



A Methodology to Train Middle Blockers in Junior Volleyball

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ABSTRACT

Introduction: Today, volleyball has undergone particular changes. It has assumed a complex system and game forms, and it encourages the search for greater player specialization and optimization of game systems and forms.

Aim: To design a methodology for the training of middle blockers in volleyball's junior categories, based on the individual characteristics of athletes and their roles in the team.

Materials and methods: The procedures used permitted providing a rationale for the scientific results and determining the existing practical regularities, as well as data statistical processing.

Results: The methodology relies on current volleyball practice, based on positioning in the junior categories, with a growing level of complexity in the tasks of training, which favors these players on their teams.

Conclusions: The methodology centered on the specificity of the training contents for developing middle blockers in the junior categories based on their roles in the game and the tendencies that characterize training and the competition today.





Keywords: methodology, middle blocker, volleyball

INTRODUCTION

Today, volleyball has undergone particular changes. It has assumed a complex system and game forms, and it encourages the search for greater player specialization and optimization of game systems and forms.

The actions begun in 1984 to make volleyball a show sport materialized in the the 1999-2000 period, when several transformations of the rules were staged, according to García, R. M., Meireles, C. H. A. de, & Pereira, E. G. B. (2021), such as,

- The rally-point rule, by which every action scores points.
- The inclusion of the libero, a player who specializes in field defense.
- The validity of service when the ball touches the net and passes into the opponent's area, which creates continuity through K1.
- Personal net contact is considered foul if it is part of the beginning or end of the play, or if it is intentional.
- The technical times (8 and 16 points, except in the fifth set).

Cuban volleyball contributes to such popularity, as their teams have achieved significant results in international competitions, since the sport introduction and development in the country. Any competition with the participation of Cuban teams becomes an attraction thanks to the colorful and spectacular performance of the athletes.

In that sense, the president of the Cuban Federation of Volleyball, MSc. Ariel Sainz Rodriguez has expressed that regardless of the work done to reach versatility in athlete performance, the training of middle blockers in the junior category lacks balance. Today, due to the complexity of game systems, it is necessary to tackle training more specifically and orderly, oriented to the mastery of the position to meet the ever-growing requirements of contemporary volleyball.

These aspects have been dealt with in different ways by authors like, García Bohigas, J., Ruiz Loaces, Y., & Herrera Delgado, Í. (2021), Gonçalves, C. A., Lopes, T. J., Marinho, D. A., & Neiva, H. P. (2019), González Moreno, A., Núñez Aliaga, F., & Aguilera Corrales, Y. (2019), Lacosier Baptiste, R., Martínez Áreas, O.; Ruiz Bacallao, I. (2021), Pérez Ayala, A. D. (2020), and Zapata Cuaspa, M., Ayala Vega, K., & Quintanilla Ayala, L. (2021). Their studies evaluate the treatment of the explosive force and its relation to the player's jumping capacity, which shows the significance of such capacities for the volleyball player. Although in each case, when several categories are referred to, various aspects treated in those studies





regarding the middle blockers are assumed, given the role and performance of the team throughout the games.

A survey of 20 coaches of the men's junior categories during the national championship held in Matanzas, in 2019, including the coaches of the national junior selection, provincial commissioners, and officials of the sports national commission, the observation of daily training sessions and the national events and tests to provincial athletes showed that,

- The Comprehensive Sports Training Program in place today (2017-2020) does not offer the junior category ways to conduct the work with players, according to their roles in the game, particularly the middle blockers.
- There is an absence of unified methodological arguments on how to develop middle blockers in the junior category.
- Generally, coaches think that the training of middle blockers should start in the first year of the junior category.
- There is no correspondence between jump planning in the macrostructure of training through real jump practice of middle blockers during the competition games.

The above leads to the need for a solution to the shortcomings of the middle blocker training process in junior volleyball. Hence, this study aims to design a methodology for the training of middle blockers in junior categories, based on the individual characteristics of athletes and their roles on the team.

MATERIALS AND METHODS

The methods and techniques used were the analytical-synthetic, inductive-deductive, systemic-structural-functional, documentary analysis, observation, survey, and statistical mathematical, which facilitated the physical-technical training in sport, design of the scientific process, and process the data obtained in the diagnostic.

A number of 16 athletes were selected for this study, all of them middle attackers in the junior category from the provinces taking part in the national championship. Of them, 4 (25%) were from Camaguey province (two from Florida and the other two from Camagüey municipalities, as continuing students), with sports and competitive experience of 4-8 years, respectively. The competitive and sports experience of the remaining athletes (75%) varied between 4 and 6 years. The athletes' ages were between 16 and 18 years old.

The survey was applied to 20 coaches that participated in the last national junior games, to know about the importance of recording the number of jumps linked to





their game roles that the players performed on the court within the competition. The daily training sessions in the province of Camagüey were observed, including observations during the national championship training sessions and the competition. Two collaborators participating in the national competition assisted in the study. Their instrument is shown in Appendix III, whose purpose was to detect the location of the jumps using the evaluation model that included the number and types of jumps on team Camagüey, in three-set, one-four-set, and one five-set matches. The results were used to analyze every instrument used and their correspondence.

RESULTS AND DISCUSSION

The documentary review permitted knowing the particularities of the technical-tactical training of middle blockers/attackers. the PIPD specificities were also known, which generally show the way of developing this technical element, but not how to single it out, considering the characteristics of every player's role, thus evidencing the existing theoretical shortcoming. Middle blocker/attacker assessment in the PIPD did not respond to the contemporary technical-tactical levels of volleyball. It also showed the different parameters to be included for the proper development of middle attackers in the junior category.

The main objective of the methodology was to develop technical-tactical skills to form young central volleyball players from the junior categories.

Phase I. Comprehensive characterization of the middle blocker/attacker

Objective: To determine the current development of young developing Zone 3 players from physical and technical-tactical standpoints.

The middle players take part in three different types of blocks, depending on their involvement: single, double, and triple blocks. Additionally, one of their functions is to feint on the attack to deceive the central blocker of the other team, kill on quick passes, and make variables, especially during the K1 and K2 complexes in the front position. In the back position, their role is more associated with servicing seeking aces or dismantling the opponent's offensive and helping in field defense, only when servicing, until they are replaced by the libero, who is the expert defense player.

Fitness level

Today, the middle blockers are over 198 cm, though there is a tendency to place very tall players on the ends to cover more space behind the blockers, in the defense. Generally, they are quick and explosive players, their explosive strength, quickness, and coordination are indispensable to achieving their goals. Hence, the evaluation rules offered by Lacosier Baptiste, R., Martínez Áreas, O.; Ruiz Bacallao,





I. (2021) are embraced. They will enable an evaluation of players' behavior in this area.

Technical-tactical preparedness

The service must be hard or floating or with jumping, and directed to the most complex weaknesses of the opponent's formation. The kill must be done to the front, diagonal, turning, over the shoulder, using feints, and directed to all the positions over combined passes, from the front zones, with feints, blocks, and the opponent's defensive formation.

The blocks must be done from all the areas of the front line, individually or in the group, predetermining the direction and form of attack of the opponent, on high passes, and in combination, coordinating actions with their front partners, depending on the offensive tactic of the opponent. The players must also anticipate the opponent's actions, and pre-read the offensive variants proposed by the adversary.

The initial characterization requires the fulfillment of the following methodological aspects:

- To analyze the competitive activity, the role of the team, and individual characteristics of the players, including the training attributes.
- To select the methods (observation and measurement) and implement the ones that will be used for the characterization of the developing middle blocker/attacker's potential.
- To determine the main causes that limit performance in keeping with the individualities regarding the physical and technical-tactical aspects of the players.
- To characterize the initial state of developing middle blockers.

Phase II. Organization, planning, and implementation of training tasks

Objective: To determine the training contents at different moments of training, according to the basic skills needed for developing young middle blockers, following their characteristics.

In this phase, the particular exercises for every moment the training process develops, depending on the level of complexity and assimilation by the players, who will organize the plays depending on the different technical-tactical skills present in the game, whereas the others will be used to adjust the creativity and independence of players before certain opponent's actions. In all cases, exercises simulate and model the regularities of the competitive activity in the games.





Training tasks were organized as well, in three blocks with different complexity levels: low, mid, and high. Based on task assimilation and development levels, every block comprised aspects like objective, description, observation, and methodological aspects to be considered for practical materialization. The conception assumed to design the training stimulates the development of tactical thinking to respond creatively and efficiently. These aspects were dealt with by Jiménez Rosales, N., Wambrug Callejas, T., & García Gómez, F. B. (2020), which during the competition, permit an evaluation of effectiveness.

To organize, plan, and implement the training tasks, the following methodological aspects must be accomplished. They are placed and adjusted to every training model/system used for player preparedness, here coinciding with the findings of Marques Junior, N. K. (2019 and 2021).

- To select the objective and contents that characterize every training moment in keeping with the sports instructor and player, depending on their levels of task assimilation and complexity, which must be met theoretically (problem statement), and practically (possible problem-solving).
- To ensure training task fulfillment that embraces players as active entities of training, with duly criteria for decision-making.
- To determine the dynamic of external load components, emphasizing the time dedicated to those requiring the most seriated repetitions in every training task to be implemented.
- To determine the methods to be used for planned training task implementation (discontinuous by repetitions and intervals).
- To adapt the training tasks to the individual characteristics of players, emphasizing the creation of situations created in competitions.

Phase III. Control and evaluation of player performance

Objective: To check the physical and technical-tactical level reached by developing young middle blockers/attacker.

Control and evaluation are transversal phases throughout the entire development of zone 3 players, the former has several stages, operational (in the same training session), by stages (upon finishing every training task block), and partial which may be done at the end of every mesocycle or any other training moment. In all of them, player behavior in assimilating the expected training exercises aiming to efficient practice during the competition.

When the player performance data are collected, their performance can be evaluated, quantitatively and qualitatively. The causes that generate quantitative player performance can be explained; they will be evaluated throughout the training sessions and the preparatory competitions. It will help determine the



player performance criteria in terms of jumping quality, assistance, blocks, and their extent, considering their laterality; some of them were studied by Marques-Junior, N. K. (2018 and 2021).

The control and evaluation of player performance require the compliance with these methodological aspects:

- To determine the control stage timing during the training process.
- To implement the methods (observation, measurement, and statistical) for the control of training tasks.
- To interpret the data gathered in every control together with the players, to know player behavior about the training tasks implemented.
- To inform the athletes about the changes to implement depending on the shortcomings observed in the controls, especially about the systematization of controls and methods used.
- To compare the behavior of the parameters evaluated in the players during previous phases with the results observed in the control games or preparatory competitions.
- To recommend to the instructors and players the possible content changes and forms to implement them, depending on the training moments (Figure 1).

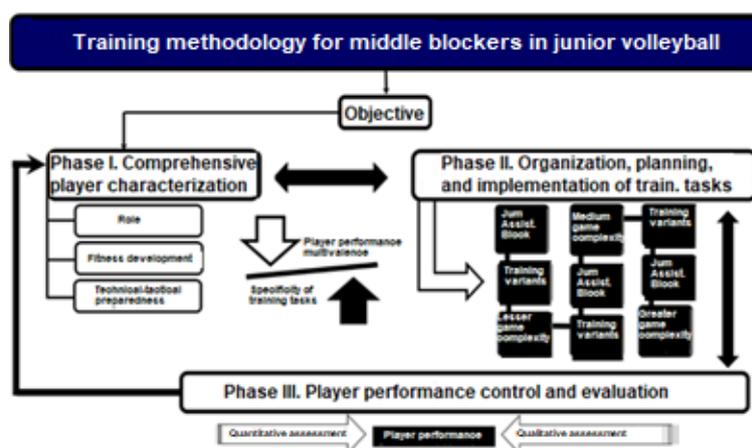


Fig. 1. Graphic representation of the methodology to develop technical-tactical skills to form young middle blockers/attackers.

General methodological indicators that regulate the behavior of the methodology, to offer timely content changes, assess player's technical efficiency and the behavior of their progress to have assessing criteria of performance in every competition and training session.

CONCLUSIONS

The middle blockers/attackers, depending on the roles they play in the game, and considering the current tendencies in volleyball, require a previous specialization



level above the traditional training conception, respecting their normal individual development and adjusting training tasks that encourage creative thinking.

The athletes diagnosed possess physical and somatotype characteristics that permit training according to the regularities of the training and competition system that offers them higher technical-tactical training based on a better understanding of the game.

A methodology centered on the specificity of the training contents for developing middle blockers/attackers in junior volleyball practice was designed depending on their roles in the game and the tendencies that characterize training and competition today, which was controlled through objective indicators of practical performance.

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