned with the objective, allowing it to be measured both quantitatively and qualitatively. In sports, an indicator is an instrument that measures the performance of an aspect inherent to the athlete's training system, from the planning stage to performance in competition. Thus, performance indicators are conceived as units of information that allow for assessments of certain significant events in each sport.

Several authors discuss how to monitor and evaluate athletic performance based on the athlete's training log, taking into account psychological, physiological, biochemical, and anthropometric aspects, among others. However, it is necessary to find a tool that allows the coach to carry out this process naturally and practically, without disregarding the aforementioned aspects, which fall under the purview of a multidisciplinary medical team.

It is also known that training variables can include: intensity of effort, training frequency, load and repetition range, volume and sets, cadence or duration of repetitions, density or rest intervals, range of motion, and finally, the selection and order of exercises.

Furthermore, the components of physical, technical, tactical, and theoretical preparation are defined as evaluation indicators.

Martinez (2024) conducted an assessment of the initial training of Olympic champion Dayron Robles Planas, based on three dimensions: psychological, cognitive, and physical, with their respective indicators that serve as references for the research. Furthermore, the parameters or components of the technique will be taken into account for this control.

Based on all of the above, a model for quantitative control and indicators for qualitative assessment will be designed. See Annexes 1 and 2.

DISCUSSION

This proposal offers a new way to assess the fulfillment of sports preparation, visualizing it monthly and in its entirety at the end of the training process with two perspectives: quantitative and qualitative. This provides more comprehensive information upon completion of the preparation. It will allow for adjustments and modifications to be made as setbacks and plateaus occur in the load adaptation process (reverse processes), ultimately yielding an evaluation of compliance according to the established parameters.

To evaluate the control variable of the athlete's comprehensive preparation, different dimensions were defined. These are components that characterize the various preparations and the essential indicators in each. The qualitative assessment, which will be responsible for confirming whether the quantitative results achieved were attained with the required effectiveness, depends on the pedagogical tests applied. The indicators for each dimension are as follows:

INDICATORS FOR THE QUALITATIVE ASSESSMENT OF EACH PSYCHOLOGICAL DIMENSION

- Development of volitional qualities
- Motivation
- Concentration
- Attention span
- Intellectual capacity
- Decision-making

PHYSICAL DIMENSION

- Adaptation to physical loads
- Performance level
- Rate of performance improvement
- Performance stability and potential
- Tolerance to training load

COGNITIVE DIMENSION

- Technical mastery
- Gradual increase in technical-tactical development
- Information processing
- Environmental variations
- Progression of the development of physical capacities and sports motor skills

PARAMETERS OR COMPONENTS OF TECHNIQUE

- ☐ For an in-depth characterization of technique:
 - Distribution of body parts
 - Trajectory of the body and its different parts
 - Body amplitude and its different parts
- ☐ Interaction of all forces
- ☐ Strength structure of the exercises
- ☐ For a temporal characterization of the exercise
- ☐ Body speed
- ☐ Frequency and tempo of movements
- ☐ For a temporal and strength characterization
- ☐ Rhythm of the exercise

CONCLUSIONS

Regarding training control, several studies have addressed the issue, defining the instruments used in sports training for evaluation, aspects to consider when assessing program effectiveness, guidelines, models, methodology, and other relevant factors. In some cases, advanced technology and software programs are needed, which coaches do not have access to. Therefore, this study proposes some essential indicators to guide high-performance coaches in Guantánamo province in revealing the quantitative nature of training evaluation.

BIBLIOGRAPHIC REFERENCES

- Harre, D. (1989). *Teoría del Entrenamiento Deportivo*. Editorial Ciencia y Técnica. Ciudad de la Habana.
- Martínez Amelo, M. (2023). La formación deportiva del Campeón Olímpico Dayron Robles Planas. Trabajo de Diploma. Universidad de Guantánamo. Guantánamo .Cuba.
- Martínez de Osoba, J.A. y Cruz, M. (2008). *Pequeña enciclopedia olímpica y de la Cultura Física*. Edt. Ciencia y Técnica. La Habana.
- Ozolin N.G. (1989). *Sistema Contemporáneo del Entrenamiento Deportivo*. Edit: Científico - Técnica. Ciudad de la Habana.
- Ramírez Jorge A. (1999). *Conceptos... Educación Física, Deportes, Recreación*. Edit. Episteme, C. A. Maracay – Venezuela.
- Rodríguez Gómez, G. A. 2013) *Programa de evaluación del rendimiento deportivo*. EFDeportes.com, Revista Digital. Buenos Aires, Año 17, N° 178, marzo de 2013. <http://www.efdeportes.com>.
- Urdampilleta A., Martínez-Sanz J. M., y Cejuela R. (2012). *Indicadores del rendimiento deportivo: aspectos psicológicos, fisiológicos, bioquímicos y antropométricos*. FDeportes.com, Revista Digital. Buenos Aires, Año 17, N° 173, Octubre de 2012.