

Sistema de ejercicios para potenciar la coordinación en atletas de baloncesto primera categoría de Guantánamo

System of exercises to potentiate coordination in first category basketball athletes in Guantánamo

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RESUMEN

Se realizó un diagnóstico para analizar la coordinación en baloncestistas primera categoría de la provincia Guantánamo. Los métodos empleados fueron del nivel teórico el análisis-síntesis, inductivo-deductivo y sistémico-estructural-funcional. Del nivel empírico se utilizó la observación, análisis de documentos y el experimento. Como técnicas la entrevista y encuesta. Del nivel matemático la media aritmética y el cálculo porcentual. La propuesta se sustenta a partir de las orientaciones emanadas del programa de formación integral de preparación del deportista. El sistema de ejercicios fue evaluado de pertinente, corroborándolo las consultas realizadas a entrenadores, asesores y metodóloga, constituyendo una herramienta para mejorar esta capacidad.

Palabras clave: Coordinación; Capacidades; Sistema de ejercicios; Atletas de baloncesto

ABSTRACT

A diagnosis was made to analyze the coordination in first category basketball players in the province of Guantánamo. The methods used were from the, theoretical level analysis-synthesis, inductive-deductive and systemic-structural-

functional. From the empirical level, observation, document analysis and experiment were used. How the interview and survey techniques. From the mathematical level, the arithmetic mean and the percentage calculation. The proposal is based on the guidelines issued by the comprehensive training program for the preparation of the athlete. The System of exercises was evaluated as relevant, corroborating the consultations carried out with coaches, advisors and methodologists, constituting a tool to improve this capacity.

Keywords: Coordination; Capacities; System of exercises; Basketball players

INTRODUCTION

Modern basketball has been constituted as a sport with a broad competitive vision, where the changing and unexpected situations of the game have proliferated, to the point that the offensive interacts in offensive concepts and vice versa. The specialists support the basketball of this time with the increase of the dynamics, the power of the players, the individual game in the reduced spaces, together with the tactical variability, the actions with only two or three players in a free game, as well as a more creative game, based on concepts in the tactical order, based on principles, constituting the main means of any team that wants to dominate in the confrontations.

Considering the usual characteristics of basketball, we can point out that the player must learn both the technical means and the general and specific principles that govern the game. Coordinating skills are the basis of technical skills. These are abilities, determined above all by the process of controlling movements. The potential capacities of coordination must be differentiated from the already acquired capacities: the acquired capacities refer to the movement already learned and partially automated, as such, the potential capacities refer to the general basic requirement for performance in various movements in sports.

The general capacities, as well as the capacities of specific potentials of the coordination, are formed in the context of a specific sport modality, and these represent the possibility of variation of a certain sport technique. The specific potential capacity is characterized by specific movements for sport modalities, in which they occupy a priority position (Ozolin N.G. 1973).

The coordinative capacities are the basis for sensory and motor learning abilities, for this reason this facilitates the learning of difficult and complex movements.

The correct performance of the coordinative capacities in basketball, allows the learning of new sports techniques, and the correction of already automated movements, which can be used as a form of compensation (balance) for training. In the initial diagnosis carried out, it was detected that the first category basketball athletes of Guantánamo province present some insufficiencies related mainly to coordination. Behaving in the following way:

- The content addressed by the comprehensive program of preparation of the athlete related to coordination, do not satisfy the requirements for this category.
- The methodological guidelines do not delve into the specific work of coordination, according to contemporary basketball trends.
- Insufficient exercises for coordination work.

In order to solve the shortcomings detected, it is proposed to develop a system of exercises to potentiate coordination in the first category basketball athletes in Guantanamo province.

DEVELOPMENT

The coordinative capacities, in essence, mark differences with the conditionals and the technical and tactical improvement and learning, but at the same time they are so closely related, that they determine the successful development of the physical and technical sports preparation. The coordinative capacities depend on the functioning of the central nervous system, on the participation of the motor analyzers, being able to classify them as sensomotor capacities.

Matveev, L.P. (1989) states that *"...the term coordination skills, must be interpreted, first, as the ability to organize (form, subordinate, link in a single whole) integral motor acts and, secondly, the power to modify the elaborated forms of the actions, or move from one to another according to the requirements of the variable conditions."* In order to define the methodology to be used, it is important to assess the level of physical and technical sports aptitude of the athletes. To the extent that they possess a greater degree of motor experience, the better will be the

possibilities of assimilating new movements and transforming them, according to the presented situation.

In the assessment of the coordinative capacities, the time invested in the assimilation, or in the transformation of new motor actions, is an important element to take into account, to achieve the accuracy of the movement and the sports improvement.

In the training and development of talents, it is demonstrated that a methodology must be used that guarantees the multilateral and multifaceted preparation, without forgetting the character of the chosen sports discipline. The coordinative capacities, obligatorily have to respond to the requirements of each sport. The manifestations of coordination differ according to the sport, those of competitive art work fundamentally to gradually include technically more complex exercises. However, sports games and combat sports, lie in the possibility of quickly and rationally transforming the motor actions that unfold in the context of competition.

The pedagogue must take into account then, the need to use general and special exercises, depending on the sport modality. In addition, when training loads are applied, they become habitual, understood as adaptation, needing to increase the coordination complexity of the exercise, to improve the work capacity and the technical and tactical improvement. The composition of the media must be differentiated by the special dynamism of constantly renewing, as long as sports training takes place.

According to Matveev, L.P. (1989), the athlete, when assimilating new exercises, not only complements quantitatively his motor experience, but also exercises his training capacity, as a faculty of constituting new forms of coordination of the movements.

The degree of possible renewal of the forms of coordination of the movements in the chosen sports mobility depends on the variety of the technique and the tactics that are proper to it, using special and competitive preparation exercises, but it does not reject the exercises at any time of general preparation. What happens in this case is that the general preparation, in a certain way, acquires features of specialization.

The coordinative capacities, are identified significantly by their possibilities of joining the rapidity, the rhythm, the economy of the movement and the accuracy. It is distinctive, as in these actions, intervene the analyzers, the visual motor, as well as the auditory, which demands a high tension of the nervous system (Mora Ayllón, F. 2008).

According to Romero Frómeta, E. (2007), the systematic exercise of coordinative capacities (balance, rhythm, reaction, spatial orientation, etc.), directly influences the development of different conditional capacities (multipotency), and in turn, a better predisposition for learning different motor activities (games, sports, etc.).

It is important to bear in mind that these types of abilities should not be exercised when the athlete has a marked state of fatigue, as the dynamic-spatial structure of the movements could be affected.

Verjoshanski, Y. (1991), relates five coordinative capacities to the three basic capacities already mentioned, and tries to classify them giving it a hierarchical order:

- Spatial orientation capabilities.
- Capacity of kinesthetic differentiation.
- Reaction capacity.
- Rhythmic ability.
- Balance capacity.

The coordinative capacities, are not conceived without the physical work (strength, resistance, speed and flexibility) and their complex interaction. For this reason, these physical factors are only effective for sports development when they are associated with coordinative abilities, since coordinative qualities are essential for physical development (Navarro Falgóns, S. 2007).

According to the criterion of Ranzola Ribas, A. (1989), the factors of physical and motor development influence different proportions in coordinative capacities. For an action to be performed with skill, the various movements that compose it must be performed with speed. Flexibility is also a basis for agility, so that the execution of movement in space has a greater field of operation (greater or lesser amplitude), and can be easily adapted to spatial alterations.

Finally, resistance is a necessary component of the skill, since a precocious psychic and physical fatigue determines the reduction of the capacity of neuromuscular coordination, for example, increase of injuries at the end of the game in function of the increasing fatigue and the reduction of the abilities.

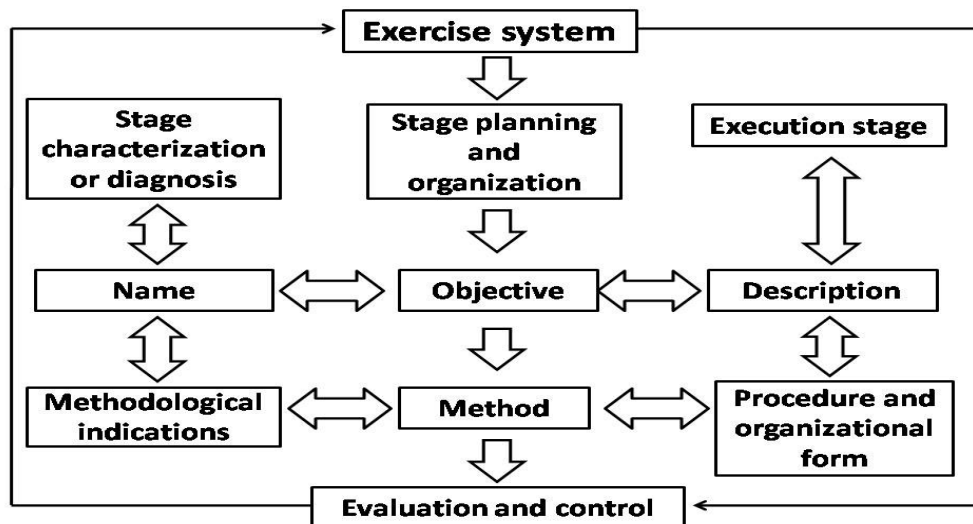
Ruiz Aguilera, A. (1985), states that coordinative capacities are organized and structured into three groups: general or basic, special and complex

- General or basic:
 - Movement regulation.
 - Adaptation and motor changes.
- Specials:
 - Orientation.
 - Anticipation.
 - Differentiation.
 - Coupling.
 - Balance.
 - Reaction speed.
 - Rhythm.
- Complexes:
 - Motor learning.
 - Agility.

The proposed System of exercises goes through the following stages:

1. Characterization or diagnosis stage.
2. Planning and organization stage.
3. Stage of execution.
4. Evaluation and control stage.

Figure 1. Representation of the System of exercises.



Here are 2 examples.

Exercise 1.

Name: the skier.

Materials: balls, ladder and whistle.

Objective: to perform the exercises allowing the correct coordination of the legs.

Description of the exercise: a horizontal ladder is placed on the ground. The athletes will be formed one after the other. At the signal of the coach, the first athlete will make coordinated lateral assaults with dribbling, he must advance according to the steps of the ladder until he reaches the end.

Methodological indications:

- ✓ Insist that the assaults are carried out continuously.

Method: standard (repetitions).

Procedure and organizational form: front row.

Evaluation: in a practical way, once a week.

Exercise 2.

Name: the dodge ball.

Materials: small balls and whistle.

Objective: to carry out the exercise allowing the correct reaction speed of the legs.

Description of the exercise: two athletes facing each other (A) and (B), separated at a distance of 5 meters. At the signal of the coach, the athlete (B) will throw the balls one at a time, trying to pass it between the legs of the athlete (A). This in turn

will perform as fast as possible lateral movement, preventing the balls from passing between the legs, then alternate the positions.

Methodological indications:

- ✓ Defensive displacement position.
- ✓ It can be done on a lawn or basketball court.
- ✓ The legs do not cross or join.
- ✓ The duration time is 10 seconds.

Method: standard (repetitions).

Procedure and organizational form: frontal in duos.

Evaluation of the feasibility of the System of exercises.

Analysis and interpretation of the pre-experiment, before and after.

Object of the pre-experiment: evaluate the effectiveness of the System of exercises.

General objective: to demonstrate the effectiveness of the system of exercises by means of a test (practical) and an observation guide.

Moments of application of the System of exercises: first moment July 2014, second moment February 2015.

Experimental units: 12 athletes of the first category basketball team of the Guantanamo province.

Indicators:

1. Results in the pedagogical tests (practical test instrument).
2. Application of practical knowledge in game situations (observation).

Specific objective: The initial and final evaluation (pre-test) and (post-test) of the practical execution regarding the coordinative capacities that allow to determine the level of preparation of the players in this training direction.

For the coherent evaluation of the System of exercises, dimensions are established that are first tabulated in a statistical observation protocol and then evaluated.

Dimensions for the assessment of coordination.

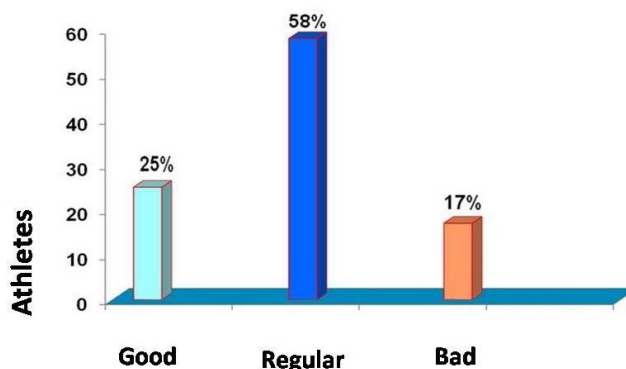
Shooting the hoop in motion near the hoop after dribbling:

- a) Placement of the feet in the form of steps.

- b) Execute the two steps.
- c) Raise the pendulum leg.
- d) Jump for the shot up.
- e) Extend the arm that pulls the hoop.
- f) Flexion of the wrist.

Evaluation of the execution of the shot to the hoop in movement near the hoop after dribbling (pre-test).

Graph 2. Analysis of pre-test results.

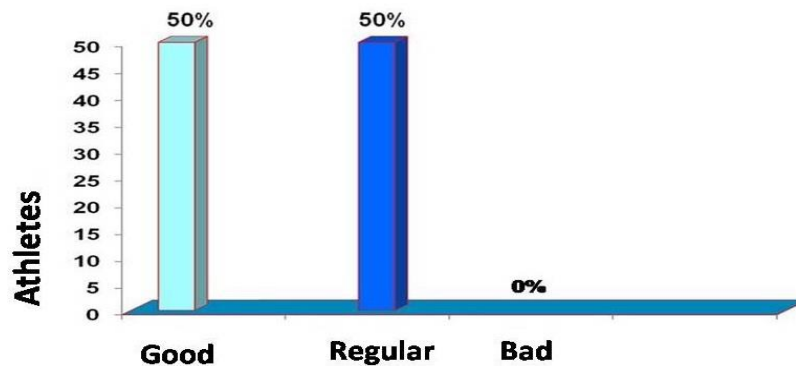


Regarding the indicators that were evaluated in the pre-test, the athletes 1, 9 and 12 were evaluated of Good, for 25%, the athletes 2, 4, 5, 6, 7, 8 and 11 obtained evaluation of Regular, representing 58%, while athletes 3 and 10 were evaluated of Bad, meaning 17%.

Therefore, it is understood that the first test performed was not satisfactory, demonstrated by the qualitative evaluation obtained by each athlete.

Evaluation of the execution of the shot to the hoop in movement near the hoop after dribbling (post-test).

Graph 3. Analysis of the results of the post-test.



After applying the System of exercises, the post-test yielded the following results.

It was possible to appreciate that the athletes 1, 4, 5, 7, 9 and 12 were evaluated of Good, for 50%, of Regular the athletes 2, 3, 6, 8, 10 and 11 were evaluated, for a 50%. In this case, there was no indicator assessed of Bad, and the evaluation criteria of Good and Regular were increased.

The results obtained in the second measurement were superior to those shown in the first, which should highlight the results obtained by athletes 1, 9 and 12, who remained stable in their evaluation.

CONCLUSIONS

The diagnosis made, showed that there were significant deficiencies related to coordination in the first category basketball athletes of Guantanamo province. However, the proposed exercises allowed, through its execution and systematization, to potentiate the training of coordinative abilities in these athletes.

BIBLIOGRAPHIC REFERENCES

- Matveev, L.P. (1989). *Teoría del Entrenamiento Deportivo*. Moscú: Ráduga.
- Mora Ayllón, F. (2008). *Minibaloncesto. Manual para la enseñanza y el aprendizaje*. La Habana: Deportes.
- Navarro Falgóns, S. (2007). *La iniciación deportiva y la planificación del entrenamiento*. La Habana: Deportes.
- Ozolin N.G. (1973). *El entrenamiento deportivo contemporáneo*. Moscú: Moscow.
- Ranzola Ribas, A. (1989). *La preparación competitiva*. La Habana: Deportes.
- Ruiz Aguilera, A. y Col. (1985). *Metodología de la enseñanza de la Educación Física. Tomo I*. La Habana: Pueblo y Educación.

- Romero Frómeta, E. (2007). *Teoría y Metodología del Entrenamiento Deportivo. Compendio Temático 1*. (Material no publicado) Escuela Superior Politécnica del Ejército. Quito, Ecuador.
- Verjoshanski, Y. (1991). *Entrenamiento Deportivo. Planificación y programación*. España: Martínez Roca.