# SPEED IN THE THEORY OF PHYSICAL EDUCATION AND THE SPECIFIC FEATURES OF ITS DEVELOPMENT

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**Abstract:** This article covers the theoretical and practical foundations of developing speed abilities in young football players. The importance of speed in modern football, its main forms, and the developmental characteristics of young football players' bodies are analyzed. The article also examines the factors influencing the development of speed, effective methods for forming speed qualities, and training means. The role of the repetition, progressive repetition, game and competition methods in the preparation of young football players is revealed. The results of the study are of great importance for improving the physical fitness of young football players and enhancing their sports skills.

**Keywords:** young football players, speed, speed abilities, reaction speed, starting speed, speed endurance, movement coordination, physical fitness, training methodology, game method, competition method, repetition method, sports training

One of the main trends in the development of modern football is the steadily growing number of technical, tactical and motor actions performed by players at maximum intensity during a match, both with and without the ball. In addition, players are required to control the ball while moving at high speed and to perform "explosive" actions many times over the course of a match. Without speed, it is difficult to play in a high-level team. During play, a footballer's speed manifests itself in reaction speed and in the speed of performing movements [3].

To describe the physical qualities that directly determine an athlete's speed abilities, the generalized term "speed" (quickness) has mainly been used.

Speed is a set of morphofunctional properties of a person that directly determine the velocity characteristics of movements, as well as the time of motor reactions.

In recent decades, the term "speed abilities" has been used more and more often. This is explained by the fact that the study of specific forms of the manifestation of speed has revealed significant differences between them.

All motor reactions performed by a person are divided into two groups: simple and complex.

A response with a previously known movement to a previously known signal (visual, auditory, tactile) is called a simple reaction. The speed of a simple reaction is determined by its latent period - the time interval from the moment the signal appears to the beginning of the movement. In adults, the latent time usually does not exceed 0.3 seconds.

Complex motor reactions include the reaction to a moving object (for example, the ball) and the choice reaction. The latter requires instantly selecting, from several possible actions, the one that suits the situation. Such reactions occur in sports where motor situations change constantly and unexpectedly, including football. Most complex motor reactions in physical education and sport are "choice reactions".

The time spent performing a single movement (for example, kicking the ball) also characterizes speed abilities.

The frequency or tempo of movements is the number of movements per unit of time. In various motor activities, the elementary forms of speed abilities appear in different combinations with other physical qualities and technical actions. In this case, a complex manifestation of speed abilities is

observed. These include: the quick performance of integral motor actions, the ability to reach maximum speed as quickly as possible, and the ability to maintain the maximum speed achieved for a long time.

For the practice of physical education, the speed with which a person performs integral movements in running, swimming, cross-country skiing and other activities is of great importance. However, this speed characterizes a person's quickness only indirectly, since it depends not only on the level of development of speed, but also on other factors - movement technique, coordination abilities, motivation, volitional qualities and others.

The speed manifested in integral movements is influenced by the following:

- the frequency of neuromuscular impulses;
- the speed of transition of muscles from the phase of tension to the phase of relaxation;
- the rate at which these phases alternate;
- the degree to which fast-twitch muscle fibers are recruited into the movement and their synchronous work.

The ability to reach maximum speed as quickly as possible is determined by the starting speed, or the starting acceleration phase. On average, this time is 5–6 seconds. The ability to maintain the maximum speed achieved for a long time is called speed endurance and is assessed by the speed over the distance.

In games there is another specific manifestation of speed qualities — braking (stopping) speed. Because of a change in the situation, a player has to stop instantly and start moving in another direction.

The speed of movement is determined, first of all, by the activity of the cerebral cortex and by the mobility of the nervous processes that ensure the contraction, tension and relaxation of the muscles.

According to Zh.K. Kholodov, speed is determined:

- by measuring the speed of movement in response to a certain signal using reactometers of various designs;
- by the number of movements made with an unloaded limb or the trunk within a set amplitude over a given time;
- by the time taken to cover a set distance (for example, running 20 or 30 meters);
- by the speed of performing a separate movement within a complex action, for example, the take-off in jumping, the shoulder and arm movement in throwing, a punch in boxing, a sprinter's initial movement, gymnastic movements and others.

The maximum frequency of movements depends on the speed at which the motor nerve centers switch from a state of excitation to a state of inhibition and vice versa, i.e. it depends on the lability of nervous processes.

Speed indicators under natural conditions depend on the acceleration developed, which is determined by muscle strength, the mass of the body or its parts, lever length, total body length and other factors.

Genetic studies (the twin method, comparison of the speed capabilities of parents and children, long-term observation of changes in speed indicators in the same children) show that motor abilities depend significantly on genotype factors. According to research data, the speed of a simple reaction is determined by heredity in approximately 60–88% of cases. While the speed of a single movement and the frequency of movements are moderately influenced by genetics, the speed manifested in integral motor acts and in running depends roughly equally on genotype and environment (40–60%).

Developing speed abilities is considered very difficult. The possibilities of increasing speed in locomotor cyclic movements are rather limited. In the course of sports training, movement speed is increased not only by directly influencing speed abilities, but also by developing strength and speed-strength qualities and speed endurance, improving movement technique, and other means. In other words, results improve through the development of factors that significantly influence the manifestation of speed qualities.

Numerous studies have shown that all the above-mentioned types of speed abilities are specific. The transfer between speed abilities is limited. For example, a person may react to a signal very well yet have a low frequency of movements. The ability to show a high starting acceleration in sprinting does not guarantee a high distance speed either, and vice versa. Direct positive transfer of speed is observed only in movements that are similar in content, programming and motor structure. Therefore, these specific features of speed abilities require the use of training means and methods appropriate to each type.

The methodology for developing speed is based on the multiple repetition of exercises performed at near-maximal and maximal speed.

The main methods for developing speed include the following:

Repetition method is considered the main means of developing speed, since any speed exercise requires multiple repetitions.

The following types of the repetition method are distinguished for developing speed: repeated performance of exercises at near-maximal speed; repeated performance of exercises at maximal speed; performance of exercises at supramaximal speed under facilitated conditions; performance of exercises under conditions that make the manifestation of speed more difficult; repeated exercises under facilitated and complicated conditions within a single training session.

Progressive repetition method involves gradually increasing the volume of load in series of repetitions (20-30-40 meters).

Game and competition methods are applied in the form of various relay races, active (outdoor) games and sports games.

In conclusion, in modern football the quality of speed is one of the most important components of young football players' preparation. The increasing tempo of the game, the growing complexity of technical and tactical actions and the rapid change of game situations require a high level of speed from players. Therefore, developing speed abilities in young football players should be one of the priority areas of the training process.

Research and theoretical data show that speed abilities are manifested through indicators such as simple and complex reaction speed, movement frequency, starting speed and speed endurance. Although genetic factors influence the development of these qualities, they can be significantly improved through specially organized training. The age range of 8-15 years is considered the most effective period for developing speed.

The use of the repetition, progressive repetition, game and competition methods yields high results in developing speed. Maximum-speed runs over short distances, relay races, exercises performed from various starting positions, and game-based tasks help improve the speed indicators of young football players.

**References**

1. Лапшин, О. Б. (2010). Теория и методика подготовки юных футболистов [Theory and methodology of training young football players]. М.: Человек, 176, 1.

2. Латыпова, Е. Ю. (2025). Школа юных футболистов [School of young football players].

3. Ибрагимов, А. К. (2022). ПЕДАГОГИЧЕСКИЕ ОСНОВЫ РАЗВИТИЯ ФИЗИЧЕСКИХ КАЧЕСТВ ЮНЫХ ФУТБОЛИСТОВ [Pedagogical foundations of developing the physical qualities of young football players]. In Физическая культура. Рекреация. Спорт (pp. 186-194).

4. http://kotelsportschool.ru/wp-content/uploads/.pdf

5. Ajiniyazov, A. M. (2026). Yosh fudbolchilarda tezlikni rivojlantirish metodikasi [Methodology for developing speed in young football players]. Science and Education, 7(4), 757-760.