
"Methods of Optimizing the Special Physical Training of Short-Distance Running Students"

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Abstract: The article provides methods and theoretical recommendations for the development of physical qualities of students in short-distance running. In order to achieve high sports results in short-distance running, it is necessary to perform special and preparatory exercises throughout the year, by using special exercises in the preparatory part of the training, the participants can start the main part with good preparation, get a good sports form, and participate in competitions. achieving high results has been scientifically proven.

Keywords: sprinter, technique, running, distance, standard, stride length, training.

Introduction. Short-distance running (sprint) is characterized by performing work at maximum intensity for a short period of time. Distances of 60, 100, 200 and 400 meters are determined in running for short distances[6,7]. In England, the USA, Australia and a number of other countries, short-distance sprint competitions are held at distances of 100, 220 and 440 meters, and these distances are 91.44, 201.17 and 402.34 meters, respectively it's worth it. In order to achieve high results in running, physical qualities such as speed (speed), endurance, speed endurance, coordination (agility) were taken into account.

Literature Analysis and Methodology As a result of the analysis of the studied literature [2,4,5] athletes of different height and weight achieve great results in running short distances, despite the fact that the indicators of the length of the legs are different. If we analyze the body length of the athletes, the sprinters who achieved the highest results - D. Carlos (USA) - 10.0 s (193 cm); S. Williams (USA) 9.9 s (192 cm); L. Crawford (Trinidad 58 and Tobago) - 10.6 s (190 cm); K. Lewis (USA) - 9.93 s (188 cm); athletes with the smallest length - A. Komelyuk (Russia) - 10.0 s (165 cm) and Aira Murchison (USA) - 10.1 s (156 cm); Usain Bolt (Jamaica) - 9.58 s (200 cm). Usain Bolt, the record holder and world champion of the world championship held in Berlin, Germany in 2009, when he broke the world record (9.58 s), had the following parameters: Usain Bolt's average speed in the hundred meters is 37.76 km/h, and reached 44.71 km/h in the 60-80 m section[2,5,6].

Purpose Research It consists in the development of methods and recommendations for the development of the methodology and development of physical qualities of students in short-distance running.

To achieve high sports results, special and preparatory exercises should be performed throughout the year. It helps in the growth of sports skills. The use of special exercises in the preparatory part of training allows athletes (practitioners) to start the main part with good

preparation, in particular, to master the technique of the sport they are specializing in and to have a good sports form, at the same time, to achieve high results in competitions. will help.

1. Running with high hips: 3*20 meters
2. Starting from the position of putting the legs back: 3*20 meters.
3. Running from various sports. Fast execution of 2*20 meters.
4. Running after kicking a hanging ball. To the left, back 3820 meters.
5. Running with big steps. The movement is average and the speed is 4*15 meters.
6. Running with legs crossed in a straight line. The action is average (Figure 1).

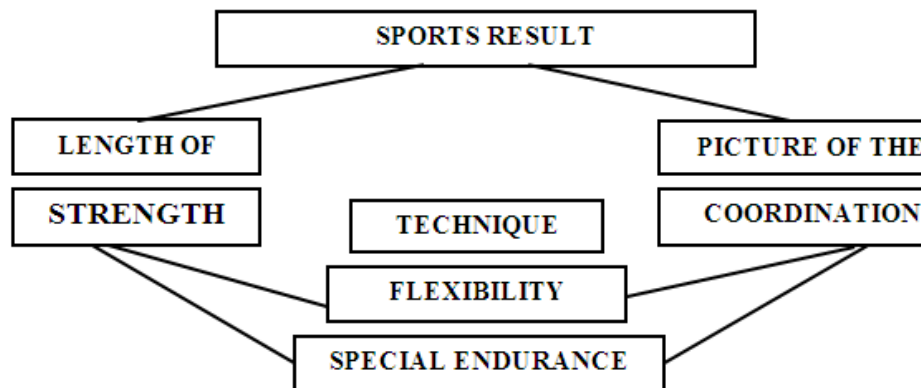


Figure 1 - Qualities and factors that optimize short-distance running

Exercises used to increase the length of steps:

1. Many jumps for time (100 m);
2. Jumps on one leg for time (30 m);
3. Jumps from a height of 40-70 cm to sandy places;
4. Standing long jumps;
5. Jumping and running in the front part of the foot;
6. To increase physical strength (for writing);
7. Running with cuffs (250-300 g) attached to the distal ends of the calf in addition to normal running, as well as running with 500 g cuffs attached to the thigh;
8. Running over signs 2-5 cm longer than a normal step or over small obstacles 10-20 cm high;
9. Relaxation exercises.

Pace of steps:

1. increase the strength indicators of legs, body (for bending);
2. jumping exercises focusing on movement speed;
3. Running in reduced conditions (on a sloping road, with a towing device, etc.);
4. applying movement instructions with an emphasis on the pace of steps;
5. run from the designated place with a slight reduction in the length of the steps;
6. running with an athlete with a high running speed;

7. handicap run, relay run; 8) fast running (60-100 m) speed changer;
8. use of a treadmill;
9. Using a megaphone.

The fitness requirements of a sprinter vary according to the length of the distance, but the most important quality for all distances is speed. Sprinting speed is the result of rapid, forceful contractions of the muscles that provide the efficient smooth motion required for high-speed running.

Results and discussion. The competition calendar has two peaks. Sprinters should plan their training in such a way that their best results should be in early February-March (winter competition stage) and June-August (summer competition stage). It is necessary to take into account the phase nature and heterochrony of the development of organism systems, consistent development of physical qualities.

Distribution of the main training loads of short-distance runners (from the point of view of preparation)

№	Training tools	Months											Total
		10	11	12	1	2	3	4	5	6	7	8	
1	Competition	-	-	-	1	3	1	-	1	3	1	1	11
2	Training	11	18	13	21	18	14	20	20	22	23	21	201
3	800-1500 m run (km)	-	5,2	5,6	3,7	0,8	3,4	3,2	1,5	3,0	0,95	-	27,4
4	30-100 mg run (km)	-	7,0	5,7	9,5	9,0	5,8	10,3	10,6	8,2	8,4	10,9	85,4
5	Running from the bottom start (circle)	10	80	80	145	83	58	128	101	58	95	116	954
6	Special exercises (km)	2,7	2,0	2,0	0,9	1,8	1,9	0,9	1,0	0,3	0,6	-	14,1
7	Barbell exercises	1	8	7	-	-	-	-	2,5	-	-	-	18,5

Features of special physical training in running 200 m. Sports result in running 200 m consists of the following components: 1) start - 2%; 2) running from the start - 20%; 3) maximum running speed - 50%; 4) decrease in running speed - 28%. 200 m runners pay special attention to developing endurance, improving free running technique, and increasing the length of the stride without reducing the speed of the steps.

Standards for running 200 m by months of training

Expected output (sec)	Description of loading by months		
	1st month, run 8-10 km in one session, rest -2.5-3.5 min	2nd month, run 6-8 km in one session, rest - 3-4 min	3rd month, run 6-7 km in one session, rest -4-5 min
20,0	26,5	25,0	23,5
20,5	27,0	25,5	24,0
21,0	28,0	26,0	24,7
21,5	28,5	27,0	25,3
22,0	29,0	27,5	25,9

22,5	30,0	28,0	26,5
23,0	31,0	29,0	27,0

In the course of training, multiple jumps from 50 to 200 m should be used more often, which are inextricably linked with maximum speed and special endurance.

Standards for running 300 m by months of training

Expected output (sec)	Description of loading by months		
	1st month, run 6-7 km in one session, rest -4-6 min	2nd month, run 4-5 km in one session, rest - 3-4 min	3rd month, run 3-4 km in one session, rest - 8-10 min
20,0	42,0	39,5	36,0
20,1	45,0	42,0	39,0
22,0	47,0	44,0	41,6
23,0	50,0	47,0	44,5

The world's best sprinters perform nearly double their 100m in the 200m. 117 According to Russian H.Rakhmonov, the annual training cycle of a 200 m runner covers four periods.

Conclusions During this period of training, the following is done to develop special endurance:

1. 220 m is distributed as follows: 150 m at maximum speed (twice in one session), rest interval - until full recovery - 25-30 minutes,
2. 2 x 180 m running at maximum speed, rest interval - until full recovery;
3. 3x160 m running according to the following distribution: 80 m at maximum speed, 40 m with inertia, 40 m at maximum speed, rest interval - until full recovery;
4. Control run for 150 and 300 m. Special features of physical training in running 400 m. Running 400 m takes place in conditions of severe oxygen deficiency. N.I. According to Volkov, the correlation coefficient of oxygen debt with the result of running 400 m is 0.72 (200 m - 0.59; 200 m - 0.56). In muscle work, more than 90% of energy comes from anaerobic sources of energy supply. In this case, the size of the oxygen debt reaches 18-22 /. Therefore, a 400 m runner should have highly developed speed and strength capabilities, special endurance, and psychological preparation. Thus, in the training of a qualified 400 m runner, the main direction is to develop and maintain a high running speed at a distance of 120 under rapidly increasing fatigue conditions.

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