

# Tactical Team Training as a Component of Achieving Sports Results

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Received December 13, 2022; Revised March 15, 2023; Accepted April 7, 2023

## Cite This Paper in the Following Citation Styles

(a): [1] Roman Kovalcuk, Oleksandr Gnydiuk, Andrii Melnykov, Oleksandr Mozolev, Leonid Rybak, Volodimir Melnikov, Ihor Tomkiv, Oleksandr Binkovskiy, Oksana Hnydiuk, "Tactical Team Training as a Component of Achieving Sports Results," *International Journal of Human Movement and Sports Sciences*, Vol. 11, No. 2, pp. 484 - 497, 2023. DOI: 10.13189/saj.2023.110228.

(b): Roman Kovalcuk, Oleksandr Gnydiuk, Andrii Melnykov, Oleksandr Mozolev, Leonid Rybak, Volodimir Melnikov, Ihor Tomkiv, Oleksandr Binkovskiy, Oksana Hnydiuk (2023). *Tactical Team Training as a Component of Achieving Sports Results*. *International Journal of Human Movement and Sports Sciences*, 11(2), 484 - 497. DOI: 10.13189/saj.2023.110228.

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**Abstract** The article analyzes the author's method of tactical training of the volleyball team to achieve a high sports result. The players of the volleyball club "NOVATOR" (n=24) took part in the study. Methods: Analysis of scientific and methodical sources, theoretical analysis of the training of the world's leading clubs, statistical data of coaching observations, modeling of game situations, factor analysis, surveys, questionnaires, and expert evaluation method. The evaluation of the results was carried out by experts - coaches of other volleyball clubs participating in the competition (n=14). Evaluations of the effectiveness of the coaching staff's actions were carried out by players of the "NOVATOR" volleyball team who had experience playing in other volleyball clubs (n=11). Results: The implementation of the author's method of tactical preparation of the team for the competition showed reliably significant ( $p < 0.05$ ) positive changes in the performance of the following elements: positive reception; excellent reception; blockpoints; blocked opponent attacks with a soft kick; attack on dig. Experts also noted positive changes in the game of the "NOVATOR" volleyball club: improvement of the game discipline of the players by

82.1%; adherence to the tactical scheme of the game by 75.0%; increase in the level of tactical skills of players by 67.9%; improvement of the level of individual technical and tactical training of players by 57.1%. Among the negative trends in the tactical actions of the players, there is a decrease in creativity (non-standard) in the actions of the players by 39.3%. Conclusions: The importance of the tactical preparation of the team for the game increases as the sportsmanship of the players and the level of technical and tactical training of the team increases. The effectiveness of the author's method of tactical training of the team to achieve a high sports result is proven. It has been established that the use of the program "Datavolley2007 Professional" with the simultaneous demonstration of the tactical actions of the opposing team significantly improves the visual perception and prediction of the subsequent actions of the players of the opposing team.

**Keywords** Volleyball Club, Tactical Training, Coaching Staff, Players, Tactical Approach to the Game

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## 1. Introduction

Modern professional volleyball is one of the five most popular game sports in the world. It is characterized by high dynamism, the skill of individual players, team thinking and interaction, and the spectacular performance of technical actions in attack and defense. The preparation of a volleyball team for competitions includes such interconnected types of training as: physical, technical, theoretical, tactical, and psychological games.

One of the most important concepts in volleyball is the interaction between players. Developing game strategies is an important part of a team's success. Adherence to tactics, as a rule, brings the desired result. Coaches should develop volleyball team strategies for better tactical and technical training of players and establish rules of team interaction. Tactical strategies in volleyball are usually divided into attacking actions and defensive actions. Group tactical actions of players in the attack are manifested in certain tactical combinations - pre-agreed and studied interactions [1, 2]. The team's actions in defense are determined by three main moments of the state of the game: receiving a serve, receiving an attacking shot or rebounding the ball from the opponent's block (insurance of the attacking player). The execution of team actions in defense is determined by the following main factors: the peculiarity of the attacking actions of the opponent team, the possibility of executive skill of the players, the nature of subsequent actions, and the peculiarity of the game situation [3, 4]. The team must be able to foresee all possible cases of the specified factors and prepare methods and methods of countermeasures [5].

Knowing the physical, psychological and game characteristics of each team player allows the coaching staff to plan the training process, having the opportunity to better distribute the physical load according to the part of the season, determine the game strategy and the main composition of the team depending on the difficulty of the next opponent [6, 7]. Undoubtedly, the anthropometric parameters of players (height, weight, arm length, etc.) and physical parameters (speed, endurance, dexterity, jump height, etc.) are of great importance in the selection of a volleyball team [8, 9]. At the same time, in modern volleyball, you can watch games when a team in which players with lower indicators of anthropometric and physical development win. The success of such teams lies in their tactical and technical training. It is the tactical and technical actions of the team that allow us to realize our advantages and neutralize the advantages of the enemy team [10, 11].

In his research Artemenko B. O. [10] notes that in sports games players solve tasks of the same complexity in different ways; they make different decisions in the same game situations. The complexity of the choice situation, regardless of whether it is standard schemes or non-standard actions of players, consists in the limitation of information due to the limitation of time for its perception

and analysis. The tactical thinking of players significantly depends on the level of its formation during the training process, participation in high-level competitions, and the systematicity of getting into the team's starting lineup. Tactical thinking of the players allows them to successfully implement the tactical plan of the coaching staff [11]. As Doroshenko E. Yu. [12] points out, "it is the tactical thinking of the players that determines the outcome of the game when the physical and technical preparation of the athletes is equal".

In modern volleyball, the success of competitive activities of qualified athletes depends on many factors, the main of which, in our opinion, is tactical and technical training. One of the most important trends in the development of modern volleyball is the use of various tactical actions that ensure high performance in competitive activities [12, 13].

Our research was aimed at developing a mechanism for team training for various tactical actions depending on the tactical and technical capabilities of the enemy. An important element of the team's tactical preparation is the preparation for the game with the specification of the actions of qualified volleyball players of various roles in standard game situations, taking into account the tactical and physical capabilities of the players of the opposing team.

The purpose of the article is to analyze the author's method of tactical training of the team to achieve a high sports result.

To achieve the goal of the research, we had to solve the following tasks:

1. To study the experience of preparing volleyball teams for competitions of the following leading clubs: "Perugia" - Italy; "Zenit", "Lokomotiv" - Russia; "Dukla" - Czech Republic; "Maccabi" - Israel, "Zaleu" - Romania.
2. To analyze the performance experience of the "NOVATOR" volleyball team in the Ukrainian Championships and Cups of the 2017/2018 and 2018/2019 seasons.
3. To develop original methods of tactical training of the team to achieve a high sports result.
4. To implement the developed method of tactical training of the team into the practice of the training process and preparation of the team for the game with the specified opponent. The main goal is to study the scheme of the game, tactical actions of the enemy and determine the actions of the "NOVATOR" volleyball team players in various game situations.
5. To conduct a survey of coaches of other volleyball clubs that participated in the Championship of Ukraine (n=14), who conducted a comparative analysis and provided an assessment of the actions of the players and the performances of the "NOVATOR" volleyball team with their clubs.
6. To make an anonymous questionnaire survey of the leading players of the volleyball team "NOVATOR".

After the end of the Championship of Ukraine (athletes who had experience playing in other volleyball clubs (n=11)) to provide an assessment of the effectiveness of the coaching staff's actions.

## 2. Materials and Methods

### 2.1. Participants

Players of the "NOVATOR" volleyball club (n=24) took part in the study. The evaluation of the results was carried out by experts - coaches of other volleyball clubs participating in the competition (n=14), who conducted a comparative analysis of the performances of the "NOVATOR" volleyball team with their clubs. Players of the "NOVATOR" volleyball club, who had experience playing in other volleyball clubs (n=11), who conducted a comparative analysis of the effectiveness of the coaching staff's actions.

### 2.2. Methods

To obtain the necessary information, we used general scientific research methods: analysis of scientific and methodical sources, theoretical analysis of the training of the world's leading clubs, monitoring of the performance of the "NOVATOR" volleyball club in the Championships and Cups of Ukraine in previous seasons, statistical data of coaching observations, modeling of game situations, factor analysis, surveys questionnaire, method of expert assessment.

The analysis of scientific and methodical sources was used to study the current state of the views of scientists and leading coaches on the problem of tactical preparation of volleyball teams for competitions [14-17]. The theoretical analysis of the training of the leading clubs in the world made it possible to establish innovative features in the tactical and technical training of players of various roles, consider the mechanisms of their game interaction [18-20]. Monitoring the performance of the "NOVATOR" volleyball club in the Championships and Cups of Ukraine in the 2017/2018 and 2018/2019 seasons made it possible to establish problematic positions that need to be strengthened; to determine the main tactical mistakes made by the players; to concentrate the attention of the coaching staff on the development of new, more effective tactical schemes of player interaction [11]. We used the grouping method to divide the team's tactical actions according to their characteristic features. As a result of observing the tactical actions of the team's players, we obtained statistical indicators of the players' actions, which, based on a set of qualitatively homogeneous actions, were grouped into tactical actions in defense and tactical actions in the attack. The method of generalizing indicators included the processing of statistical indicators of the actions of individual players and their transformation into

generalizing indicators of the team's actions (average performance indicators in percentage). Generalized indicators reflected the totality of the effectiveness of the team's actions in defense and attack, regardless of individual player errors, accidental scoring or missed goals. This made it possible to establish the main regularities of the team's tactical actions in different game situations and to compare their effectiveness. Statistical data of the coaching observation was used during the training process to determine the main composition of the team, the main playing positions of the players, to determine the level of their technical preparation, and the possibility of implementing the tactical schemes of the coaching staff [21,22]. The simulation of game situations was carried out to reveal the tactical schemes of the coaching staff to establish the interaction of players in specific situations of attack or defense [23-25]. Factor analysis was carried out to prove to the players the possible actions of the enemy based on the statistical indicators of their competitions with other volleyball clubs, as well as to prove the effectiveness of the actions of their own players in attack and defense [26-28]. The survey was conducted to conduct a comparative analysis of the effectiveness of the tactical actions of the "NOVATOR" volleyball team. The survey was conducted to determine the timeliness and effectiveness of management decision-making by the coaching staff regarding the development and implementation of new tactical schemes for building team actions. The expert evaluation method was carried out by experts from other volleyball clubs to establish the effectiveness of the "NOVATOR" volleyball team's preparation for the competition.

### 2.3. Procedure

The primary task of every coach starting to work with the team is to assess the physical, functional and game capabilities of the players [29,30]. An equally important task of the coach is the psychological and pedagogical skills to set up the players to achieve a high sports result, to form the motivation of each player and the team as a whole for each game, individual competition and the national championship [31,32]. Under the condition of organization and maintenance of a positive psychological atmosphere in the team, it is possible to solve the sports tasks facing the team [33].

The team's tactical preparation for the game included the following stages:

1. Studying tactical actions of opponents in games with other clubs.
2. Analysis of strengths and weaknesses in the enemy's actions.
3. Strategic and tactical game planning.
4. Setting the head coach for the game.
5. Adjustment of team actions during the game.

The search for optimal ways to increase efficiency in competitive activity requires the coach to have objective

information about the effectiveness of technical and tactical actions of players with specific opponents for subsequent corrections in the model of competitive activity [1, 6, 34]. Surveys of experienced volleyball coaches, pedagogical observation in the process of competitive activity of volleyball teams, as well as the analysis of game protocols, make it possible to determine the main characteristics of the quality of performance of technical and tactical actions by volleyball players in the process of competitive activity. The competition protocols do not allow for an in-depth analysis of the team's tactical actions, but only record the number of points won by individual players and the entire team in attack, block and serve.

We studied the tactical actions of opponents in games with other clubs based on the analysis of statistical data of volleyball matches using the program "Datavolley2007 Professional"[35]. The method of tactical training of the volleyball team based on the data of the Datavolley2007 Professional program was implemented in several stages:

- in the period between the championships, the work of the coaching staff was coordinated (the division of duties between the team's head coach, assistant coach, and second coach took place in determining the key elements in the team's preparation using the Datavolley2007 Professional program and selecting the necessary video material);
- at the preparatory stage of training, game training sessions were held every week with the implementation of tactical tasks of the head coach with video recording. After the training, the coaching staff processed the data of the team's actions with the help of a statistical program. At the theoretical session, the team coach demonstrated to the players the results of the effectiveness of technical and tactical actions in accordance with the implementation of coaching tactics, analyzed tactical errors, and established requirements for their elimination. In addition, during the preparatory stage, the tactical schemes of the team were recorded, which will be used at the end of the games (after the score of 20) to achieve a positive result, as well as the recording of tactical schemes during the unsuccessful start of the games;
- at the control stage, sparring games with other teams were held. A characteristic feature was that the games were played over two days with one team. The coaching staff used the opportunity to analyze the team's game after the first meeting using the Datavolley2007 Professional program and making the necessary adjustments to the players' actions. The second control game made it possible to determine the effectiveness of the "coach-player" interaction in the implementation of the tactical plan of the coaching staff. The team's participation in various tournaments before the start of the national championship was carried out with the aim of implementing the chosen tactical scheme of the game in the conditions of

competitive activity under physical load, establishing the possibility of implementing the tactical plan of the coaching staff in games with different opponents;

- at the competitive stage, the coaching staff necessarily analyzed the actions of the opponent's team. The use of the statistical program Datavolley2007 Professional in combination with video fragments of game actions made it possible to identify regularities in the actions of opponents. While watching the recording of the games, the coaching staff singled out the moments of typical actions of the opponents, emphasized the "crown hits" of the team leaders, and characterized the standard tactical schemes of the opposing team's actions in attack and defense. Based on the analysis, corrections were made in the actions of the players, the most effective tactical schemes for countering the opponent in defense were selected, and weak links were identified for effective offensive actions.

The coaching staff conducted an analysis of the strengths and weaknesses of the enemy's actions. It included the determination of the tactical construction of the interaction of the players of the opposing team during offensive and defensive actions, combined with the establishment of directions for the development of offensive actions in each tactical arrangement of players. The tactical actions of the opposing team were analyzed by determining the percentage of passes of the connecting player to the attack zone in each arrangement of players.

An important element of the analysis of the opponent's actions was the selection of video material that demonstrates the characteristic game actions of the opponent's players in attack and defense.

Strategic and tactical planning of the game included: analysis of the tournament position of the teams; studying the opponent's technical application for a specific game; sports intelligence (insider information) regarding the state of health of the players of the opposing team, the presence of injuries, damage and readiness to play individual players; establishing the psychological state of the players; determining the players' motivation, their physical and tactical-technical capabilities to fulfill the tasks of the coaching staff.

The head coach's setup for the game included:

- analysis by an analyst of the opposing team's games using the "Datavolley2007 Professional" program and a prepared presentation in a complex with statistical data, regarding the actions of the opposing team in individual elements (serving, receiving, attacking, blocking, etc.);
- demonstration of the actions of the enemy team using multimedia means of basic tactical actions in attack and defense;
- focusing the attention of players on individual performers (leaders of the enemy team) with the determination of advantages in their tactical actions in

terms of directions, zones, frequency and efficiency of execution;

- discussion with the team of own tactical actions to neutralize the strengths of the opponent, and its leaders, determination of tactical techniques for winning equal games;
- bringing to the players of the team the tactical game plan, the positioning of the players, and the peculiarities of the application of technical techniques in attack and defense;
- establishing the limits of reasonable risk in actions when performing tactical elements, determining the balance between responsibility for a correctly performed technical action, a tactical game plan, and the desire to resolve the episode with one own action.

During the setup for the game, the head coach of the team used the following methods of proving information:

- verbal methods (analyzing the actions of the enemy players; establishing the features of the enemy's game tactics; analyzing the main directions of the enemy's attacking blows in accordance with the zones of the attacking player's location; revealing the mechanisms of leveling the enemy's advantages; explaining the individual actions of the players in specific situations of attack or defense and the organization of insurance; installation on game);
- visual methods (video demonstration of tactics of the enemy's game actions; simulation of game situations (algorithm of actions in standard game situations));
- practical methods (practice in training of team actions in attack and defense in accordance with the requirements of the coaching staff).

Adjustments to team actions during the game included:

- using time-outs to correct team actions;

- carrying out timely replacements;
- tactical pauses.

In order to determine the effectiveness of the tactical actions of the team and the management decisions made by the coaching staff, after each game we conducted a survey of the coaches of the opposing team, who revealed their vision of the successes and shortcomings of the actions of the "NOVATOR" team. The survey included answers to two blocks of questions. The first block is an assessment of the tactical plan and operational actions of the coaching staff, the second block is an assessment of the actions of the team's players to implement the tactical plan (Table 1). The survey of the coaches of the opposing team was conducted twice. The first survey was conducted after the completion of the first round of the competition, the second survey was conducted 3-4 months later - after the completion of the second round of the competition. This provided an opportunity to conduct a comparative analysis of the effectiveness of the changes made to the tactical schemes of the "NOVATOR" volleyball team, to establish the opinion of experts on the development of the volleyball club and individual players.

In order to assess the effectiveness of the coaching staff's actions, establish reserves for the further development of the "NOVATOR" volleyball club, and make adjustments to the team's tactical actions, at the end of the season we conducted an anonymous survey of players who had experience playing in other volleyball clubs. The questionnaire included answers to two blocks of questions. The first block is an assessment of the actions of the coaching staff, the second block is an assessment of the actions of the team's players for the implementation of the tactical plan (Table 1).

**Table 1.** List of questions for determining the effectiveness of the team's tactical actions

| <b>Questions for the coaches of the opposing team</b>   |   |
|---|---|
| Effectiveness of actions of the coaching staff  | Effectiveness of tactical actions of team players   |
| <ol style="list-style-type: none"> <li>Did the coaching staff of the "NOVATOR" volleyball club manage to create and implement in practice a tactical game model that is inconvenient for your team?</li> <li>Is the coaching staff of the "NOVATOR" volleyball club able to prepare unexpected tactical solutions for your team's countermeasures?</li> <li>Are non-standard solutions used by the coaching staff of the "NOVATOR" volleyball club during the game?</li> <li>Did the immediate intervention of the head coach on the tactical actions of the NOVATOR volleyball club team have a positive effect on the game?</li> <li>Does the tactical scheme of the game of the "NOVATOR" team lead to stereotyped actions of the players?</li> <li>Does the coaching staff of the "NOVATOR" volleyball club often use players from the youth team to achieve local success in a specific game?</li> <li>Does your team need a separate set of measures to counteract the tactical schemes of the play volleyball club "NOVATOR"?</li> </ol>                           | <ol style="list-style-type: none"> <li>Has the level of tactical skill of the players of the "NOVATOR" volleyball club increased?</li> <li>Did the players of the "NOVATOR" volleyball club manage to neutralize your team leaders?</li> <li>Do the players of the "NOVATOR" volleyball club follow tactical instructions in a sufficiently disciplined manner during the match?</li> <li>Do the players of the "NOVATOR" volleyball club often act in a non-standard (creative) manner during matches?</li> <li>Do you struggle with the actions of opposing players trying to decide the fate of the episode with one action?</li> <li>Are the players of the "NOVATOR" volleyball club able to follow the tactical plan of the game in the absence (illness, disqualification, etc.) of the head coach?</li> <li>Is it difficult for you to predict the individual actions of the players of the opposing team in the decisive moments of the game?</li> </ol> |
| <b>Questions for players who had experience playing in other volleyball clubs</b>   |   |
| Evaluation of the actions of the coaching staff   | Evaluation of the players' ability to fulfill the requirements of the coaching staff  |
| <ol style="list-style-type: none"> <li>Is the training process of the "NOVATOR" volleyball club different from the training process of your previous clubs?</li> <li>Do you consider the use of the "Datavolley2007 Professional" program with the simultaneous demonstration of the tactical actions of the opposing team a positive decision of the coaching staff to prove the team's tactical scheme of action?</li> <li>Does the tactical attitude of the coaching staff have an effect on achieving a positive result in the game?</li> <li>Are the tactical and technical requirements of game actions on the field accessible to you?</li> <li>Do you always agree with the coaching staff regarding the selection of the team's tactical schemes for the game?</li> <li>Does the opinion of the players influence the choice of the team's tactical game scheme by the coaching staff?</li> <li>Did the coaching staff manage to improve the team's tactical actions?</li> <li>Do you always agree with the selection of the team's starting line-up?</li> </ol> | <ol style="list-style-type: none"> <li>Do the players of the team always follow the tactical pattern of the game?</li> <li>Rate the players' on-field discipline actions on a scale (high, standard, weak).</li> <li>Was it allowed to use non-standard tactical solutions during the game of the "NOVATOR" volleyball club?</li> <li>Does the psychological state of the players affect the tactical actions of the team?</li> <li>Is it easy for you to adapt to the change of tactical positions at the starting position of the team?</li> <li>Does the strict requirement of the head coach to perform technical actions on the court during the game affect your confidence in your abilities?</li> <li>Would you like to have more freedom in choosing an arsenal of tactical actions when implementing a game moment?</li> <li>Do unexpected substitutions of players by the head coach affect the tactical actions of the team?</li> </ol>               |

#### 2.4. Study's Limitation

Research work was carried out on the basis of the "NOVATOR" volleyball club in the city of Khmelnytskyi (Ukraine) in the 2019/2020 season.

#### 2.5. Ethical Approval

This research complies with the ethical standards of the Act of Ukraine "On Higher Education" No. 1556-VII of July 01, 2014. Also, this research followed the regulations of the World Medical Association Declaration of Helsinki – ethical principles for medical research involving human

subjects. Informed consent was received from all individuals who took part in this research.

### 3. Results

The assessment of the effectiveness of the technical and tactical actions of the team is one of the indicators of the level of preparedness of the players for the competition and determines the possibility of the coaching staff influencing the course of the game due to changes in the tactical actions of the team.

A comparative analysis of the effectiveness of the

tactical and technical actions of the "Novator" team in the championship of Ukraine after the implementation of the author's method of tactical preparation of the team for the competition is provided in (Table 2).

A comparative analysis of the effectiveness of the tactical and technical actions of the "Novator" volleyball team in the championship of Ukraine after the implementation of the author's method of tactical preparation of the team for the competition showed reliably significant positive changes in the performance of the following elements: positive reception of the ball  $+11.3 \pm 0.8$  ( $p < 0.01$ ); receiving the ball with perfect finishing  $+3.3 \pm 0.7$  ( $p < 0.05$ ); positive blocking  $+3.2 \pm 0.6$  ( $p < 0.05$ ); effectiveness of attacking actions  $+3.9 \pm 0.7$  ( $p < 0.05$ ); attack on dig  $+2.7 \pm 0.2$  ( $p < 0.05$ ); of goals won from serve  $+3.7 \pm 0.3$  ( $p < 0.05$ ).

After the implementation of the author's method of tactical preparation of the team for the competition based on the Datavolley2007 Professional program, there was an improvement in the tactical and technical indicators in the actions of the team's players, which affected the improvement of the statistical indicators of the performance of the volleyball club "Novator" in the championship of Ukraine (Table 3).

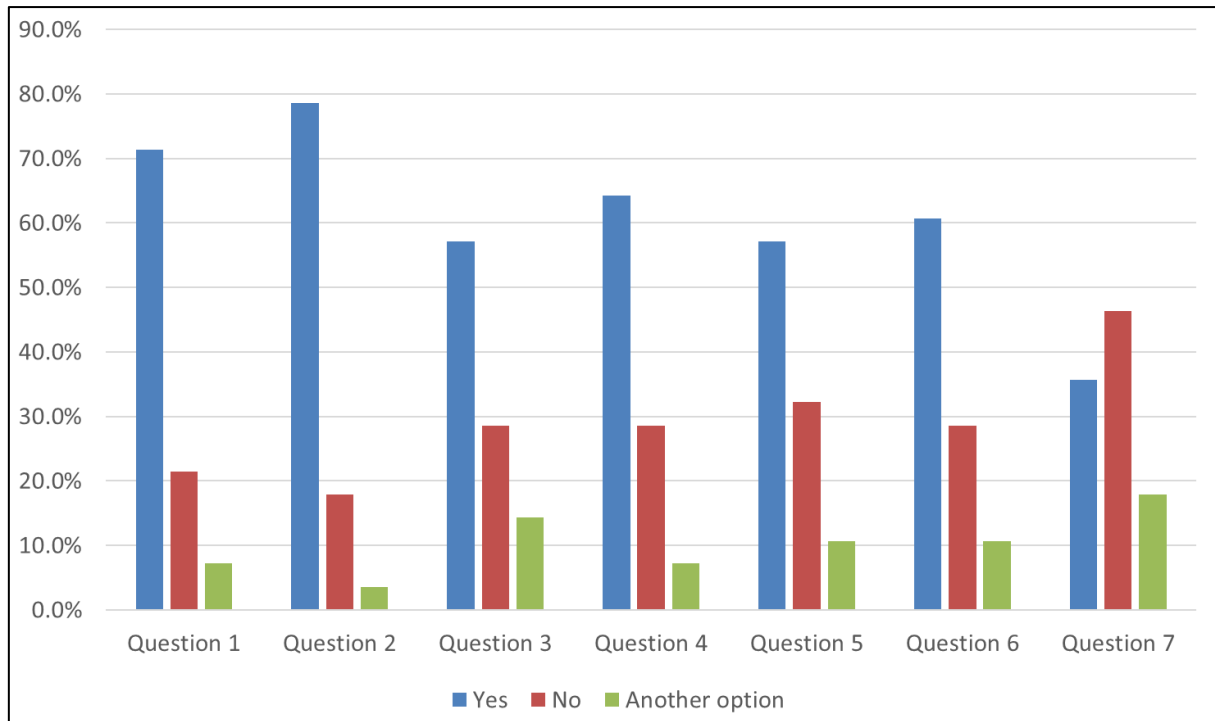
The analysis of the answers to the survey of the coaches of the opposing teams made it possible to establish certain regularities in the tactical actions of the players of the "NOVATOR" volleyball team and to determine the effectiveness of the coaching staff in the tactical preparation of the team for the game. The results of the answers are presented in (Fig.1).

**Table 2.** The results of the effectiveness of individual tactical and technical actions of the "Novator" team in the games of the championship of Ukraine

| №  | Tactical and technical actions                | Results of the season (2018/2019) | Results of the season (2019/2020) | Changes in indicators | Certainty |
|----|---|-----------------------------------|-----------------------------------|-----------------------|-----------|
|    |   | $\bar{x} \pm \sigma$              | $\bar{x} \pm \sigma$              | $\bar{x} \pm \sigma$  | P         |
| 1. | Positive reception (%)                        | 41.8.0 $\pm$ 5.6                  | 53.1 $\pm$ 6.4                    | +11.3 $\pm$ 0.8       | <0.01     |
| 2. | Excellent reception (%)                       | 27.2 $\pm$ 3.6                    | 30.5 $\pm$ 4.3                    | +3.3 $\pm$ 0.7        | <0.05     |
| 3. | Blocked points (Kill block) (%)               | 7,7 $\pm$ 2.1                     | 8,5 $\pm$ 2.3                     | +0.8 $\pm$ 0.2        | >0.05     |
| 4. | Blocked opponent attacks with a soft kick (%) | 21.4 $\pm$ 2.7                    | 24.6 $\pm$ 3.3                    | +3.2 $\pm$ 0.6        | <0.05     |
| 5. | Attack points (%)                             | 38.8 $\pm$ 4.7                    | 42.7 $\pm$ 5.4                    | +3.9 $\pm$ 0.7        | <0.05     |
| 6. | Attack on dig (%)                             | 30.5 $\pm$ 3.6                    | 33.2 $\pm$ 3.8                    | +2.7 $\pm$ 0.2        | <0.05     |
| 7. | Serve points Ace (%)                          | 4,4 $\pm$ 2.5                     | 8,1 $\pm$ 2.9                     | +3.7 $\pm$ 0.3        | <0.05     |
| 8. | Attack error (%)                              | 5,8 $\pm$ 2.2                     | 6,3 $\pm$ 2.3                     | +0.5 $\pm$ 0.1        | >0.05     |
| 9. | Serve error (%)                               | 19.4 $\pm$ 3.3                    | 18.7 $\pm$ 3.8                    | -0.7 $\pm$ 0.5        | >0.05     |

**Table 3.** Comparative analysis of statistical indicators of "Novator" volleyball club's performance in the championship of Ukraine

| №  | Indicator                         | Results without using the author's methodology (2018/2019) | Results from the application of the author's methodology (2019/2020) | The difference in indicators |
|----|-----------------------------------|--|--|------------------------------|
| 1. | A place in the championship       | 4  | 3  | +1                           |
| 2. | Number of matches won             | 15   | 18   | +3                           |
| 3. | Number of matches lost            | 13   | 10   | -3                           |
| 4. | Number of set won                 | 54   | 65   | +11                          |
| 5. | Number of set lost                | 45   | 39   | -6                           |
| 6. | Number of points in the standings | 47   | 55   | +8                           |



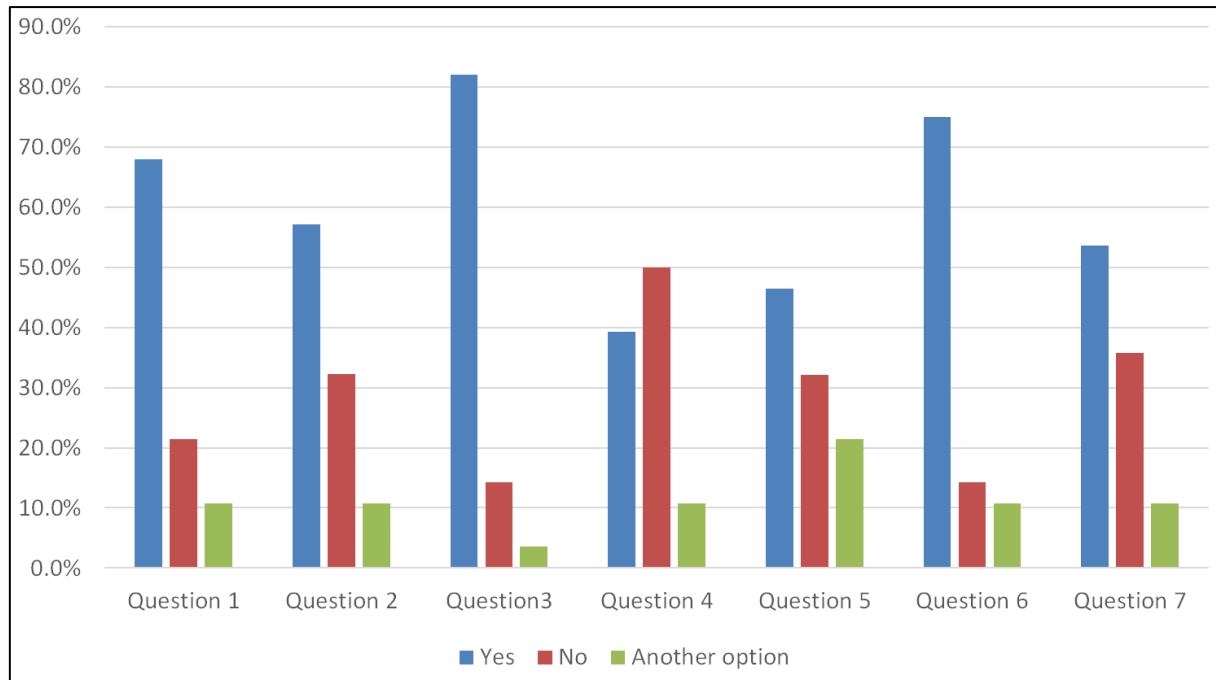
**Figure 1.** The results of the responses of the coaches of the opposing teams regarding the effectiveness of the coaching staff of the "NOVATOR" volleyball club in the tactical preparation of the team

Most of the coaches of rival teams of the "NOVATOR" volleyball team noted an improvement in the level of tactical training of the team's players compared to the previous season, 71.4% of positive responses ( $p < 0.01$ ); the ability to prepare unexpected tactical solutions to counter other teams 78.6% ( $p < 0.01$ ); the possibility of changing tactical actions during the game 57.1% ( $p < 0.01$ ). This fact testifies to the effectiveness of the coaching staff's actions and positive changes in the team's tactical preparation for the competition. At the same time, negative trends in the

team's tactical actions are noted: the tactical scheme of the game of the "NOVATOR" team leads to stereotyped actions of players 57.1% of positive answers ( $p < 0.01$ ); only 35.7% ( $p < 0.05$ ) of volleyball clubs need to carry out a separate set of measures to counter the tactical schemes of the game with the "NOVATOR" volleyball club.

The results of the analysis by the coaches of the opposing teams of the effectiveness of the tactical actions of the players of the "NOVATOR" team are presented in the picture (Fig. 2).





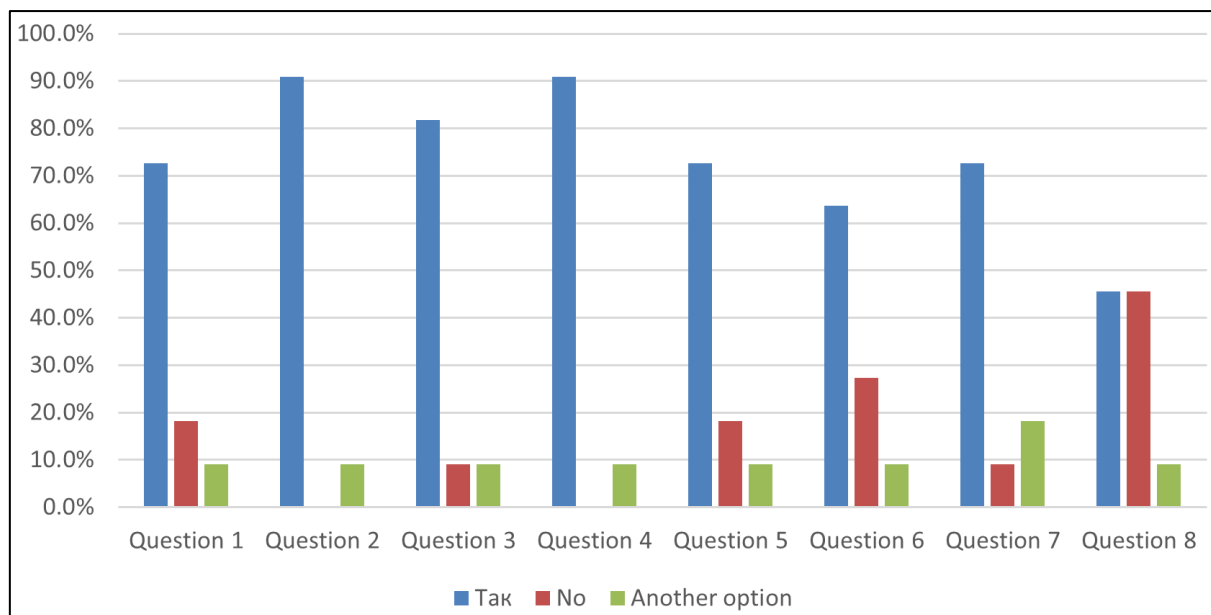
**Figure 2.** The results of the answers of the coaches of the opposing teams regarding the effectiveness of the tactical actions of the players of the "NOVATOR" team

The coaches of the opposing teams note positive changes in the game of the "NOVATOR" volleyball club: improvement of the game discipline of the players by 82.1% ( $p < 0.01$ ); adherence to the tactical scheme of the game by 75.0% ( $p < 0.01$ ); increase in the level of tactical skills of players by 67.9% ( $p < 0.01$ ); improvement of the level of individual technical and tactical training of players by 57.1% ( $p < 0.01$ ). Among the negative trends in the tactical actions of the players, the coaches of the opposing teams noted a decrease in creativity (non-standard) in the actions of the players by 39.3% ( $p < 0.05$ ).

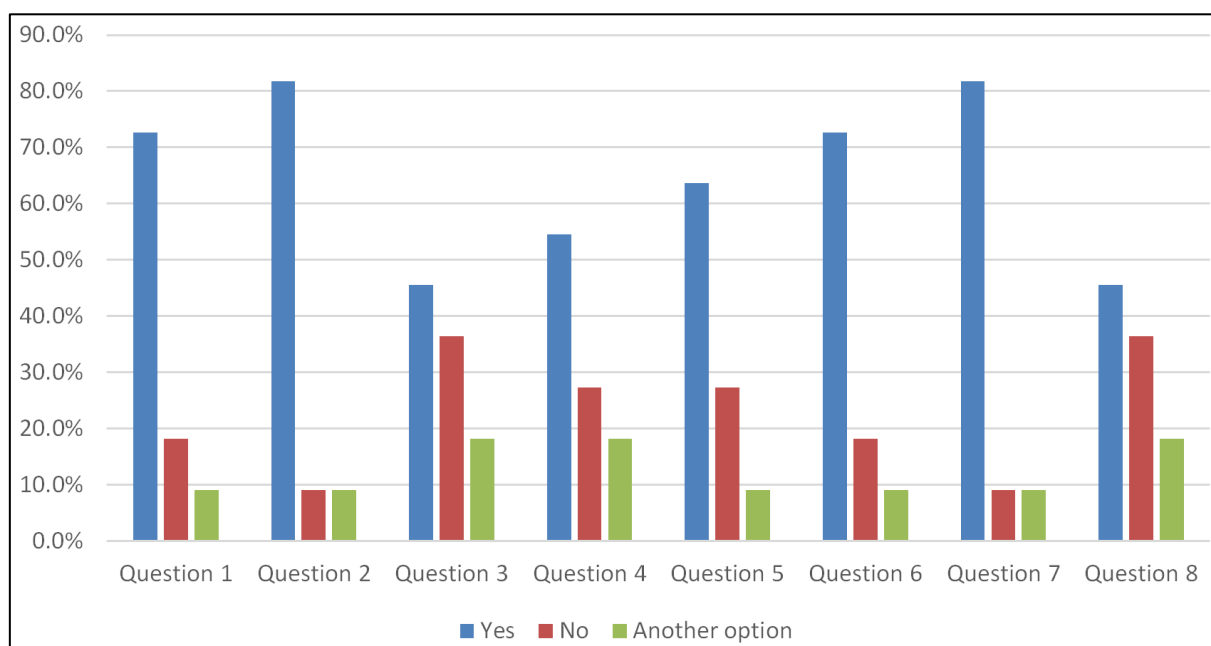
A comparative analysis of the performances of the "NOVATOR" volleyball team in the first and second rounds of the competition, according to the conclusions of

the coaches of the opposing teams, showed an improvement in the tactical skills of the players of the "NOVATOR" volleyball club, 71.4% of positive answers ( $p < 0.01$ ), which occurred due to better performance of group team actions, minimization of their own mistakes when putting the ball into play, improving the tactical actions of the team in setting up the block, organizing back-up, increasing the variability in conducting attacking actions.

The assessment of the actions of the coaching staff of the volleyball club "NOVATOR" by players who had experience playing in other volleyball clubs is presented in the figure (Fig. 3).



**Figure 3.** Evaluation of the effectiveness of the management decisions of the coaching staff by the players of the volleyball club "Novator"



**Figure 4.** Evaluation of the ability of the "NOVATOR" volleyball club players to fulfill the requirements of the coaching staff according to the players who had experience playing in other volleyball clubs

The analysis of the responses of players who had experience playing in other volleyball clubs showed that the use of the "Datavolley2007 Professional" program with a simultaneous demonstration of the tactical actions of the opposing team has a positive effect on proving the decision of the coaching staff regarding the choice of the tactical scheme of the team's actions, 90.9% of positive responses ( $p < 0.001$ ), similar the result was obtained in terms of proving the requirements to the players regarding the correct execution of technical and tactical actions in attack and defense; 81.8% ( $p < 0.01$ ) of the players recognized

that the tactical attitude of the coaching staff to the game affects the achievement of a positive result; 72.2% ( $p < 0.01$ ) of the players believes that the coaching staff managed to improve the tactical skills of the team's players. At the same time, 45.5% ( $p < 0.05$ ) of the players did not always agree with the coaching staff's choice of the team's starting lineup.

The assessment of the players' ability to fulfill the requirements of the coaching staff and the opinion of the players who had experience playing in other volleyball clubs is presented in the picture (Fig. 4).

Analysis of the responses of players who had experience playing in other volleyball clubs showed that 81.8% ( $p < 0.01$ ) believe that the actions of the players of the "NOVATOR" team have become more responsible and disciplined; 72.7% ( $p < 0.01$ ) of the players believe that the team will always adhere to the tactical scheme on the game; 45.4% ( $p < 0.05$ ) of players consider it necessary to use non-standard tactical decisions during the game of the "NOVATOR" volleyball club. Among the negative trends, the players noted that they would like to have more freedom when choosing tactical actions 81.8% ( $p < 0.01$ ); strict requirements of the head coach of the team to perform technical actions on the court during the game 72.7% ( $p < 0.01$ ); difficulties in adapting to changing tactical positions at the starting position of the team's players 63.6% ( $p < 0.01$ ).

#### 4. Discussion

The level of sports wrestling in volleyball is constantly increasing. The competitive activity requires high sports results from the team and the coaching staff. Coaches of professional volleyball teams are constantly looking for ways to improve the level of training of their teams. They study the experience of other teams, and implement innovations that contribute to the achievement of a high sports result. Modern studies of the problem of preparing a volleyball team to achieve high sports results are considered by specialists in the area of solving the following problems:

- staffing the team with players of high sportsmanship in accordance with their playing positions: Marques, M.C., Tillaar, R., Gabbett, T., et al. 2009 [8]; Skazalski, C., Whiteley, R., Bahr, R. 2018 [9]; Sheppard, J., Gabbett, T., Stanganelli, L.C. 2009 [20];
- organization of the training process in order to improve the team's physical readiness for competition: Debien, P. B., Mancini, M., Coimbra, D. R., et al. 2018 [16]; Pisa, M.F., Zecchin, A.M., Gomes, L.G., & Puggina, E.F. 2022 [19];
- improvement of tactical and technical training of athletes, their game thinking for solving tournament tasks: Imas, Y., Borysova, O., Shlonska, O., et al. 2017 [1]; Gamaliy, V.V., Shlonska, O.L. 2016 [4]; Artemenko, B.O. 2014 [10]; García-de-Alcaráz, A., ValadésD, Palao, JM. 2017 [21];
- selection of coaching staff in accordance with their professional competence to solve the problems of increasing the level of sportsmanship of players: Rui, R., Hugo, S., William, F., et al. 2014 [37]; Mozolev, O., Halus, O., Bloschynskiy, I., & Kovalchuk, R. 2019 [38];
- carrying out a comparative analysis of the effectiveness of volleyball players' actions: SkazalskiC, Whiteley, R., Bahr, R. 2018 [9]; Moras, G., Peña, J., Rodríguez, S., et al. 2008 [39]; Silva, M., Marcelino, R., Lacerda, D., & João, P. V. 2016 [40];

- simulation of game situations in attack and defense: Gamaliy, V., Shlonska, O. 2014 [23]; Mychkovska, L., Yakusheva, Yu., Lezhniova, O., & Romanenko, O. 2017 [25];
- use of modern technical means to analyze the game and identify tactical and technical errors in players' actions: Gradusov, V.O., Lisnyanskyy, V.K., Melnik, A.Yu. 2011 [5]; Palao, J.M., Manzanares, P., & Ortega, E. 2015 [22];
- psychological training of the team to achieve success in sports competitions: Onishchuk, L. 2022 [7]; Freitas, V.H., Nakamura, F.Y., Miloski, B. 2014 [31].

A feature of the conducted research was the analysis of the author's method of tactical preparation of the team for the game in order to achieve a high sports result, which consisted of an innovative approach to the use of the "Datavolley2007 Professional" program with a simultaneous demonstration of the tactical actions of the enemy team. It was this combination that ensured the players' understanding of the tactical plan of the coaching staff, contributed to the professional discussion by the coaching staff and team players of possible effective countermeasures to solve the game's tasks.

As a result of the pedagogical experiment, positive changes in performance indicators of the "Novator" volleyball club in the Championship of Ukraine were established. Comparative analysis shows that there were statistically significant changes in the effectiveness of tactical actions in attack and defense before and after the experiment. The results of our study confirm the results of studies Imas, Y., Borysova, O., Shlonska, O., et al. 2017 [1]; Gamaliy V.V., Shlonska O.L. 2016 [4]; Artemenko, B.O. 2014 [10]; Nešić, G., Majstorović, N., Vićentijević, A., et al. 2020 [15] on the key importance of tactical training of skilled players for achieving high sports results. The use of new organizational forms of tactical actions of the team made it possible to increase the efficiency of competitive activities. Added data on determining the efficiency indicators of the team's technical and tactical actions. The content of the tactical instructions of the head coaches of professional volleyball teams was revealed, and their significance for further successful actions of the athletes during the competition was established.

The conducted research expanded the scientific views of Skazalski, C., Whiteley, R., Bahr, R. 2018 [9]; Shlonska, O.L. 2015 [13]; Marcelino, R., Sampaio, J., & Mesquita, I. 2012 [14]; Xu, Z. 2020 [18]; Palao, J.M., Manzanares, P., & Ortega, E. 2015 [22] on the need for tactical analysis of the team's game, identifying errors in attack, defense and reinsurance using technical means of video capture, as well as views Skazalski C, Whiteley R, Bahr R. 2018 [9]; Moras, G., Peña, J., Rodríguez, S., et al. 2008 [39]; Silva, M., Marcelino, R., Lacerda, D., & João, P.V. 2016 [40] on conducting a comparative analysis of the effectiveness of volleyball players' actions in different game situations.

The obtained results allow us to state that the innovative approach to the use of the "Datavolley2007 Professional"

program contributes to the development of tactical thinking of qualified players of the volleyball team, and their adaptation to various tactical schemes of actions of the opponent team. The developed method of tactical training of players can be used at the stage of improving the sportsmanship of young volleyball players, as well as in professional teams.

## 5. Conclusions

The conducted theoretical analysis of the scientific and special literature proved that the importance of the tactical preparation of the team for the game increases as the sportsmanship of the players and the level of technical and tactical training of the opposing team increase. During the preparation of the team for the competition, tactical exercises contribute to the disclosure of the technical skill of the players of their own team, allow to develop and improve various combinations in attack and defense, making maximum use of the physical and technical capabilities of the players.

It was found out that in the system of relations between the coach-player-team-coach, the strengthening of relations between the coaching staff and the players is of great importance. The task of the coaching staff is to find a balance between team discipline, the implementation of the coach's tactical approach to the game and the manifestation of the individual actions of the players during the competition. In the fight between two equal teams, the success of the team's performance depends on the skillful coaching of the team.

Proven effectiveness of the author's method of tactical training of the team to achieve a high sports result - 71.4% positive feedback from coaches of opposing teams, 81.8% positive feedback from experienced players. The implementation of the author's method of tactical preparation of the team for the competition proved to be reliably significant positive changes in the performance of the following elements: positive reception; excellent reception; block points; blocked opponent attacks with a soft kick; attack points; attack on dig; serve points (ace).

It was established that the use of the "Datavolley2007 Professional" program with a simultaneous demonstration of the tactical actions of the enemy team significantly improves the visual perception and prediction of further actions of the players of the other team - 90.9% of positive responses of experienced players. Understanding the tactical actions of the opposing team in various game situations increases the effectiveness of one's own team's actions in attack and defense - 81.8% of positive responses, 72.7% of players note an increase in the level of tactical understanding of the game when choosing game positions, organization of backup in attack and defense.

## Conflicts of Interest

No conflicts of interest exist.

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