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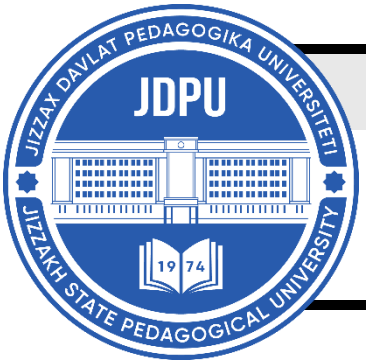

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THE METHOD OF IMPROVING PHYSICAL AND SPECIAL PHYSICAL FITNESS INDICATORS OF SHORT-DISTANCE RUNNERS

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ABOUT ARTICLE

Key words: education system, training athletes, sport practice, disciplines, system, international sport areas, advanced method.

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Abstract: The present article is devoted to the optimization of training loads, improving morphological indications by direct distributions of special preparation loads and general preparation of highly qualified runners who can run for short distance.

INTRODUCTION

In our developing country, the most significant attention is being paid to the issues of improving the education system and bringing up the young generation who will ensure the development of the country. Our government is creating all the conditions for its strengthening. The most important strategic wealth of the nation is the health of the citizens, the most important thing is the health of the growing young generation, who have accumulated high spiritual and moral values. One of the important issues facing the science of pedagogy today is to educate the young generation to be rich, morally pure, and physically fit, based on our national and spiritual values, which have been created by the Uzbek people for thousands of years and passed down from generation to generation.

Nowadays, one of the important problems of physical education has become the creation of new methods and forms of improving the level of technical skills of athletes.

Yesterday's young sportsmen, today, not only in Uzbek sports, but also in the Olympic Games, World and Asian championships, take a place on the proud podiums and praise the glory of our country in front of the world community. At the same time, it will be necessary to form and improve the system and methods of training competitive athletes, create and use innovative technologies. These problems, in turn, draw attention to the importance of training highly qualified personnel in the field, organizing training and competition processes on a scientific basis, and expanding the scope of educating talented athletes.

The purpose of the study: development and scientific justification of the program for improving the technique of short-distance running student-athletes based on biomechanical analysis.

The object of the study: improvement of the technical training level of short-distance runners based on biomechanical analysis, taking into account the theoretical and practical training in the training program of . UzSPTSU.

The subject of the study: the method of improving the level of technical training of track and field athletes based on biomechanical analysis, taking into account the current theoretical and practical training program of UzSPTSU curriculum.

Tasks of the research: analysis and generalization of the program of improving the technique of short-distance running student-athletes based on biomechanical analysis;

Research methods. Analysis of scientific and methodological literature, pedagogical observation, anthropometric method, determination of start reaction (on the SYNX Electronic device), determination of functional readiness (on the POLAR TEAM-2 device), pedagogical experience, pedagogical testing, mathematical statistics methods.

In the dissertation, short-distance runners (100, 200 and 400 meters) are included in the Olympics, and the use of the results of the latest scientific developments in biomechanics, physiology and other disciplines related to the system of training athletes in sports practice, in order to maintain and improve their place in international sports arenas. it is necessary to regularly improve the system of advanced methods of

training based on the generalization of the experience of the world's strongest runners. For this reason, all the record results of the world's strongest athletes remain connected with modern new scientific approaches to the training of short-distance runners. This requires a deeper study of the accumulated world experience on the methodology of training athletes.

In this regard, the world's leading scientists have developed a different tactical plan and mechanically analyzed the planning and organization of the annual preparatory training of short-distance running athletes. For example (22, 23-43...) the annual training process of short-distance runners is divided into three periods, that is, if the preparation period is five months, the competition period is approximately six months (November-April), the competition period is five months (May- September) and one month should constitute a transitional period.

According to Professor R.Q. Kudratov, during the first preparatory phase of the annual training period, 5-6 trainings will be held starting from the first week. But they considered it appropriate to organize 2-3 weekly training sessions. However, (34; 19-27-b, 35; 64-69-b) believed that it is appropriate to hold the exercises during the preparatory period of the annual training based on the level of training of the athletes.

It was stated that the preparation period should consist of three stages. According to their information, the preparation period is as follows (73; 224-231-b):

- Autumn-winter training (November-February),
- Spring training phase (March-April),
- The summer training stage (June-July) can be organized.

The main principles used by American sprinters in training in the 30s and 50s were developed by the head coach of the University of Pennsylvania, K. Described by Dougherty.

We will quote short recommendations from his book "Modern athletics (Sovremennaya legkaya atletika)".

1. During the preparatory period, at least six weeks of non-compulsory training away from the coach and the starting gun, applied to all muscles of the body and with gradual (gradually increasing) load training should be at the disposal of the athlete.

Short-distance running requires explosive power that can only be developed over multiple weeks of training that includes short-repetition and high-intensity exercise.

2. An infinite number of details of the starting skill can be mastered only as a result of correct and repeated training. Studying the technique of a famous sprinter on a voluntary basis shows that despite the light training plans developed by their coaches, a large amount of work has been done to improve certain elements of the technique.

3. Loads should be reduced during competitions. Two days of intense work a week are enough for this, and Tuesday and Wednesday are usually chosen as these days. In some cases, even one day a week is enough. Thursday is reduced work, and Friday is a full day off.

4. Proper warm-up should be done before any speed training.

5. Speedy work using all forces should be done at the beginning of training and before fatigue appears. Endurance training should be left until the end of training. Fatigue increases the possibility (probability) of injury to muscles and ligaments.

6. Sprint training, after all, is not only a physical, but also a mental (psychic) challenge. A sprinter who lacks confidence is prone to failure before the start of the race, while confidence can be learned as consciously as sprinting skills. Most sprinters have failed hundreds of times because they were under-confident rather than over-confident.

B.N. According to Yushko, the physical loads given during sports training in the first macrocycle of the annual training can be considered as a specific stress, and the reaction to stressful effects is carried out in several stages during the process of adaptation: (Table 1).

1) general adaptation stage - 3-4 weeks;

2) special adaptation phase - 5-12 weeks;

3) full adaptation stage – 3-6 weeks;

4) the stage of disappearance of adaptive changes (readaptation) - 3-4 weeks.

It is very difficult to determine the ability of an athlete for short distances based on the height and body weight of athletes. But taking into account the ratio of the length of the legs to the total length of the body, depending on the body proportion, this indicator

is very high and reaches 54-55% value in sprinters, according to K.T. Shokirjonova, N.T. The Tokhtaboevs found out in their research.

According to the information given by N.G. Ozolin, the best speed indicators belong to black athletes, because they have an average leg length of 86.2 cm, and white people have an average length of 83 cm.

Table 1

Average values of body proportions of highly qualified sprinters (men)

Body length (cm)	**Distance m**	
	100m	**200m**
Body	80,4±0,46	81,0±0,3
Chest	53,3±0,3	53,8±0,2
Arms	77,3±04	78,6±0,3
Legs	94,7±0,6	96,8±0,4
Hip	48,1±0,4	49,0±0,3
Shins	39,2±0,3	40,6±0,3

In athletes, muscle fibers are divided into slow (red) and fast (white) fibers according to their ability to perform mechanical work. K. Hess and A. According to Huxley (Germany), the ratio of existing muscle fiber types cannot be changed by exercise.

The fitness requirements of short-distance runners vary according to the length of the distance, but the most important quality for all distances is speed (Kuzmin V.S. 2003). High-speed running is the result of rapid, powerful contractions of the muscles that provide efficient movement. The rate at which skeletal muscle contracts depends largely on the properties of the muscle fibers. The best sprinters tend to have a few percent more fast-twitch muscle fibers than long-distance runners. According to V. K. Balsevich, the skills acquired during the training process help to turn muscle

contractions into fast running movements. It is necessary to develop these abilities only with the help of exercises. Training can also improve other physical qualities, including strength, coordination, and specific endurance, which can help you succeed in sprinting. In addition, training can affect the activity of different types of muscle fibers.

During the pedagogical experience, attention was paid to the following in TG. 1. We develop special strength abilities of individual muscle groups and 2. We perform special running exercises for stride length. We use track markers that allow you to work at the optimal step length.

Research results. When we analyzed the results of the research conducted by us, it was found that the dynamics of changes in the sports results of the athletes of the control and experimental groups were formed in the same way at the beginning of the research. It can be seen in Table 2 and the results presented in the diagram that the methods and tools have shown their effect on the development of general and special physical fitness as a result of the use of tools aimed at increasing general and special physical fitness in TG classes.

Table 2. Comparative analysis of the research results of the athletes of the experimental (n = 14) and control (n = 14) groups

Test No	Group	The beginning of the experiment		End of experiment		Growth, %	t	P
		$\overline{X}$	σ	$\overline{X}$	Σ			
1	C	8,09	0,86	7,54	0,77	6,80	1,78	>0,05
	E	8,18	0,89	7,21	0,73	11,86	3,15	<0,01
2	C	12,6	1,45	11,51	1,28	8,65	2,11	<0,05
	E	13,1	1,54	11,07	1,24	15,50	3,84	<0,001
3	C	26,9	2,81	25,12	2,56	6,62	1,75	>0,05
	E	27,2	2,93	24,16	2,47	11,18	2,97	<0,01
4	C	58,4	5,56	54,88	5,04	6,03	1,76	>0,05
	E	59,8	5,91	52,29	4,87	12,56	3,67	<0,01

5	C	21,1	2,43	23,09	2,57	9,43	2,11	<0,05
	E	20,3	2,41	24,91	2,79	22,71	4,68	<0,001
6	C	2,6	0,28	2,83	0,29	8,85	2,13	<0,05
	E	2,8	0,31	3,38	0,36	20,71	4,57	<0,001
7	C	6,5	0,62	7,01	0,64	7,85	2,14	<0,05
	E	6,7	0,66	7,93	0,73	18,36	4,68	<0,001

Note: for convenience, the control tests in the table, diagram and text are designated in the following order: 1- 60 m. running time from high start to distance (s.); 2-100 m. running time from the lower start to the distance (s.); 3-200 m. running time from the lower start to the distance (s.); 4-400 m. running time from the lower start to the distance (s.); 5th mass is 40 kg. the maximum number of sit-ups with a barbell (times); 6- Standing long jump (cm) and 7- Standing triple jump (m.).

It was found out during our research that the ratio of general physical training and special physical training in the training of short-distance runners student-athletes in the same ratio as the economized exercises during the training had an effect on the significant increase in the qualities of quickness, quick strength, and quick endurance in the athletes.

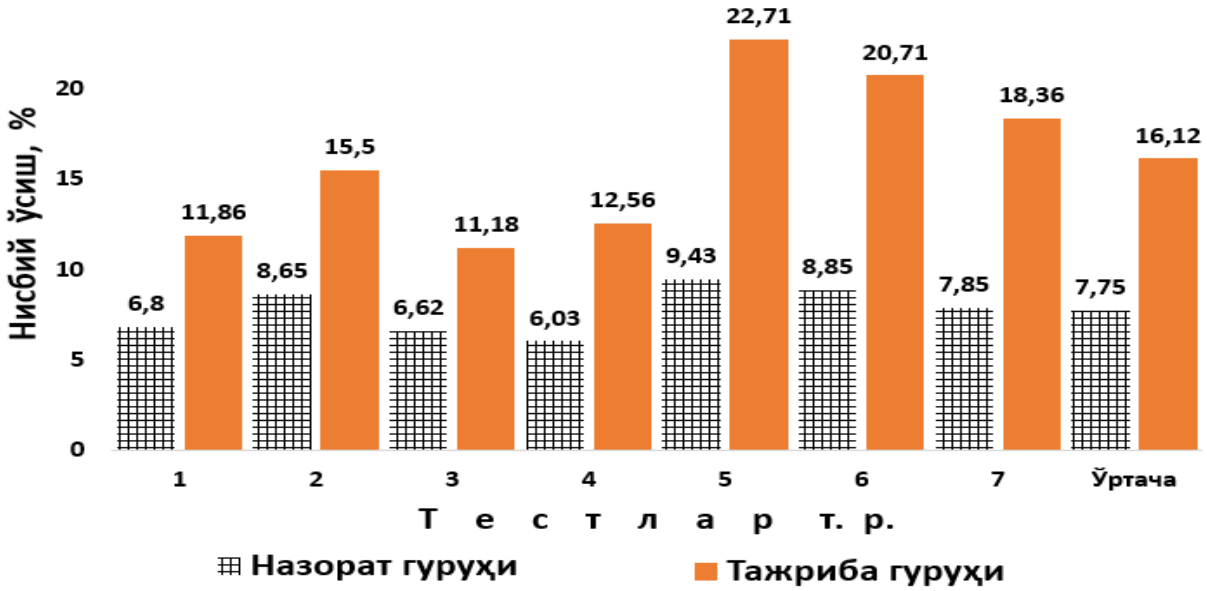

Diagram 1. The dynamics of the relative growth of the average arithmetic values of the results of the student-athletes of the Experimental and Control groups in the selected test (in percentages)

CONCLUSION

1. A short-distance runner is recommended to use acceleration running to improve his technique, to run certain parts of the distance without full effort, as well as special preparation exercises that should take an important place in the training of a short-distance runner.

2. To develop speed capabilities, running on steep hills (slope angle-2-4°) is used under reduced conditions. In this case, the best results can be achieved if running on a slope is alternated with horizontal running and hill running.

3. In sports practice, the use of simulators that help local muscle training and improve results, and training with weights of 0.5-2 kg. per athlete 100 m. 0.1-0.3 s from the result. helps you run with better results.

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