

Entwicklung der Bewegungsgeschwindigkeit

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Zusammenfassung: Dieser Artikel betont, dass ein Kind bestimmte Fähigkeiten als motorische Aktivitäten von seinen Eltern erbt, diese jedoch als natürliche Möglichkeit entwickelt, selbstständig zu spielen. Daher betont der Autor den Inhalt und die Bedeutung der Entwicklung des Sportunterrichts in der Schule als Mittel zur zielorientierten Bewegung. Der Autor achtet besonders darauf, dass der Sportlehrer eine klare Vorstellung von den Gesetzen der Bildung motorischer Qualitäten bei Schulkindern haben muss.

Schlüsselwörter: - Übungen, Arme, Beine, Belastung, Bewegung, Organismus, Laufen, Kinder, Jungen, Mädchen, Puls.

Development of movement speed

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Abstract: This article emphasizes that a child inherits certain skills from their parents as motor activities, but develops them as a natural way to play independently. Therefore, the author emphasizes the content and importance of the development of physical education in school as a means of goal-oriented exercise. The author pays special attention to the fact that the physical education teacher must have a clear idea of the laws of formation of motor qualities in schoolchildren.

Keywords: Exercises, Arms, Legs, Load, Movement, Organism, Running, Children, Boys, Girls, Pulse.

I. INTRODUCTION

It is very important for children to grow up healthy and physically strong in Uzbekistan. The formation and development of children's movement speed is especially relevant. Because the more active a child is, the better the blood circulation in him, the higher the brain's ability to perceive. Therefore, it is advisable to develop the speed of movement in children, especially depending on the age of the children, it is advisable to do physical exercises.

II. LITERATURE REVIEW

The following scholars have considered physical exercises as a key tool in increasing the activity of school pupils in their research: A.Abdullayev. Sh.Xonkeldiyev. [1], L.P.Matveyev. [2], M.Raximov, B.Qoltorayev [3], T.S.Usmonhojayev [4], A.Normurodov [5], F.A.Kerimov [6], B.A.Ashmarin [7], R.S.Salomov [8].

III. RESEARCH METHODOLOGY

In this research, we used of methods of scientific observation, abstract logical reasoning, statistical and systematic analysis, as well as selective observation and social survey.

IV. ANALYSIS AND RESULTS

The speed is manifested by different types of movements and exercises for development are also not the same. In cyclic locomotor movements (running, swimming, abs, etc.), speed is developed in two ways: firstly, holistic, i.e. execution with the maximum possible speed of the entire movement, without calculating or sectioning individual elements of the movement, for example, with the development of running speed, various kinds of acceleration, running downhill, running after the leader, and separately exercises for arms and legs are used.

Acyclic movements are simple and complex. Simple are motor reactions i.e. reciprocal movements to the known, but suddenly appearing signals. They distinguish between two periods from the moment the signal is perceived to a low response movement and from the beginning of the movement to its end. Correspondingly, two types of exercises are analyzed:

1) quick response movements to various signals (visual, sound, tactile, touching the skin), these are usually different manual actions, starts, changes in running correction, etc.);

2) execution of simple movements with maximum speed (performed not by a quick signal - imitation of strikes, throws, straightening out, overlapping with a shin, etc.).

Complex acyclic movements include: the reaction of a moving object; choice reaction; complex coordination movements; consisting of many elements. In reactions, a moving object takes a significant part of the time to satisfy the moving object with the eyes (oculomotor diopter response), which is necessary for accurate targeting; the motor part of the reaction is also lengthened, since it is required to determine the direction of movements and measure the efforts with the distance to the target. As exercises, we can recommend, first of all, outdoor games with large and small balls, rollers for badminton. Simpler exercises are throws at a rolling medicine ball, at a tossed basketball, at two balls tossed at different heights, etc. First, the ball is thrown in one direction, then unexpectedly for the practitioner in different directions.

Choice reaction is finding out of several possible options the best course of action or response to a signal (action). In life, these reactions are of great importance, for example, when controlling a mechanism. The best exercises are outdoor games that require a choice of actions, getting ahead of the enemy. Focusing on the preparatory movements, associated, for example, with the opponent's initial position for throwing the ball, you can start a reciprocal movement even before the opponent makes a throw.

Speed is developed by repeated exercises, and in each attempt the student must try to show maximum speed. Cyclic movements are performed up to the maximum speed, which, for example, in running, occurs approximately 6 seconds after the start. The maximum speed during running can be kept for 2-3 seconds, therefore, when running, segments of 20-40 m are taken. But usually it is customary to perform most of the exercise not at the maximum, but at the so-called controlled speed, which is approximately 90-95% of the maximum. This is the maximum speed at which you can still follow the technique of movement. With such exercises, the distances are accordingly lengthened - up to 60-80 m when running 100 m - on skis.

During the rest period, it is recommended to run slowly, ski, swim - this contributes to maintaining the tuning of the nervous system for this activity.

The fast exercises can be repeated until the speed begins to decrease markedly and the heart rate increases. It is better to conduct them at the beginning of the lesson or after dexterity exercises, but in a small amount it is quite enough at other times.

Development of endurance to cyclical movements.

Endurance depends on many factors, the main of which are the functional capabilities of various systems of the body (cardiovascular, respiratory, etc.) and resistance to unwanted movement in the internal environment and the central nervous system, arising in the process of prolonged intense work.

Endurance develops in children with good prerequisites. In healthy and sufficiently physically developed children, the blood flow velocity and the minute volume of blood circulation are close to those of adults. Children have high artery plasticity, so the capacity of the vascular bed can increase without a significant increase in blood pressure. The duration of the cardiac cycle during exercise does not differ significantly from that in adults. With age and fitness, aerobic and anaerobic performance increases, neurodynamic shifts, adaptive responses improve, and oxygen consumption per unit of work decreases.

However, it should be borne in mind that in 11-14-year-old children, the development of the heart, both morphological and functional, has not yet been

completed. The same applies to other organs. Therefore, exercises for the development of endurance must be used with extreme caution.

An even gradation of physical activity is of great importance in the development of endurance among schoolchildren. Gradation is a measured gradual transition from the lower levels of the aggregate load. For example, the loads used in running classes are divided into five categories according to intensity zones and duration.

Limit (maximum loads). They can only be very short, no more than 15-20 seconds, as for example, when running up to 15 m. The maximum speed is determined by the results of running 20 meters on the move. At 10-13 years old, for boys it is 5-8-6.7 m / s, for girls 5-7-6.1 m / s. When running 30 meters from the start, the speed is lower, since in this case only the speed is increased. When running 60 m and 100 m, the speed is higher than when running 30 m, since part of the distance is covered with the already gained maximum speed (but it is less than when running 20 m off the run). At distances of 80-120 m, the speed is about 90% of the maximum. The reaction of short-term, but intense loads in children is somewhat different than in adults. If in adults, the heart rate when running for short distances increases by only 30-40 beats / min, then in children it is much higher. For example, if at the start the pulse is 100-105 beats / min, then for the first 2 seconds it sharply increases by about 20 beats in the next 2 seconds for another 10 beats, then it simply decreases to 10 beats for each, 4 seconds. After running windows behind him, the heart rate continues to increase for another 4-6 seconds and reaches a maximum of 160-170 beats / min. The pulse recovers quickly in the first 10 seconds, decreases by 10-15 beats, one minute to the initial starting level or even lower. The speed of recovery depends somewhat on the age and gender of the students, so much on the individual ability of the organism of each student to adapt to stress.

Near-limiting (Submaximal) loads are divided into two ranges. For schoolchildren in grades 4-5, the first includes running with a duration of 15-20 to 40-60 seconds. But for relatively short distances of 100-200 m - for boys, the speed is

5.0-5.7 m / s, for longer distances of 300-400 m - 4.4-5.4 m / s; for girls, respectively 4.8-5.2 and 4.3-4.8 m / s. The distance for boys is up to 400 m, for girls - up to 300 m. At the same time, the load is 80-90% of the maximum. At a distance of 200 m, the heart rate for boys in grades 4-5 is about 210 beats / min, for boys in grade 5 - 200, for girls, respectively, 200, 195, 190. At a distance of 300m for boys, 210, 205, 200 beats / min, at distance of 250 m for girls 205, 200 beats / min. The maximum level of the pulse rate reaches boys at a distance of 350-400 m; in the 4th grade about 215 beats / min, in the 5th grade-210, in the 6th grade-205; for girls at a distance of 300-350 m, on average, respectively, 210, 210, 208 beats / min (range \pm 10-15 beats / min). The intensity of the load is equal to 75-80% of the maximum. Thus, distances of 400-300 m should be considered the more difficult for boys and girls. They can be run with full competitive intensity only in rare cases, for example, to determine the maximum heart rate in experimental studies. Together with him, one should not be afraid and avoid the indicated distances. It just needs students to run them 10-30% weaker than they can do in full competitive intensity.

The second range is about the limit loads - 70-80% of the maximum, the duration is up to 1.5-2 minutes, the distance for boys is 300-350 m, for girls 250-500 m, the speed is 4.1-5.1 and 4.0- 4.8 m / sec. Due to the lower running intensity, the pulse rate also decreases: for boys at a distance of 550 and (70% of intensity) in the 4th grade, it is approximately 210 beats / min, in the 5th grade - 205, in the 6th grade - 200; for girls at a distance of 500 m, respectively 205, 203, 200 beats / min (\pm 8-10 beats / min). The load of this range of intensity also requires a lot of stress on the body, therefore, it is undesirable to use them in a competitive environment.

High intensity loads are approximately 55-70% of the maximum. For boys, this is running for 2.7 minutes at distances of 600-1500 m at a speed of 3.5-4.0 m / s, for girls for 2-6 minutes at a distance of 850-1200 m at a speed of 3.4-3 , 9 m / sec. Heart rate from 180 to 185 beats / min (at 60 percent intensity) to about 200 beats / min. The speed is approximately equal to 4 m / s, in the corresponding heart rate 200 ± 5 beats / min are called critical, therefore, with such loads, the absorption of oxygen

reaches the highest possible level. No matter how much the oxygen demand increases further in connection with a further increase in the running speed, the body is no longer able to satisfy it, the work continues at the same level of oxygen supply. Loads exceeding the specified level are called cretic.

Loads of moderate intensity - up to about 50-55% of the maximum. With such a run, the lungs and heart are able to almost completely provide the body with oxygen and there is still some reserve left. Consequently, the oxygen demand is less than the respiratory (aerobic) capacity of the body. Oxygen demand is roughly proportional to the running speed. At a speed of 2.9-3.2 m / sec for boys, the duration of the run ranges from 7-8 to 25 minutes. (distances from 2 to 5 km), in girls running for more than 6-8 minutes, the pulse reaches 165+ 10 beats / min. In the first 20 seconds after the start of running, the pulse quickly rises by 30-40 beats / min, by the fourth minute it is about 155-175 beats / min, and then it stabilizes, slowly increasing with increasing fatigue (in 15-20 minutes, only 10 - 12 beats / min). The pulse is quickly restored: within the first minute up to about 130 beats / min, and within three minutes up to 120 beats / min.

Weak loads are slow jogging at the beginning and at the end of the lesson with an intensity of about 40-45% of the maximum, as well as light jogging in between intense loads. The pulse rate does not exceed 140 + 10 beats / min.

The development of endurance in running by skiing, swimming begins a little intensive; but prolonged aerobic exercise. From lesson to lesson, it increases the volume of the load, lengthening the distance, and, accordingly, the running time. In the future, from such extensive loads, it goes to intensity. This is done by gradually shortening the distance while increasing the speed.

The described method is used in classes with poorly prepared schoolchildren. If the class (or a group of students) is hardy enough to long-term low-intensity work, you can immediately start with a gradual increase in speed and distance, striving, however, to constantly maintain the heart rate not higher than 170-180 beats / min.

The preservation of the heart rate, but relatively constant, is ensured by the increase in the fitness of the organism of children.

Having created a base of general endurance, you can proceed to special training of students in accordance with the requirements of the "Alpomish and Barchinoy" complex for running certain distances. At this stage, it is recommended to use repeated methods in running different segments of the competition distance. At the same time, the load is more intense, in the mode of aerobic-aeronautic work, but the periods of load are short times and are separated by intervals of rest.

With a regime of 30-60 s running - 2 minutes of rest, by the third repetition, oxygen consumption reaches a certain maximum and relatively stabilizes. Rest should be of such duration that the heart rate drops at least 120-140 beats / min, otherwise it will take several extra tens of seconds to work. In contrast to running evenly, which is perceived by children as monotonous repetitive running with prolonged use, it is more emotional. The alternating run is more difficult, since, in contrast to the repetitive run, it consists of continuous movement. This is an acceleration run with moderate intensity.

In addition to the development of general and special speed endurance, in the classroom, you should pay some attention to exercises to increase the so-called scribe endurance. This is a repeated run on a cut-off 30-40 m. The number of repetitions is set taking into account the preparedness of children, but always more than with the development of only speed.

V. CONCLUSION/RECOMMENDATIONS

The general condition of children is that they lose weight due to weight gain, which is especially noticeable in fast growing children.

The high mobility and flexibility of the musculoskeletal system contributes to the rapid development of motor speed. In adolescents aged 14–14 years, the rate of muscle contraction reaches a maximum. After the age of 12, flexibility as well as flexibility should be taken into account. The development of motor skills in children aged 11-13 years is slower than in children aged 8-9 years, who can master complex

exercises. It is advisable to develop exercises for children aged 10-11 years, as well as younger children, depending on their abilities.

Doing movement exercises in children according to their age and abilities will further develop their movement speed.

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