

**MENTAL ENLIGHTENMENT SCIENTIFIC –
METHODOLOGICAL JOURNAL****MENTAL ENLIGHTENMENT SCIENTIFIC –
METHODOLOGICAL JOURNAL**<http://mentaljournal-jspu.uz/index.php/mesmj/index>**EFFICIENCY OF ROTATIONAL MOVEMENTS IN VOLLEYBALL****K. Murodova***PhD Researcher**Nukus, Uzbekistan*

ABOUT ARTICLE

Key words: volleyball, rotation, zones, positional movement, rotational movement, player positioning, technical and tactical training, attack, defense, interaction, optimal rotation, competitive activity.

Received: 20.09.26**Accepted:** 21.09.26**Published:** 22.09.26

Abstract: This article presents information on the effectiveness of rotational actions in volleyball, the positioning of players across court zones, and the impact of rotational movements on technical and tactical performance. The study examines players' positioning in different zones, the sequence of rotational movements during the change of service possession, the interaction between front-row and back-row players, and the effective performance of each player's functional responsibilities. The criteria for evaluating rotational effectiveness include positioning errors occurring during the rotation process, the accuracy of movement between zones, the continuity of offensive and defensive actions, and the players' ability to adapt quickly to game situations.

Introduction. Globally, the theoretical and methodological foundations for the optimal rotation of volleyball players' movement across zones are being improved. The identification of scientific mechanisms for managing team game activity and the system of technical and tactical training are being enriched with new scientific approaches. Scientific research has been conducted aimed at determining the patterns of volleyball players' movement through play zones, the interdependence of technical and tactical actions during rotation, and factors affecting game efficiency. Optimal rotation algorithms have been developed, taking into account the individual functional capabilities of volleyball players, the game environment, and the

team's tactical model. Research is being conducted to improve the criteria for evaluating rotational movements and to conduct a comprehensive analysis of game efficiency across zones. However, there is a need to develop scientifically grounded methods aimed at the optimal rotation of volleyball players' movement across zones.

Purpose of the research. It consists of developing proposals and recommendations for the effectiveness of rotational movement in volleyball.

Research objectives. 1. Analyzing the movement of volleyball players across zones. 2. Development of a methodology for the optimal rotation of volleyball players by zone.

Research results and their discussion. Among foreign scholars, specialists such as G. Grouious, H. Tsorbatzoudis, K. Alexandris, V.W. Barkoutis, Z. Witkowski, D. Brown, and W. Wickello have disclosed in their scientific and methodological works methods for the special physical training of volleyball players, biomechanical analysis of game activity, improvement of technical elements, evaluation of competitive performance efficiency, and optimization of team tactical actions. In the course of their research, they revealed the system of preparation of volleyball players for the game, the effectiveness of offensive and defensive actions, pedagogical control of game activity, planning of competitive loads, and forecasting of sports results.

In volleyball, through zone rotation, opportunities for rapid decision-making, counterattacking, and correctly and accurately returning strikes are expanded. This, in turn, allows volleyball teams to become winners. In volleyball, zone rotation serves not only to comply with the rules but also to provide the team with a number of important tactical and organizational advantages. Taking the above into account, a methodology for performing zone rotation in volleyball has been developed (see Fig. 1).

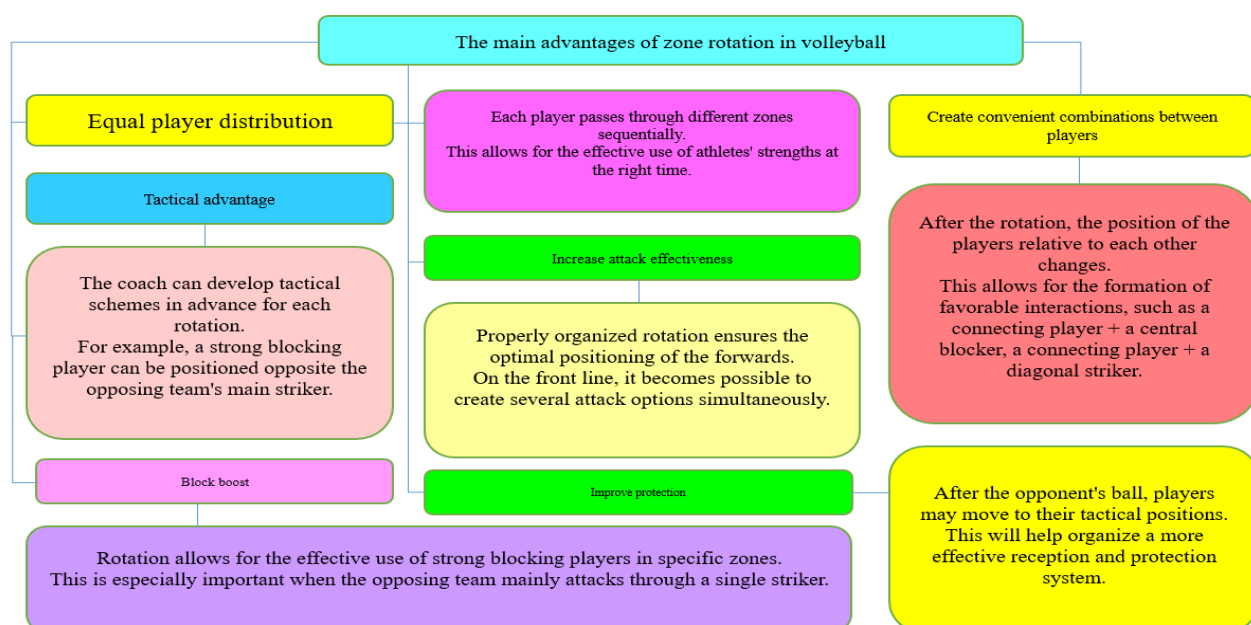


Figure 1. Efficiency result in performing rotational movements in volleyball

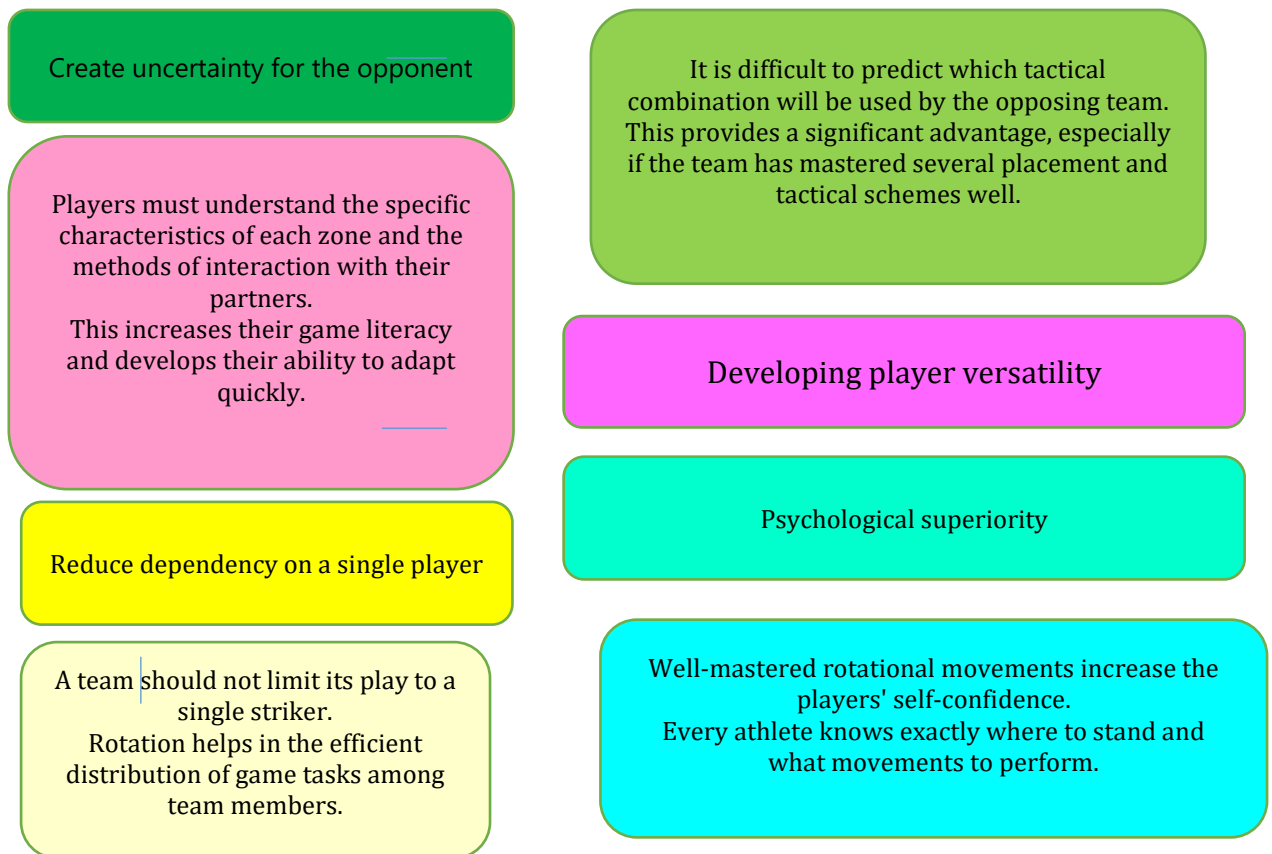


Figure 2. Efficiency result in performing rotational movements in volleyball

A methodology for the optimal rotation of volleyball players' movement across zones has been developed. The methodology recommended by us is based on the purposeful organization of rotational movements, taking into account the functional specialization of players, their positioning on the field, and their interactions. In the process of applying this methodology, the main advantage of rotation was aimed at increasing the ability of each zone player to effectively perform their functional duties by arranging volleyball players in zones based on a predetermined optimal sequence. In this case, the positioning of the connecting player, the attacking directions of the attackers, the mutual positioning of players in the defensive zone, and the interaction of players on the front and back lines made it possible to perform actions correctly. Through the application of the proposed rotation methodology, it was achieved that time losses during inter-zone positional transitions were reduced, volleyball players adapted more rapidly to their respective positions, and the continuity of offensive and defensive actions, as well as the efficiency of mutual positioning, were improved. Rapidly assuming their positions after rotation enabled the players to continue their technical and tactical actions without interruption. Another important advantage of rotation is that the individual specialization of volleyball players was preserved throughout the rotation process.

In other words, positional changes were not treated as merely mechanical movements but were organized in accordance with each player's specific roles and responsibilities in attack, defense, blocking, reception, and setting. This, in turn, reduced disruption to the game structure following rotation and helped ensure the stability of team tactical actions. In addition, the optimal rotation model contributed to improving the speed of decision-making and adaptation to changing game situations. As volleyball players anticipated their next zone and the functional role they were expected to perform, unnecessary positional movements, situations in which two players moved into the same zone, and gaps arising between defensive and offensive actions were reduced. Overall, the effectiveness of the proposed methodology was demonstrated through such criteria as the accuracy of rotation, speed of positional adjustment, inter-zone coordination, synchronization of offensive and defensive actions, mutual coverage, and the stability of technical and tactical actions. Therefore, it was scientifically substantiated that the optimal rotation methodology is an effective means of managing collective actions in improving the performance of volleyball players during game situations. In volleyball, rotating players according to their individual characteristics and the specific requirements of their playing zones is of particular importance. Taking these factors into account, the use of rotation expanded opportunities to gain a tactical advantage, improve offensive efficiency, create effective combinations among players in different zones, strengthen blocking, and enhance defensive performance. At the same time, by creating uncertainty for the opposing team, the rotation system enabled players to demonstrate their abilities more effectively across all zones, reduced dependence on a single player, and contributed to gaining a psychological advantage.

Conclusion. According to the results of the study, the correct and consistent organization of rotational movements in volleyball is one of the important factors ensuring the effectiveness of a team's technical and tactical performance. During the rotation process, the positioning of players in the zones, the coordination of their functional responsibilities, and the synchronization of movements in the front and back rows directly influence the effectiveness of team play.

In the process of improving rotational movements, taking into account the players' functional responsibilities in serve reception, attack organization, blocking, and defense ensures their rapid and accurate positioning on the court. In particular, adhering to the sequence of zone changes during rotation, as well as determining in advance the players' mutual distances and directions of movement, contributes to reducing rotational errors.

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