

**MENTAL ENLIGHTENMENT SCIENTIFIC –
METHODOLOGICAL JOURNAL****MENTAL ENLIGHTENMENT SCIENTIFIC –
METHODOLOGICAL JOURNAL**<http://mentaljournal-jspu.uz/index.php/mesmj/index>**TECHNOLOGY FOR DEVELOPING TACTICAL COOPERATION AND
COMMUNICATIVE COORDINATION IN COMPETITIVE ACTIVITY OF
QUALIFIED HANDBALL PLAYERS*****Abrorbek Shavkatovich Muminov***

*Acting Professor, Department of Theory and Methodology of Handball, Rugby and Field Hockey
Uzbek State University of Physical Education and Sport
Tashkent, Uzbekistan*

Muxammadsiddiq Tursunov

*Uzbek State University of Physical Education and Sport
Tashkent, Uzbekistan*

ABOUT ARTICLE

Key words: handball, tactical cooperation, communicative coordination, tactical thinking, special exercises, passing accuracy, attack, defense, pedagogical experiment, video analysis.

Received: 01.06.26**Accepted:** 02.06.26**Published:** 03.06.26

Abstract: This study describes a methodology aimed at improving tactical cooperation and communicative coordination among handball players. The research analyzes athletes' level of communication with teammates, passing accuracy, effectiveness of team actions in attack and defense, ability to make quick decisions, and the number of misunderstandings during the game. The training process included pair and trio exercises, small-sided games, modeling of tactical situations, defensive switching, signal-based attacks, and video analysis. The results showed that the special exercise program helps improve communication, tactical thinking, coordinated team actions, and the overall effectiveness of competitive performance in handball players.

Introduction. Modern handball is a sport based on high speed, complex technical and tactical actions, rapid decision-making, and tactical cooperation. During the game, each athlete must not only perform his own task, but also anticipate teammates' actions, adapt to their positioning, and serve the common team goal. Therefore, developing tactical cooperation and

communicative coordination in handball players is considered one of the important directions of the training process. In handball, attacking and defensive actions are carried out effectively not only through an individual athlete's skill, but through the coordinated actions of the whole team. In particular, communicative coordination between players becomes decisive in situations such as fast attack, positional attack, defensive switching, transition to counterattack, opening into free space, and creating a favorable situation for a teammate.

The relevance of this topic lies in the fact that developing tactical cooperation and communicative coordination in handball players helps improve game effectiveness, reduce technical and tactical errors, and enhance competition results. To achieve this, it is necessary to use small-sided and competition-oriented games, pair and trio exercises, tactical situation modeling, communicative tasks, video analysis, and remodeling of game episodes effectively in the training process. From this point of view, the topic "Technology for Developing Tactical Cooperation and Communicative Coordination in Competitive Activity of Qualified Handball Players" has scientific and practical significance and is a relevant research direction aimed at improving handball players' preparation in accordance with modern requirements.

Local literature also covers issues related to the technical and tactical preparation of handball players, attacking and defensive actions, planning the training process, and preparing young qualified athletes. However, the issue of developing tactical cooperation and communicative coordination on the basis of a special methodology has not been sufficiently studied as an independent research object. The analysis of literature shows that tactical cooperation in handball players can be effectively formed through the following directions: communicative exercises, small-sided and competition-oriented games, modeling of tactical situations, video analysis and remodeling of game episodes, team discussion, and competition-oriented training sessions. On this basis, it can be stated that developing a special exercise program oriented toward competitive situations, applying it in the training process, and determining its effectiveness through an experiment are scientifically and practically relevant for developing tactical cooperation and communicative coordination in qualified handball players.

Research aim: to develop a special exercise program oriented toward competitive situations for improving tactical cooperation and communicative coordination in handball players and to determine its effectiveness.

Research tasks:

1. Analyze scientific and methodological literature on tactical cooperation and communicative coordination in handball players.

2. Determine the initial state of tactical cooperation and communicative coordination in handball players.

3. Develop a special exercise program oriented toward competitive situations for improving team cooperation and communicative coordination.

4. Apply the developed exercise program experimentally in the training process.

5. Compare pre- and post-experiment results and determine the effectiveness of the program.

Research methods: analysis of scientific and methodological literature, pedagogical observation, interview, pedagogical experiment, control tests, video analysis, remodeling of game episodes, and mathematical-statistical analysis.

Organization of the research: qualified handball players participate in the study. They are divided into control and experimental groups. The experimental group applies special exercises aimed at developing tactical cooperation, while the control group continues traditional technical and tactical training.

Within the framework of the research tasks, the current state of tactical cooperation and communicative coordination in handball players was determined and existing problems were studied. During the implementation of this task, the training and competition activity of qualified athletes was analyzed through pedagogical observation. In addition, expert assessments by coaches, indicators of game activity, and the effectiveness of team actions were studied.

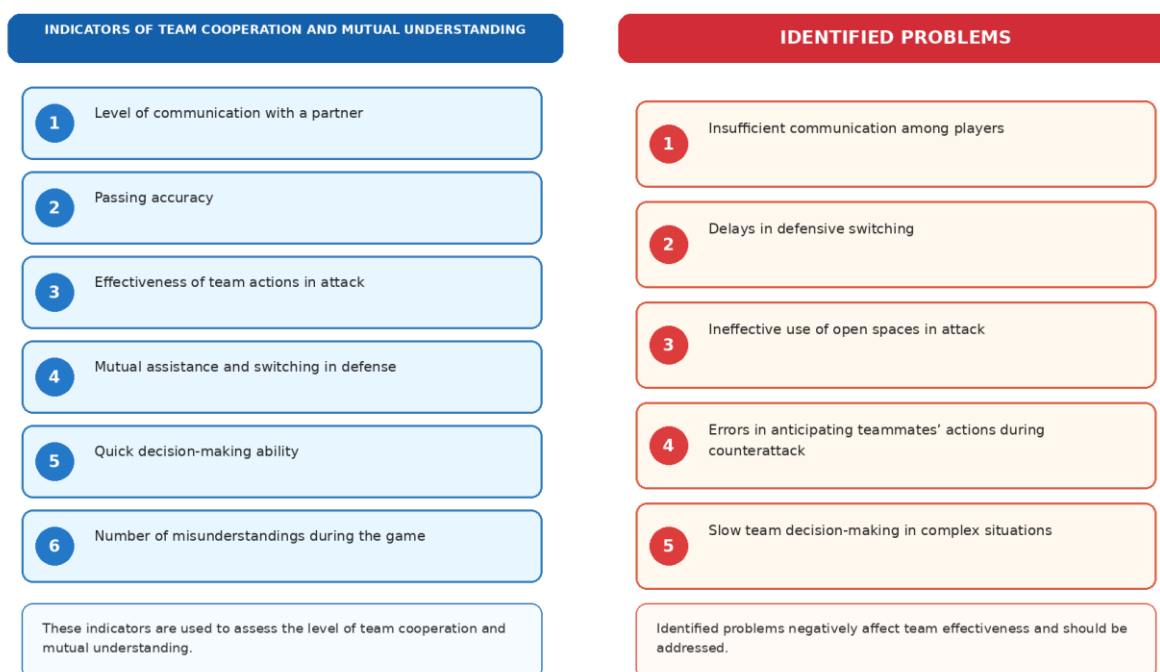


Figure 1. Indicators of tactical cooperation and communicative coordination and identified problems.

The results obtained showed that although the level of technical execution among most qualified athletes was satisfactory, tactical cooperation and communicative coordination were insufficiently formed in some game situations. In particular, certain shortcomings were observed in organizing fast counterattacks, helping each other in defense, and making decisions in complex tactical situations.

The next task was to develop a special exercise program oriented toward competitive situations for developing tactical cooperation and communicative coordination in handball players.

The content of the program was aimed at developing qualified athletes' mutual communication, anticipation of teammates' actions, joint actions in attack and defense, and ability to make quick decisions.

Special Exercise Program Oriented Toward Competitive Situations

Table 1.

No.	Exercise name	Content	Quality developed
1	Passing in motion in pairs	Athletes pass the ball to each other while running	Mutual adaptation
2	Combination attack in threes	Three athletes exchange the ball and attack the goal	Team action
3	2x1 situational attack	Two attackers act against one defender	Decision-making
4	3x2 fast attack	Three attackers complete the attack against two defenders	Cooperation in counterattack
5	4x4 small-sided game	A team game is organized in a limited area	Mutual understanding
6	Defensive switching	Defenders change positions according to the opponent's movement	Defensive cooperation
7	Silent game	Athletes act only through gestures and eye contact	Non-verbal communication
8	Signal-based attack	The direction of attack changes	Rapid adaptation

		according to the coach's signal	
9	Last 30 seconds game	Attack and defense are performed under time pressure	Decision-making under pressure
10	Repetition after video analysis and episode remodeling	The incorrect episode is reviewed and repeated on the court	Error correction

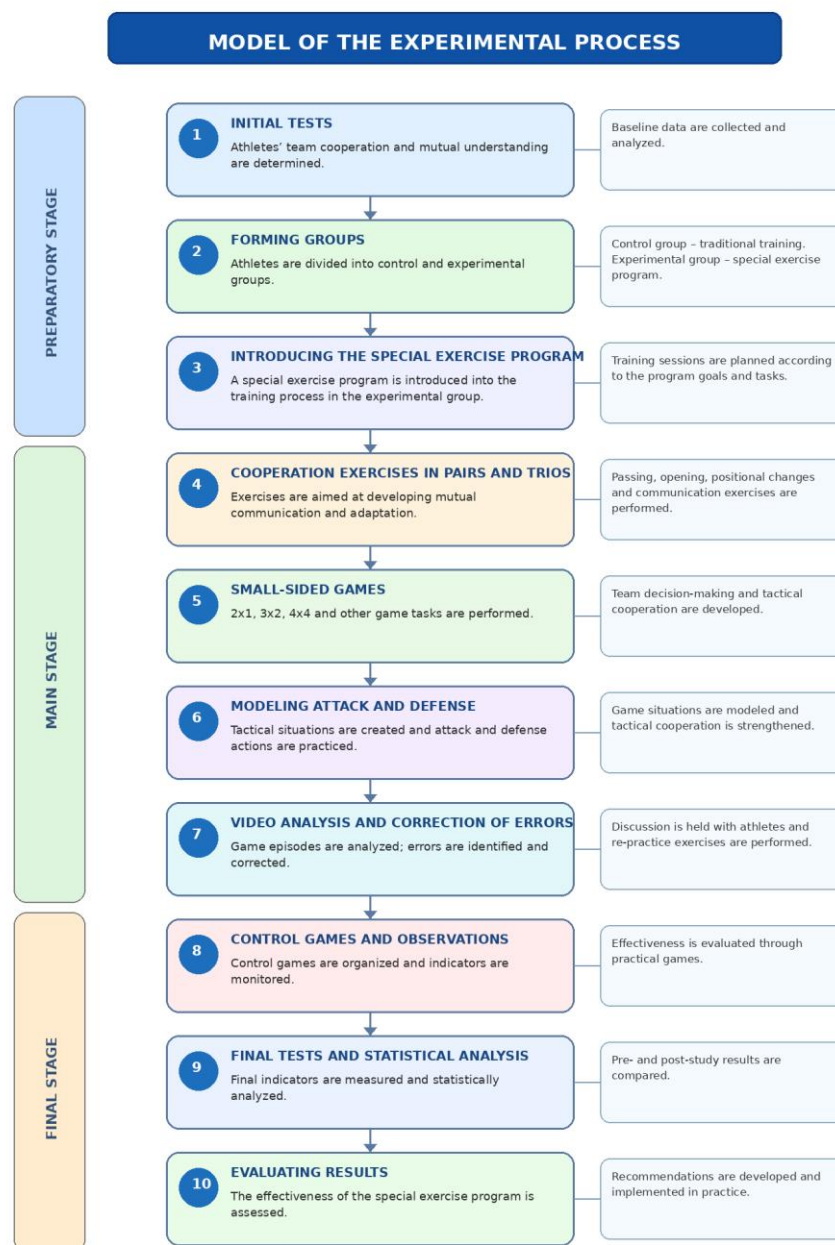
Procedure for applying the program. The special exercise program oriented toward competitive situations is applied three times a week in the main part of the training process. In each training session, 2-3 team exercises are selected. The exercises are first performed in simple conditions and then under opponent resistance, time limits, and complex game situations.

Program Stages

Table 2.

Stage	Content	Aim	Stage
Stage 1	Pair and trio exercises	Formation of mutual communication and adaptation	Stage 1
Stage 2	2x1, 3x2, 4x4 situational games	Development of team decision-making	Stage 2
Stage 3	Modeling attack and defense	Improvement of tactical cooperation	Stage 3
Stage 4	Control games, video analysis, and remodeling of game episodes	Evaluation of results and correction of errors	Stage 4

The purpose was to implement the special exercise program oriented toward competitive situations, aimed at developing tactical cooperation and communicative coordination in handball players, during the pedagogical experiment. During the pedagogical experiment, research participants were divided into control and experimental groups. While the control group trained according to traditional sessions, the special exercise program oriented toward competitive situations was introduced into the training process in the experimental group. During the experimental training sessions, the main attention was directed toward developing qualified athletes' mutual communication, team decision-making, cooperation in attack and defense, and ability to anticipate teammates' actions.



**Figure 2. Step-by-step model of the pedagogical experiment process.
Comparative Table of Post-Research Results by Control and Experimental
Groups**

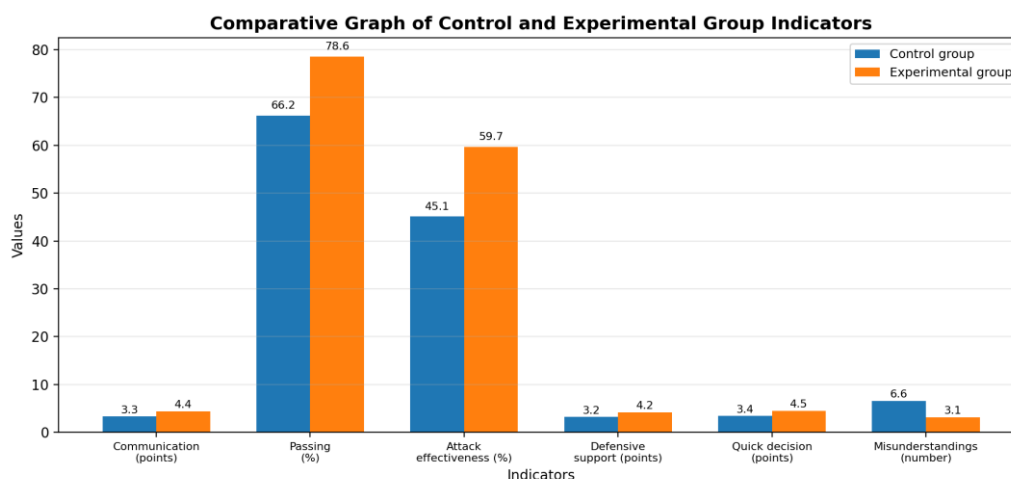
Table 3.

No .	Indicators	Control group post-research result	Experimental group post-research result	Difference between groups	t-criterion	Significance level

1	Level of communication with a partner	3.3 points	4.4 points	+1.1 points	2.74	p<0.05
2	Passing accuracy	66.2%	78.6%	+12.4%	3.12	p<0.01
3	Effectiveness of team actions in attack	45.1%	59.7%	+14.6%	3.26	p<0.01
4	Mutual assistance and switching in defense	3.2 points	4.2 points	+1.0 point	2.68	p<0.05
5	Quick decision-making ability	3.4 points	4.5 points	+1.1 points	3.05	p<0.01
6	Number of misunderstandings during the game	6.6	3.1	-3.5	3.41	p<0.01

The post-research results show that there is a significant difference between the control and experimental groups. Although positive changes were observed in some indicators in the control group under the influence of regular training, the results were considerably higher in the experimental group due to the use of the special exercise program oriented toward competitive situations. In particular, the experimental group recorded superior results compared with the control group in passing accuracy, effectiveness of team actions in attack, and quick decision-making ability. The decrease in the number of misunderstandings during the game to 3.1 in the experimental group indicates that communicative coordination, communication, and tactical consistency among qualified athletes improved. The reliability of the obtained results at $p<0.05$ and $p<0.01$ confirms the effectiveness of the special exercise program oriented toward competitive situations.

The graph of relative differences between the control and experimental groups clearly demonstrates the positive effect of the special exercise program oriented toward competitive situations on the development of tactical cooperation and communicative coordination in handball players. In the graph, the indicators of the experimental group are compared with the results of the control group. As can be seen from the graph, the level of communication with a partner in the experimental group was 33.3 percent higher than in the control group. This result indicates that special exercises positively influenced qualified athletes' active communication, information exchange, and coordination of actions during the game. In terms of passing accuracy, the experimental group showed a result 18.7 percent higher than the control group. This indicator shows that the athletes' ability to anticipate teammates' actions, pass the ball in favorable situations, and perform technical-tactical actions accurately improved.



Note: indicators are in different units (points, %, number), so the graph compares the control and experimental groups by indicator.

Figure 3. Comparative graph of control and experimental group indicators.

The effectiveness of team actions in attack was 32.4 percent higher in the experimental group. This means that the qualified athletes in the experimental group acted more effectively in organizing attacks, using open spaces, performing combination actions, and creating favorable situations for teammates.

Conclusion. The reliability of the obtained results at $p < 0.05$ and $p < 0.01$ scientifically confirms the effectiveness of the developed special exercise program oriented toward competitive situations. These results show that it is advisable to use small-sided and competition-oriented games, modeling of tactical situations, communicative tasks, video analysis, and remodeling of game episodes in the training process to develop tactical cooperation and communicative coordination in handball players.

Based on this, it can be concluded that the special exercise program oriented toward competitive situations, aimed at developing tactical cooperation and communicative coordination in handball players, contributes to effective competitive performance of qualified athletes, reduction of technical and tactical errors, improvement of coordination in attack and defense, and enhancement of team performance. It is recommended to apply this methodology in sports schools, handball clubs, and training processes.

References:

1. O'zbekiston Respublikasi Prezidentining 2020-yil 24-yanvardagi PF-5924-son Farmoni. O'zbekiston Respublikasida jismoniy tarbiya va sportni yanada takomillashtirish va ommalashtirish chora-tadbirlari to'g'risida.
2. O'zbekiston Respublikasining "Jismoniy tarbiya va sport to'g'risida"gi Qonuni. Toshkent, 2015.
3. International Handball Federation. Rules of the Game: Indoor Handball. Basel: IHF, amaldagi nashr.

4. Platonov V.N. Sistema podgotovki sportsmenov v olimpiyskom sporte. Obshchaya teoriya i ee prakticheskie prilozheniya. Kiev: Olimpiyskaya literatura.
5. Bompa T.O., Buzzichelli C. Periodization: Theory and Methodology of Training. Champaign: Human Kinetics.
6. Bunker D., Thorpe R. A model for the teaching of games in secondary schools // Bulletin of Physical Education.
7. Griffin L.L., Mitchell S.A., Oslin J.L. Teaching Sport Concepts and Skills: A Tactical Games Approach. Champaign: Human Kinetics.
8. Rink J.E. Teaching Physical Education for Learning. New York: McGraw-Hill.