



## THEORITICAL RESEARCH OF THE DEVELOPMENT OF THE POTENTIAL OF SECONDARY SCHOOL AGE CHILDREN.

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**Annotation:** One of the main tasks of school physical education is to increase the level of physical development and physical fitness of students. According to many experts, a significant place in the process of physical education of the younger generation should be given to the development of strength abilities and, above all, speed-strength abilities. A high level of development of speed-strength abilities not only ensures a person's successful work activity, but also has a positive impact on the development of his other motor abilities.

**Keywords:** speed-strength abilities, middle school age, control and assessment of speed-strength abilities, intragroup variability

The purpose of the study was studying the characteristics of developing speed abilities in middle school students.

Research objectives: 1. Based on the analysis of scientific and methodological literature, characterize the age-related characteristics of the development of secondary school students

2. Reveal the essence of the concept of "speed" as a physical quality, describe its types.

3. Consider the features of the work of a physical education teacher in developing speed abilities in children of secondary school age.

4. Conduct a pedagogical study on developing speed abilities in middle school students and provide the content and results of the study.

Contents of the study. Considering the manifestations of speed-strength abilities, we found out that it is necessary to highlight two of its main manifestations: fast strength and explosive strength, each of which manifests itself in its own way.

In order to study the level of development of speed abilities of children in grade V, we used the following control tests: 30 m run from a high start and 60 m run from a high start. Having analyzed the results obtained and the level of development of students' speed abilities, we planned and implemented a holistic system of work.

Over the course of a month, 2 hours a week of physical education lessons, classes were held to develop speed in students. At the same time, no changes were made to the calendar and thematic planning. The peculiarity of developmental education was that the work was carried out in various types of activities in the classroom, with children through a system of special classes and exercises. At the beginning of the lesson, while walking and running, exercises such as "suddenness" were used: for example, on a whistle, a quick turn in a circle, running in the opposite direction or turning 360 degrees and running in the same direction, etc. In these exercises, we improved the speed of reaction to a suddenly arriving signal. Special athletics exercises not only contributed to preparation for solving lesson problems, but were also aimed at developing speed abilities. Taking into account the methodological features of the organization of classes for the development of speed abilities, described by us

in the theoretical part of the work, exercises for the development of speed were included at the beginning of the main part of the lesson, using strictly regulated exercise methods, in particular the holistic method. For this purpose, they included such exercises as running segments of 20m, 40m from a low start, shuttle running, running with acceleration, running along a straight corridor through lines drawn at a distance of 90-100 cm from one another. Running was alternated with rest for 1 minute. Rest, as a rule, was walking and the teacher analyzing the completed task. In addition, using competitive and game methods, they included various relay races and outdoor games.

After two weeks of classes in this mode, we conducted an intermediate test, and those students who improved their results after the ascertaining stage were given a grade of "5," which contributed to the students' motivation in the process of their own development of speed abilities.

The age period we are considering, 10–15 years (middle school age), is the most critical in the development of speed and strength abilities. The peculiarity of this period is that the process of development of speed-strength abilities occurs against the background of a significant restructuring of the basic functions of the child's body. Therefore, it is important to understand the mechanisms underlying these age-related changes, speed-strength abilities and the features of their development in middle school students, which, in turn, are determined by the processes of puberty, the course of which during this period is heterochronic in nature. During this period, there is an inverse relationship between morphological growth and functional development, that is, periods of enhanced morphological growth are periods of slow development of physical qualities.

In previous studies, we found that at the age of 12–15 years, 75% of variations in speed-strength abilities are determined by age-related changes in height and body weight. At the same time, very contradictory opinions are published in the scientific and specialized literature about the critical periods of development of speed-strength abilities. All this suggests the need for a differentiated approach to both the assessment and the process of development of speed-strength abilities in middle school age.

Analyzing school physical education programs, it can be noted that speed-strength abilities are most often measured through two tests: the standing long jump and throwing a simple or weighted tennis ball. These two tests, of course, are informative, but do not provide a complete description of the level of development of speed-strength abilities. In our opinion, a set of test tasks is needed that will not only objectively assess the level of development of speed-strength abilities of the main muscle groups, but will also allow for a differentiated approach to the development of these abilities in the future. When developing and justifying the experimental block of test tasks we proposed, we proceeded from the fact that these exercises should in one case assess the predominant manifestation of the strength component, and in the other, the leading influence of the speed component. Only this combination of test tasks will make it possible to objectively assess the level of development of speed-strength abilities. The experimental block of test tasks included the following tests:

- 1) standing long jump;
- 2) throwing a tennis ball;
- 3) jump up according to Abalakov's method;
- 4) flexion and extension of the arms while lying down (10 repetitions for a while);

- 5) lifting the body from a supine position (10 repetitions for a while); 6) deflection while lying on your stomach (10 repetitions for a while);
- 7) standing five long jump;
- 8) complex exercise: crouching emphasis - lying emphasis - crouching emphasis - jump up (10 repetitions for time);
- 10) throwing a medicine ball (2 kg) from behind the head in a sitting position;
- 11) jumping on a cabinet (height 40 cm).

The block of test tasks we created allowed us to consider not only individual differences in the level of development of individual manifestations of speed-strength abilities, but also general speed-strength readiness. After summing up the results of the pedagogical research, we formulated the following recommendations for the future physical education teacher on the effective development of speed in students: To effectively develop speed, it is necessary:

- take into account the age characteristics of students when selecting physical exercises;
- alternate load and rest between exercises and series of exercises;
- develop speed abilities at the beginning of the main part of the lesson;
- systematically monitor the level of development of students' speed abilities;
- use the competitive method during short-distance running.

So, based on the results of our research, we can conclude that the teacher's implementation of an integral system of educational activities is of no small importance for the development of speed abilities of middle school students.

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