

# **METHODOLOGY FOR IMPROVING VISUAL ATTENTION AND MOVEMENT COORDINATION THROUGH VOLLEYBALL IN ATHLETES**

Abatova Gulzar Nurlanovna

Uzbekistan State University of Physical Education and Sports

Teacher of the Department “Volleyball, Basketball Theory and Methodology”

e-mail: gulzaabatova@gmail.com

## **Abstract**

This study aimed to investigate the effectiveness of volleyball training in improving visual attention and motor coordination among athletes. A total of 60 athletes participated and were divided into control and experimental groups. The experimental group underwent volleyball training three times per week, 90 minutes per session. Visual attention and motor coordination were assessed using specialized tests. Data were analyzed using percentage growth indicators and statistical methods. Volleyball training is an effective pedagogical tool for improving visual attention and motor coordination in athletes. The training enhances psychomotor abilities, concentration, and stress resilience, thereby improving performance in competitions and tournaments.

**Keywords:** Volleyball, athletes, visual attention, motor coordination, psychomotor abilities, coordination, reaction speed, concentration, training effectiveness.

## **Introduction**

In the effective activities of athletes, visual attention and movement compatibility are important. In various sports, especially those that require fast movement and competition, the athlete must have the ability to make quick decisions, assess the opponent's movements in advance, and coordinate movements. The sport of volleyball is an effective pedagogical tool in achieving these goals. In the training process, athletes are taught to observe the ball, move quickly and assess the opponent's movements in advance. Command exercises are important in developing the ability to synchronize movements and make quick decisions.

Scientific research shows that volleyball training is effective in developing not only physical fitness, but also cognitive and psychomotor abilities. Therefore, the purpose of this study is to develop a methodology for improving visual attention and movement coordination in athletes through volleyball training and evaluate its effectiveness.

In the professional activities of athletes, visual attention and movement compatibility are important. In various sports, especially those that require fast movement and competition, athletes must have the ability to make quick decisions, pre-evaluate opponent movements, and coordinate movements. These abilities provide safety during the competition process and increase the efficiency of the competition.

Scientific literature shows that volleyball training is effective in developing not only physical fitness, but also psychomotor abilities, cognitive functions and attention. Also, situations in which ball work and quick movement are required activate the CNS system, significantly enhancing the reaction speed and Movement Coordination of athletes.

Visual attention and movement compatibility play an important role in the professional activities of athletes. In various sports, especially those requiring quick movement and competition, the athlete must have the ability to pre-evaluate the opponent's movements, make quick decisions, and coordinate movements effectively. These abilities ensure that athletes can move safely and efficiently in competition and increase the chances of a successful result.

In addition, volleyball training is also important in developing athletes' strategic thinking, quick decision-making, and Comanche skills. Therefore, volleyball training is considered as a complex pedagogical method that allows you to develop motor and cognitive abilities in an integrated way.

## **Methods**

The study was carried out on the basis of the Sports Academy in 2025. It was contested by 60 athletes, and they were allocated to the following groups.

- Control group (n=30): continued traditional sports training and general physical training exercises.
- Experimental group (n=30): special methodology based on volleyball training.

## Training mode.

The experimental team trained 3 times a week for 90 minutes each. The exercises included the following areas:

Development of visual attention: ball tracking exercises, quick glances, preliminary assessment of opponent movements.

Development of movement coordination: coordination of hand and foot movements, exercises for quick and precise movement.

Developing skills in command: Joint Action, Strategy and synchronization exercises.

Psychological stability: stress resistance and concentration maintenance exercises.

Test and evaluation methods.

Visual attention: the ball was evaluated through observation and thinking reaction tests.

Motion compatibility: coordination and synchronization tests applied.

Physical fitness: strength and endurance indicators were also evaluated.

The results obtained were compared Through percentage growth indicators and statistical methods. For each indicator, a significant difference was analyzed between the experimental and control groups.

## Results

Data from the study shows the dynamics of visual attention and movement compatibility in athletes. While the experimental team practiced a special methodology through volleyball training, the control team continued the traditional training.

**Dynamics of visual attention and movement compatibility indicators (in percentage) Table 1**

№	Indicator	Control group (%)	Experimental group (%)
1.	Visual focus	+5 %	+22 %
2.	Action compatibility	+6 %	+20 %

### Analysis:

Visual focus: in the experimental group, the visual focus indicator grew by +22%, significantly higher than the +5% indicator in the control group. This indicates that volleyball training is effective in improving athletes' ability to quickly look and pre-evaluate opponent movements.

Movement compatibility: in the experimental group, movement compatibility increased by +20%, which is significantly higher than in the control group +6%. This proves that volleyball training is effective in developing the ability to coordinate hand and foot movements and act quickly.

### Analysis of the effectiveness of the development of visual attention and coordination of movement Table 2

Criterion	Control group	Experimental group	Analytical explanation
Visual focus	+5 %	+22 %	Volleyball training improved ball tracking, quick thinking, and the ability to pre-evaluate opponent movements.
Action compatibility	+6 %	+20 %	Training enhances the ability to coordinate hand and foot movements and act quickly.
Psychological stability	+4 %	+18 %	Improves stress resistance and the ability to maintain concentration.
Command skills	+3 %	+16 %	Effective in synchronizing actions and developing strategy.

Volleyball training is effective not only in developing visual attention and movement coherence, but also in improving psychological stability and Comanche skills. The results of this study show that volleyball training is important in enhancing the ability of athletes to move quickly and efficiently in competitions.

### The main conclusions of the study Table 3

№	Conclusion	Recommendations
1.	Volleyball training has significantly developed visual focus and movement coherence in athletes (+22% and +20 %).	Integration of training into the training program of athletes.
2.	Training activated the central nervous system and enhanced psychomotor abilities.	Setting a complex of exercises suitable for the level of Individual training.
3.	The experimental team outperformed the control group in improving stress resistance and concentration.	Integration with modern technologies (VR, touch monitoring).

### Conclusion

The results of the study showed that volleyball training is an effective pedagogical tool in the development of visual attention and movement coordination in athletes. In the participants of the experiment group, visual attention increased by +22%, motion compatibility by +20%, showed a significant difference compared to the control group. These results prove that volleyball training improves the ability of athletes to think and act quickly by activating the central nervous system and psychomotor abilities.

Also, the study showed that volleyball training is effective not only in the development of motor and cognitive abilities, but also in maintaining psychological stability, stress resistance and concentration. Experimental group athletes have gained a significant advantage in quick decision-making, coordination of movements and effective application of Comanche skills in tournaments and competitions.

A detailed analysis showed that:

Development of visual attention: training taught athletes to quickly look and predict opponent movements, which increased their ability to move effectively in competitions.

Development of movement coordination: coordination of arm and leg movements, rapid movement exercises significantly enhanced motor abilities.

Comandality and strategic skills: training has also helped improve comandality effectiveness by acting together and developing strategy.

Psychological stability and stress resistance: training has also been effective in maintaining concentration and increasing stress resistance, which has significantly increased athletes' tournament performance.

Also, the study found that integrating volleyball training into an athlete's training program is important in the complex development of their physical, cognitive and psychomotor abilities. Adjusting the intensity and type of training to the level of individual training also allows you to further increase efficiency.

### **Recommendations:**

Constant inclusion of volleyball training in the athlete's training program.

Individual level of training and goal adjustment of exercises.

Improving the effectiveness of training through integration with modern technologies (e.g. VR systems and touch monitoring).

Application of various complex exercises and simulation methods in order to develop visual attention and movement coordination in athletes.

In conclusion, volleyball training is a universal and effective method in the development of motor, cognitive and psychological abilities of athletes. The results of this study make it possible to ensure that athletes show high efficiency in tournaments and competitions, as well as to effectively use volleyball in sports education and coaching practice.

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