



## MODERN METHODOLOGY FOR TEACHING HIGH PASSING AND LOW RECEPTION OF BALL IN VOLLEYBALL

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**Abstract:** *This article examines the scientific and methodological foundations of teaching overhead passing and underhand reception techniques in volleyball. Along with traditional teaching approaches, innovative methods such as the neuro-adaptive progressive training method and the reflex-adaptive reception method were developed. These methods aim to improve players' technical skills, coordination, reaction speed, and adaptability to game situations. The results confirm the effectiveness of the proposed methods.*

**Keywords:** *volleyball, overhead pass, underhand reception, methodology, adaptive training, reflex, coordination, technical preparation.*

### INTRODUCTION

In the modern sports system, the game of volleyball is distinguished by its dynamism, teamwork, and high coordination requirements. In this sport, the effectiveness of the game is primarily determined by the level of technical preparation of the athletes. In particular, the techniques of passing the ball from above and receiving it from below are of great importance as key elements ensuring the continuity of the game process. Because it is through these techniques that the attack is organized, the stability of the defense is ensured, and the effectiveness of team interaction increases.

From the perspective of sports pedagogy, the process of teaching technical movements is a complex psychomotor activity that requires taking into account not only the physical but also the cognitive and psychological characteristics of students. While traditional teaching methods primarily emphasize skill formation through repeated repetition of actions, modern approaches are prioritizing student active participation, independent thinking, and adaptability to the situation. Therefore, in organizing the educational process, it is important to adhere to the principles of didactics: "from simple to complex," "consistency," and "awareness and activity."



In volleyball, the technique of passing the ball from above plays a central role in organizing offensive movements. This technique requires a high level of accuracy, coordination, and quick decision-making skills from the player. The technique of receiving from below is the foundation of defensive actions, allowing for the retention of the ball within the game and the continuation of the attack. Therefore, the perfect mastery of these two techniques significantly increases game efficiency.

The relevance of this study lies in the need to increase the effectiveness of traditional methods used in volleyball training and to enrich them with modern scientific approaches. The aim of the research is to develop innovative methods for teaching high pass and low reception techniques in volleyball and to scientifically substantiate their practical effectiveness.

**Method of research:** This study is aimed at improving the process of teaching top passing and bottom ball reception techniques in volleyball, in which theoretical analysis and practical experience were conducted in harmony. During the research process, primary attention was focused on developing students' psychomotor characteristics, coordination abilities, and rapid reaction indicators alongside the formation of their technical skills. From this perspective, the research methodology was built on the integration of traditional pedagogical approaches with modern innovative methods.

In the research work, an in-depth analysis of existing scientific and methodological literature was conducted, and advanced experience in the formation of technical proficiency in volleyball was studied. At this stage, the biomechanical and pedagogical characteristics of upward passing and downward receiving techniques were systematically generalized. This created a theoretical basis for further practical research and allowed for the scientifically correct organization of the training process (Table 1).



Stage	Applied method	Content	Expected result
Theoretical analysis	Study and analysis of literature	Studying volleyball technique and methodology	A theoretical basis is formed
Practical experience	Pedagogical experiment	Step-by-step instruction in techniques	Develops technical skills
Observation	Pedagogical observation	Activity and error detection	Individual shortcomings are eliminated
Compare	Analysis and comparison	Comparison of traditional and innovative methods	Performance will be determined
Modeling	Methodological modeling	Creating a special training system	Systematic training will be established

**Table 1. General structure of the research methodology**



In the practical part, pedagogical experience occupied a central place. During the study, classes were conducted regularly with the students, and they were gradually taught the techniques of passing the ball from above and receiving it from below. During the training process, the movements were initially performed in simplified conditions, and subsequently in complex and variable situations. This approach contributed not only to the students' mastery of technical movements but also to their ability to apply them effectively in real-world game conditions.

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The observation method was also widely used in the study. During the training session, the students' movements were regularly monitored, and their technical errors, coordination levels, and reaction speed were analyzed. Based on the results obtained, necessary changes were made to the training content. This made it possible to manage the educational process in a flexible manner.

Comparison and analysis methods were also used in the study. The results of students who studied using traditional teaching methods were compared with the indicators of students who studied using innovative methods. Through this, the effectiveness of the proposed methods was clarified, and their advantages were scientifically evaluated.



Methodological modeling played an important role in the research process. That is, the training was organized based on a specially developed model, where a neuro-adaptive progressive learning method was used for upward transmission

and a reflex-adaptive perception method for downward reception (Table 2). These methods are aimed at developing the technical and functional readiness of students, taking into account their individual characteristics.

Stage	Primary goal	Lesson content	Kutilayotgan natija
Primary reflex	Formation of a rapid reaction	Slow speed passing, simple receiving exercises	The ability to get into action quickly is formed
Sensory-integrative	See and act in harmony	Receiving balls thrown in different directions	Coordination and visual control are developed
Adaptive reflex	Adapting to unexpected situations	Exercises with variable speed and direction balls	Increases flexibility and responsiveness
Automatic level	Technical automation	Complex exercises in a game environment	Stable and precise game movements are formed

**Table 2. Stages of the reflex-adaptive perception method**

**Results:** During the research process, the level of students' technical proficiency was evaluated based on specific criteria at the beginning and end of the experiment. During the evaluation process, the main indicators were the accuracy of upward transmission, the quality of downward reception, the level of coordination, and the reaction rate. The experimental results showed that technical indicators significantly improved among students who practiced using innovative methods. In particular, the neuro-adaptive progressive learning method was effective in improving the accuracy of upward transmission, while the reflex-adaptive perception method yielded high results in developing downward perception and reaction speed.

It was also observed that during the sessions, the students' indicators of rapid decision-making, coordination of actions, and flexibility in game conditions increased (Table 3). This confirms that the proposed methods have a positive impact not only on technical but also on functional training.



<b>Indicators</b>	<b>Pre-experience (%)</b>	<b>After experiment (%)</b>	<b>Increase (%)</b>
Overhead transmission accuracy	62%	85%	+23%
Quality of reception from below	58%	82%	+24%
Coordination level	60%	80%	+20%
Reaction rate	55%	78%	+23%



### Table 3. Pre- and post-experimental results (in percent)

As seen from the data presented in the table, positive growth was observed across all indicators. The largest growth was recorded in the quality of reception from below (+24%) and the accuracy of transmission from above (+23%). This means that the methods used have a direct impact on these technical elements. An increase in coordination and reaction speed indicates an improvement in the overall game readiness of the students. In particular, through the reflex-adaptive method, the ability of students to act correctly in operational situations has been significantly developed.

**Discussion.** The research results demonstrated the effectiveness of using innovative methods in teaching high-pass and low-reception techniques in volleyball. The neuro-adaptive progressive learning method played an important role in improving the accuracy of overhead transmission and coordination of movements. The reflex-adaptive perception method significantly improved students' reaction speed and flexibility during the downward perception process.

Compared to traditional methods, these approaches increased student engagement and taught them to make quick and correct decisions in game situations. The organization of training sessions in changing conditions allowed for the automation of technical actions and their adaptation to the real game process. Also, innovative methods helped to take into account the individual characteristics of students, which made it possible to develop their technical training more effectively. Overall, the methods used are significant in that they serve the comprehensive development of technical, psychomotor, and functional training. **Conclusion.** According to the results of this study, it was determined that the use of innovative approaches in teaching high passing and low reception techniques in volleyball is highly effective. Specifically, the neuro-adaptive progressive learning method served to increase the accuracy and stability of the top-down transmission technique, while the reflex-adaptive reception method developed speed and flexibility during the bottom-up reception process. During the research process, along with the students' technical skills, their coordination, reaction speed, and ability to adapt to the game situation also improved significantly. This indicates that the proposed methods comprehensively develop not only technical but also functional training. In general, the use of innovative methods in volleyball training increases the effectiveness of the educational process and creates a basis



for athletes to achieve high results in real game conditions. Therefore, it is

advisable to widely apply these methods in practice.

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