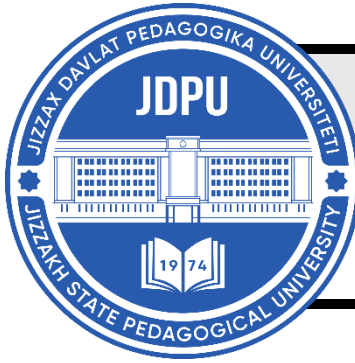


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ANALYSIS OF SPECIALISED TOOLS FOR ENHANCING THE ACCURACY OF TECHNICAL SKILLS IN FOOTBALL

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ABOUT ARTICLE

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Abstract: The article examines methods for enhancing the target accuracy of technical actions in football players, with a particular focus on passing and shooting. A comprehensive analysis of specialised training tools aimed at improving shot accuracy during the competitive period is conducted. The study identifies the most frequent game situations influencing the effectiveness of attacking actions and reveals inefficiencies in the distribution of training time. It is established that shot accuracy declines significantly as the distance increases, highlighting the necessity of prioritising the development of finishing skills within the penalty area. Based on modern methodologies and statistical data, recommendations are provided to optimise the training process.

Relevance.

Enhancing the target accuracy of football players' technical actions is a fundamental aspect of their professional development. Football is a highly dynamic sport in which the precision of passes, shots, and other technical elements directly influences match outcomes at all levels, from amateur to professional. In the context of increasing competition among teams and players, the demand for specialised training methods aimed at improving the accuracy of technical actions has grown significantly. Modern trends in football development demonstrate a substantial rise in the pace of play, along with heightened requirements for players' technical

proficiency and tactical adaptability. In this regard, deficiencies in shooting accuracy, passing precision, and ball control can become critical factors determining a team's success. Global football performance analysis indicates that even minor improvements in technical accuracy can enhance attacking efficiency and reduce ball losses, ultimately impacting overall team performance.

One of the most effective approaches to improving accuracy involves the implementation of specialised training methodologies, which encompass both traditional methods (such as high-repetition shooting drills and targeted exercises) and advanced technological solutions. In recent years, the development of training complexes, video monitoring systems, and biomechanical analysis tools has enabled a more detailed examination of players' movements, facilitating error identification and correction.

Scientific research places particular emphasis on accuracy development in young footballers. During the ages of 10 to 14, critical phases of motor coordination, sensorimotor integration, and spatial awareness formation occur. At this developmental stage, it is crucial to apply specialised training approaches that not only refine fundamental technical skills but also enhance their adaptability to real-game scenarios.

Contemporary football training methodologies increasingly incorporate digital technologies and analytical tools. In particular, tracking and video monitoring systems enable a detailed analysis of players' movement accuracy, facilitate the identification of technical errors, and allow for the adaptation of training loads.

Several football clubs and academies actively implement virtual simulators that replicate game scenarios, aiding players in refining their shooting, passing, and ball control precision. Additionally, biomechanical analysis has proven to be an effective tool, enabling a detailed examination of each movement phase and providing data-driven adjustments to technique execution.

Furthermore, sports psychologists emphasize the role of cognitive training in accuracy development, as decision-making speed and concentration are crucial for executing technical actions effectively. In this regard, neuromuscular training, cognitive exercises, and reaction-development programs have demonstrated success in enhancing players' precision under real-game conditions.

The development and implementation of specialised methods aimed at improving the accuracy of technical actions in football are of paramount importance for both professional and

youth teams. Enhancing passing, shooting, and ball control accuracy directly influences the effectiveness of both attacking and defensive strategies.

Research in this field not only optimises training processes but also contributes to the development of innovative approaches for refining players' technical skills. These advancements can help minimise errors in gameplay, improve attacking efficiency, and elevate the overall technical proficiency of footballers.

Thus, improving the target accuracy of footballers' technical actions through specialised methodologies remains a pressing challenge in modern football. Further advancements in this area will enhance training efficiency, facilitate the integration of cutting-edge technologies, and open new perspectives for talent development in football.

MATERIALS AND METHODS

Purpose of the Study. The objective of this study is to examine and analyze specialised methods for enhancing the target accuracy of football players' technical actions, as well as to develop practical recommendations for their integration into the training process.

Research Methods. To achieve the stated objective, the following research methods are employed:

- Analysis of scientific and methodological literature – a comprehensive review of contemporary research, training manuals, and academic articles on improving the accuracy of technical actions in football.
- Observation method – systematic recording and analysis of the technique of shooting, passing, and ball control in football players of varying skill levels.
- Statistical data processing methods – quantitative and qualitative analysis of the collected data to identify patterns and assess the effectiveness of the applied training methods.

RESULT AND DISCUSSION

Research results and its discussion: Empirical studies in the field of football training indicate that more than 50% of all technical and tactical actions (TTAs) during a match involve ball passing. However, the execution of these actions is frequently accompanied by a high incidence of errors, particularly in scenarios requiring a combination of speed and precision. This phenomenon highlights an insufficient level of ball control among a significant proportion of players, including those demonstrating superior physical conditioning and sprinting ability [2].

A notable trend observed in elite-level teams is that while many players exhibit exceptional movement speed on the field, they often struggle to maintain technical accuracy in

high-intensity game situations [1]. This discrepancy between speed and precision adversely affects both offensive and defensive effectiveness, particularly in moments of defensive-to-offensive transition, execution of finishing actions, and combinational play under high-pressure conditions imposed by the opposing team.

At the current stage of football's tactical and technical evolution, a key challenge is the optimization of passing and shooting techniques under constraints of time and space. Contemporary tactical systems necessitate that players make rapid decisions, exhibit instantaneous adaptability to dynamic game scenarios, and execute technical actions with high precision under conditions of maximal physiological and cognitive load. Furthermore, an essential aspect of technical preparation involves expanding the repertoire of dribbling techniques and refining them to the level of automated execution, thereby enabling players to effectively counteract compact defensive structures and enhance performance in one-on-one duels.

The effective resolution of the aforementioned challenges is contingent upon the systematic and scientifically grounded planning of the training process, with a particular emphasis on methodologically sound and targeted development of technical accuracy. Recent research underscores that maximizing training effectiveness requires not only an increase in training volume but, more importantly, an enhancement in the quality of execution. Consequently, the issue of objectively assessing the effectiveness of training sessions has become increasingly relevant, necessitating an evaluation framework that encompasses both quantitative and qualitative indicators of player development.

Contemporary scientific approaches to training organization advocate for the integration of monitoring systems and objective assessment tools to evaluate football players' technical performance. Specifically, the use of video analysis, tracking technologies, biomechanical assessment, and digital simulation systems enables a comprehensive examination of passing, shooting, and dribbling in various competitive scenarios. These advanced methodologies facilitate the identification of individual technical deficiencies, provide data-driven corrective measures, and allow for the adjustment of training loads based on the athletes' skill levels.

Furthermore, increasing attention is being directed towards the integration of cognitive training, which is essential for enhancing concentration, decision-making speed, and precision under high-pressure conditions. An integrated approach to improving technical accuracy—encompassing coordination training, biomechanical movement efficiency, and

psychophysiological conditioning—constitutes a fundamental factor in advancing football players' technical proficiency and their overall competitiveness at the professional level.

Modern football training necessitates a revision of traditional methodologies and the active adoption of innovative technologies aimed at enhancing both the accuracy and efficiency of players' technical actions. The implementation of a scientifically grounded training framework not only reduces the rate of technical and tactical execution errors but also elevates individual and team performance levels, ultimately contributing to greater match effectiveness.

The study provided quantitative data on the distribution of various passing techniques in the training process of the youth team of FC Pakhtakor. As demonstrated in Table 1, the largest proportion of total passes was executed using the inside of the foot (65.8%). Additionally, an analysis of passing distances revealed the following distribution:

- 52.6% of passes were made over short distances, reflecting the primary form of in-game interactions, particularly under conditions of tight defensive pressure.
- 13.2% of passes were executed over medium distances, highlighting the necessity of improving both accuracy and power for ball distribution in positional attacking play.

Less frequently utilized passing techniques, such as outside-foot, instep, and heel passes, were also recorded; however, their overall share in the training process remained significantly lower. This observation underscores a strategic focus on the most reliable and versatile passing methods that are optimally suited for competitive match conditions.

The obtained results confirm that the training process places strong emphasis on stabilizing short-distance passing accuracy, particularly using the inside of the foot. This prioritization is justified by the superior precision, versatility, and applicability of this technique across a wide range of game scenarios, from central-zone ball circulation to final attacking passes.

The observed distribution of passing techniques underscores the necessity for a comprehensive investigation into alternative passing methods, which may be crucial in high-intensity game scenarios, particularly under opponent pressure or when a rapid transition in attacking direction is required. For instance, the precision of outside-foot passes, lofted deliveries, and spin-enhanced techniques plays a pivotal role in executing non-standard tactical solutions and necessitates targeted inclusion in structured training programs.

Moreover, the quantitative analysis of training data highlights the imperative need for the integration of specialized analytical tools and advanced technologies, including video-based motion tracking, biomechanical movement assessments, and neuromuscular training

simulators. These methodologies enable a granular evaluation of execution mechanics, thereby fostering greater accuracy in passing and finishing actions through data-driven technique refinements.

Consequently, the findings of this study reinforce the necessity of further optimizing football training frameworks to maximize the target accuracy of technical actions. To enhance training efficacy, it is advisable to implement individualized performance-oriented methodologies, account for age-specific motor development patterns, and integrate innovative, scenario-based training strategies that promote both technical precision and adaptive variability in real-match conditions.

Table 1.

The ratio of "passes" of the ball performed by football players
"Pakhtakor" in different ways in training sessions
competitive period (in % of the total volume) (n = 62)

Methods of passing the ball	Distance (m)			TOTAL (%)
	Short (%)	Average (%)	Long (%)	
The inside of the foot	52.6	13.2	-	65.8
The inside of the lift	2,2	6.3	7.2	15.7
Middle part of the lift	1,1	4.1	8.3	13.5
The outer side of the foot	1,2	0.5	-	1.7
With a sock	0.3	0.4	-	0.7
With your head	2.4	0.2	-	2.6
Total	59.8	24.7	15.5	100

The analysis of the training process demonstrated that a substantial proportion of technical actions during the competitive period is related to passing, with the majority of passes executed using the inside of the foot. However, an examination of the distribution of various passing techniques revealed distinct patterns, indicating training priorities and the rationale behind these emphases.

Passes executed with the inside of the instep accounted for 15.7% of total passes, with the following breakdown: 2.2% for short distances, 6.3% for medium distances, and 7.2% for long distances. This suggests that this technique is predominantly employed in scenarios requiring moderate to high striking force, such as flank switches or penetrating passes into attacking zones.

Mid-instep passes comprised 13.5% of total passes, distributed as follows: 1.1% for short distances, 4.1% for medium distances, and 8.3% for long distances. This distribution

underscores the prevalent use of mid-instep passes for long-range ball deliveries, particularly in situations requiring ball movement across multiple defensive lines.

Outside-foot passes accounted for 1.7% of total passes, with 1.2% occurring over short distances and 0.5% over medium distances. Despite their relatively low frequency, outside-foot passes play a crucial role in unpredictable and unconventional in-game scenarios, such as rapid attacking transitions and confined-space maneuvering.

Toe-poke passes represented only 0.7% of all passes, with 0.3% performed over short distances and 0.4% over medium distances. This low percentage is attributed to the limited accuracy and control associated with toe-poke techniques, making them less prevalent in professional football.

Headed passes and aerial flick-ons constituted 2.6% of all passes, with 2.4% occurring over short distances and 0.2% over medium distances. The high proportion of short-range headers is explained by their frequent application in aerial duels, penalty-area distributions, and under high defensive pressure.

The training structure evidently prioritizes short- and medium-distance passes with the inside of the foot, a focus that is fully aligned with contemporary tactical demands. In elite-level football, attacking sequences are predominantly built on quick central-zone combinations, followed by incisive through passes.

Tactical analyses of top European clubs indicate that attack effectiveness largely depends on the precision of medium-range passes, which serve as the foundation for goal-scoring opportunities. Consequently, the high allocation of training time to these passing techniques is well justified and corresponds to modern football development trends.

Despite the high level of technical proficiency among elite players, one of the persistent challenges in modern football remains the optimization of shot efficiency. The percentage of on-target shots and goal conversion rates remain below the desired threshold, necessitating further research and refinement in finishing techniques.

To address this issue, the study analyzed goal-scoring scenarios observed during training sessions. All shots on goal were categorized based on preceding game actions (see Table 2).

Key Findings from Data Analysis:

1. The highest shot efficiency was recorded following rapid passing combinations in the penalty area, where the attacking player secured an optimal position to execute the final strike.

2. Long-range shots exhibited high variability in both accuracy and power, emphasizing the need for specialized training methods tailored to enhance players' shooting technique and shot selection.

3. Converting goal-scoring opportunities under defensive pressure emerged as a crucial determinant of overall attacking efficiency, underscoring the importance of composure and technical precision in high-intensity situations.

Contemporary football demands not only high-precision shooting but also the ability to rapidly assess game dynamics, select the optimal striking moment, and execute under severe time constraints. As a result, training methodologies should incorporate decision-making drills, cognitive training, and pressure-based finishing exercises to develop players' adaptability and efficiency in goal-scoring scenarios.

Table 2.

Analysis of shots on goal performed by the Pakhtakor team players in training sessions (n = 62)

No.	Shots on goal, after game actions	Total %
1.	Wall combination	2.8
2.	Pass back to the oncoming player	2.7
3.	Diagonal pass into the penalty area behind the defenders	9.6
4.	Outflanking the opponent	2.7
5.	Through ball between defenders	3.8
6.	A cross pass into the penalty area	1.8
7.	Taking a corner or after a corner	13.3
8.	Taking a free kick or penalty kick	11.1
9.	Throw-in	1.4
10.	Passing the ball from the flank	27.7
11.	Strikes from a distance of more than 16,5 m	23.1
12.	TOTAL:	100

Analysis of data on the execution of shots on goal allowed us to identify key features of time distribution in the training process and determine possible areas for its optimization.

The largest percentage of the total number of shots was recorded for:

- Shots after crosses from the flank – 27.7%
- Long-range shots – 23.1%
- Shots after set-piece situations (penalties and free kicks) – 11.1%
- Shots after corner kicks – 13.3%
- Shots after a diagonal pass into the penalty area – 9.6%

Less common combinations included:

- Shots after through passes between defenders – 3.8%
- Shots following a "wall pass" combination – 2.8%
- Shots taken by an oncoming player – 2.7%
- Shots after dribbling past an opponent – 2.7%
- Shots from lateral passes within the penalty area – 1.8%
- Shots following a throw-in – 1.4%

Based on statistical analysis, the shot accuracy rate across various game situations ranged between 35% and 42%. This indicates an insufficiently high level of execution proficiency among football players and necessitates improvements in training methodologies. It is well established that goal-scoring probability is largely dependent on shot accuracy, while accuracy decreases significantly as shooting distance increases.

Research findings indicate that for every additional meter of shooting distance, the probability of hitting the target decreases by approximately 3%.

Under real competitive conditions, shots taken from 33–35 meters have a probability of hitting the target of no more than 5%, making such attempts highly ineffective.

It can be argued that goals scored from distances exceeding 23–25 meters are most often the result of goalkeeping errors rather than deliberate attacking strategies.

Analysis of goals scored during the 2014 FIFA World Cup reveals the following distribution:

- 91% (156 goals) were scored from inside the penalty area
- 9% (15 goals) resulted from shots taken outside the penalty area
- 76.5% (130 goals) were scored from open play
- 19% (29 goals) originated from attacks following wing passes

These statistics underscore the necessity of focusing the training process on improving shooting accuracy inside the penalty area, as well as enhancing attacking actions following flank deliveries.

Factors Affecting the Effectiveness of Shots on Goal

The results of the analysis confirm that the success of goal-scoring attempts is largely influenced by the following key factors:

1. Proximity to the goal – The shorter the shooting distance, the higher the probability of scoring.
2. Player positioning relative to the goal – More than two-thirds of penalty-area goals are scored from angled positions rather than directly in front of the goal.

3. Technical proficiency – Individual player attributes (such as speed, coordination, and balance) significantly influence their ability to execute accurate shots under high pressure.
4. Tactical decision-making – Combination play that creates favorable shooting positions is a crucial element in effective attacking strategies.

Practical Recommendations

1. Enhancing Training Volume to Improve Shooting Accuracy
 - o Increase the number of goal-scoring attempts within the penalty area during training.
 - o Incorporate shots from various distances and angles to develop adaptability.
 - o Design drills that simulate real-game scenarios, including defensive pressure and limited decision-making time.
2. Improving Ball Passing
 - o Develop specialized drills to perfect inside-foot passes, as they are the most frequently used technique in competitive play.
 - o Focus on cutting passes in central areas, which are crucial for initiating effective attacks.
 - o Implement high-speed passing drills that emphasize maintaining accuracy under pressure.
3. Developing Tactical Awareness and Team Interaction
 - o Integrate game-like exercises that emphasize attacking sequences ending with shots on goal.
 - o Prioritize cross-based attacking drills, as flank deliveries are among the most effective goal-scoring methods.
 - o Enhance cooperation between forwards and midfielders in the final attacking phase.
4. Utilizing Modern Technologies
 - o Employ video analysis tools to assess shooting techniques and identify areas for improvement.
 - o Implement tracking systems to monitor pass and shot accuracy, providing objective performance evaluations.
 - o Incorporate simulation-based training exercises using digital technology for skill enhancement.
5. Personalized Training Approach
 - o Address individual technical deficiencies based on detailed performance analysis.
 - o Develop position-specific training programs tailored for forwards, midfielders, and defenders.

oEmphasize coordination and rapid decision-making to improve shooting under pressure.

6. Optimizing the Competitive Microcycle

oAllocate more time for shooting drills on non-match days.

oPrior to matches, focus on quick combination play leading to goal-scoring opportunities.

oEnsure physical and psychological recovery after high-intensity training sessions.

Conclusions. Improving the target accuracy of technical actions requires a comprehensive approach, including increasing the volume of specialized exercises, developing tactical thinking and using modern methods of analysis. Optimization of the training process taking into account the identified patterns will improve the quality of attacking actions and the team's performance in competitive activities.

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