



# Foresight in the game as a determinant of the effectiveness of technical and tactical operations among experienced handball players

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Dr. Hab., Associate Professor **N.V. Lutkova**<sup>1</sup>

Dr. Hab., Professor **Yu.M. Makarov**<sup>1</sup>

PhD, Associate Professor **N.V. Pakholkova**<sup>2</sup>

PhD, Associate Professor **N.A. Zinoviev**<sup>3</sup>

<sup>1</sup>Lesgaft National State University of Physical Education, Sports and Health, Saint-Petersburg

<sup>2</sup>St. Petersburg Mining University of Empress Catherine II, St. Petersburg

<sup>3</sup>Baltic State Technical University "VOENMEH" named after D.F. Ustinov, St. Petersburg

Corresponding author: nataliya\_lutkova@mail.ru

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## Abstract

**Objective of the study.** The main objective of the work was to increase the effectiveness of the competitive activity of experienced handball players through the use of exercises aimed at developing the ability to anticipate game situations.

**Methods and structure of the study.** To assess the effectiveness of technical and tactical techniques, the matches of the Russian Handball Championship among youth teams were studied. An analysis of 40 games of the strongest teams was carried out. In order to study the methods used by coaches in the training process, 25 handball coaches with at least 10 years of experience were interviewed. The level of handball players' readiness for competitions was assessed during pedagogical diagnostics using testing. The psychological test "A-5 – Five types of anticipation in athletes" made it possible to identify and evaluate five different types of anticipatory abilities in handball players. The experiment included specialized sets of exercises aimed at developing five types of anticipation: spatial, spatial-situational, situational, temporal-situational and temporal. The study involved 30 handball players aged 18-20 years, representing the Zenit-2 and SKIF-2 teams.

**Results and conclusions.** The results of the study showed the expediency of using five separate blocks of exercises to form a game anticipation aimed at developing its various types. It was found that improving the formation of spatial, spatial-situational and situational anticipation has a positive effect on the effectiveness of game actions, both for the goalkeeper and the field players of the team. The field players of the experimental group showed an improvement in the quality of technical and tactical actions in four key indicators: the accuracy of shots, the number of assists, the number of blocks and interceptions.

**Keywords:** *game anticipation, means, efficiency, skilled handball players.*

**Introduction.** Performing technical and tactical actions in handball, regardless of the role of the players, is aimed at achieving superiority over the opponent in conditions of high-tempo play [5]. Alternating attacking and defensive actions are performed at high speed [2]. The ability to anticipate events and prevent them in activity is defined by the concept of anticipation. Anticipation allows a handball player to anticipate an event during the competition and be prepared for this event [3]. Anticipation is necessary in extreme situations of sports activity [4]. It allows to increase the result of activities and is a resource in the preparation of athletes [6]. The narrowly focused task blocks identified in the course of the study ensure an increase in the effectiveness of technical and tactical actions of qualified handball players. The results can serve as the goals of the training process.

**Objective of the study.** The main objective of the work was to increase the effectiveness of the competitive activity of experienced handball players through the use of exercises aimed at developing the ability to anticipate game situations.

**Methods and structure of the study.** The performance indicators of technical and tactical actions were determined during the Russian Handball Championship among duplicate teams. 40 games of the leading teams were analyzed. The survey of 25 handball coaches was used to study the tools used by specialists in the training process. The players' readiness for competitive activity was revealed during pedagogical diagnostics during testing. The psychodiagnostic technique included the questionnaire "A-5 – Five types of anticipation in athletes", which makes it possible to identify and evaluate each of the five types of anticipatory abilities of ath-



letes. The object of the study was 30 handball players aged 18-20 (Zenit-2 and SKIF-2 team players). Athletes performed tasks from five blocks aimed at developing various types of anticipation (spatial, spatial-situational, situational, temporal-situational and temporal). The Microsoft Office Excel 2021 and STATGRAPHICS 18 computer software package was used for statistical processing of the results obtained from the sample.

**Results and conclusions.** The collection of data and analysis of the effectiveness indicators of technical and tactical actions of qualified handball players indicates a high level that meets the requirements for duplicate Super League handball teams. Performance indicators, taking into account the play of the goalkeeper and field players when making shots and saves, do not have significant differences. The number of assists, blocks and steals in the SKIF-2 team significantly differs from the Zenit-2 team (Table 1).

During the testing, it was determined that the groups of handball players are homogeneous in terms of physical, technical fitness and five types of anticipation. The total average expectation in the Zenit-2 and SKIF-2 teams is 12.03 and 12.01 points, respectively. The indicators exceed the threshold value on the evaluation scale for athletes playing games (10.8 points).

A survey of coaches shows that 100% of respondents consider it important to form a game anticipation among handball players, while 80% of them note that they rarely use targeted means to develop it, devoting no more than 20% of the time to it in an annual cycle. Next, we compiled tasks for the formation of the Zenit-2 handball team's game anticipation. The tasks were arranged in five blocks. Each of the task blocks is aimed at developing one of the five types of anticipation among athletes:

**Block 1.** Tasks aimed at developing the ability to act spatially ahead in the course of a competitive confrontation. Task example: An attack by two players from the front line, after 2-4 passes.

**Block 2.** Tasks aimed at developing the ability to act ahead of time in specific game interactions of players. Task example: An attack by three players from the front line, after two or four passes with a change of places.

**Block 3.** Tasks aimed at developing the ability to act with spatial anticipation in specific game interactions of players. Task example: An attack by two players from the front line against an organized defense.

**Block 4.** Tasks aimed at developing the ability to act ahead of time during specific game interactions. Task example: An attack by three players from the front line, with a change of places, against an organized defense.

**Block 5.** Tasks aimed at developing the ability to act ahead of schedule, taking into account the dynamics of player interactions on the court. Task example: Attacking players from the 9-meter line, at the signal of the coach. In the main part of the lesson, one task from each block was completed for six months, and the completion time for all tasks was 25-30 minutes.

The indicators of the ability to predict the actions of handball players after the experiment are presented in Table 2.

The combined average expectation in the Zenit-2 and SKIF-2 teams is 13.32 and 12.10 points. The results demonstrate the dynamics of the indicators in the experimental group. The indicator in this group significantly exceeds the value of the second group of athletes.

A comparison of the performance indicators of the game actions of qualified handball players (goalkeeper and field players) of an experienced group during competitive activities is presented in Table 3.

Table 1. Indicators of the effectiveness of handball players' game actions before the experiment

Indicator	Command ( $\bar{X} \pm S_x$ )	
	SKIF-2	Zenit-2
The effectiveness of "rescues" by the goalkeeper (%)	35,0 $\pm$ 1,5	36,0 $\pm$ 2,3
Conclusion about the difference	$p > 0,05$	
The effectiveness of throws (%)	63,95 $\pm$ 3,56	63,88 $\pm$ 3,99
Conclusion about the difference	$p > 0,05$	
Number of assists	18,83 $\pm$ 8,77	14,5 $\pm$ 5,27
Conclusion about the difference	$p \leq 0,05$	
Number of blocks	4,91 $\pm$ 2,96	2,91 $\pm$ 2,14
Conclusion about the difference	$p \leq 0,05$	
Number of interceptions	8,58 $\pm$ 1,96	9,58 $\pm$ 2,27
Conclusion about the difference	$p \leq 0,05$	



Таблица 2. Показатели сформированности игровой антиципации у квалифицированных гандболистов 18-20 лет после проведения педагогического эксперимента

The anticipation indicator	Results ( $\bar{X} \pm S_x$ ) (score)		Student's t-test	Conclusion about the difference
	EG (Zenit-2)	RU (SKIF-2)		
Spatial	13,12 $\pm$ 0,26	12,17 $\pm$ 0,37	2,05388	P < 0,05
Spatial and situational	12,82 $\pm$ 0,09	11,52 $\pm$ 0,30	4,05428	P < 0,05
Situational	13,68 $\pm$ 0,18	12,39 $\pm$ 0,37	3,05078	P < 0,05
Temporal-situational	13,42 $\pm$ 0,09	12,52 $\pm$ 0,22	3,66479	P < 0,05
Temporal	13,58 $\pm$ 0,15	12,17 $\pm$ 0,34	3,74767	P < 0,05

Table 3. The effectiveness of game actions in the experimental group (EG) before and after the experiment

Indicator	Command ( $\bar{X} \pm S_x$ )	
	EG (Zenit-2) to	EG (Zenit-2) after
The effectiveness of "rescues" by the goalkeeper (%)	36,0 $\pm$ 2,3	41,0 $\pm$ 1,4
Conclusion about the difference	p $\leq$ 0,05	
The effectiveness of throws (%)	63,88 $\pm$ 3,99	65,93 $\pm$ 4,12
Conclusion about the difference	p $\leq$ 0,05	
Number of assists	14,5 $\pm$ 5,27	19,08 $\pm$ 5,88
Conclusion about the difference	p $\leq$ 0,05	
Number of blocks	2,91 $\pm$ 2,14	5,08 $\pm$ 2,64
Conclusion about the difference	p $\leq$ 0,05	
Number of interceptions	9,58 $\pm$ 2,27	10,41 $\pm$ 2,38
Conclusion about the difference	p $\leq$ 0,05	

An analysis of the statistical registration of the effectiveness of game actions in a team of qualified handball players, whose participants performed specialized tasks to form a game expectation, allowed us to state a significant increase in all the studied indicators.

**Conclusions.** It has been established that the teams of qualified handball players meet the regulatory requirements for technical and tactical preparedness for duplicate Super League handball teams. The expediency of allocating five blocks of tasks for the formation of game anticipation (tasks for the development of spatial, spatial-situational, situational, temporal-situational and temporal anticipation) is determined. It is revealed that the growth of spatial, spatial-situational and situational anticipation formation indicators is accompanied by the dynamics of performance indicators of game actions, both by the goalkeeper and the field players of the team. The field players of the experimental group showed an improvement in the quality of technical and tactical actions in four indicators (the effectiveness of shots, the number of assists, blocks, and interceptions).

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