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Development of physical fitness of students based on new pedagogical technologies

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Annotation: The article presents the results of a pedagogical experiment and their analysis in order to develop methodological recommendations aimed at further improving the professionally applied motor training of students, with an emphasis on professionally applied physical training.

Keywords: Motor fitness, volume of loads, physical qualities, professional and applied physical training, state educational standards, a set of tests, optional classes.

Currently, a number of decrees and decisions have been issued in our country in order to attract all segments of the population to regular physical education and sports. These are aimed at increasing the number of people engaged in physical education and sports, "The priority is to increase the skills and knowledge of the population in the field of physical education and sports in order to form an all-round mature and physically healthy person with a high culture in the country. "Setting directions" is one of the main tasks[1].

According to the Decree of the President of the Republic of Uzbekistan "On measures for the wide implementation of a healthy lifestyle and further development of mass sports", physical training and mass sports, as well as vital measures for a healthy lifestyle the need to ensure the emergence of a strong immune system against diseases in every citizen through the formation of skills, and the formation of a modern material equipment base for regular physical education and sports in all institutions is defined. In particular, it is indicated that it is necessary to regularly engage in walking and running [2].

Currently, there are several thousand professions and tens of thousands of specialties in various fields of professional work. Their main differences are determined by the characteristics of the subject, technologies and the external conditions of specific work and are seen by the specification of labor activity. These include actions, operations (including sensory and intellectual in terms of impact, information processing, decision-making, and action to have a practical effect on the subject of work). All of these require different functional capabilities, physical and other qualities of people working in one or another type of professional work.

Analyzing the results of the pedagogical research on the movement readiness of students studying at the university, it was found that their level of physical training is low. This affects the successful assimilation of the material in the program on professional-practical physical training.

Pedagogical experience meant improving the educational process of physical education with an emphasis on professional-practical physical training. Such training allows students to successfully perform the amount of physical loads provided for in the program material of state standards.

The organization of the experiment was carried out according to the scheme of comparative pedagogical research with the participation of control and experimental groups. Here, in the experimental group, training was conducted based on a program specially developed by us. In the control group, training was conducted according to the generally accepted methodology. Pedagogical experience was held at Fergana State University for one academic year and selected students participated.

Based on the information obtained here, it was planned to develop methodical recommendations aimed at further improving the professional-practical training of students.

"Alpomish" for boys and "Barchinoy" for girls were selected for the selected set of tests for assessing students' physical fitness.

The following were included in the set of physical fitness tests: 100 m run, 3000 m, 2000 m cross country, standing long jump, grenade throwing, 6 min. running throughout.

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All obtained experimental data were developed using the method of mathematical statistics and presented in tables 1 - 4.

For the physical quality of speed, the results of the 100 m run for young men averaged 15.9 sec. in the 1st course, 15.7 sec. in the 2nd course, 16.2 sec. in the 3rd course, and 0 average was 16.4 sec.

The results of the 3000 m run given in the health standards to determine the physical quality of endurance are 13.80.00 sec. in the 1st course, 13.60.00 sec. in the 2nd course, 13.80.00 sec. in the 3rd course, and 14.10.00 sec. in the 4th course organized .

The results of the standing long jump test designed for movement coordination were 198.5 cm in the 1st course, 204.4 cm in the 2nd course, 200.5 cm in the 3rd course, and 200.4 cm in the 4th course.

We can see that the results of the grenade throwing test set to determine the physical quality of strength were 31.2 m in the 1st course, 33 m in the 2nd course, 34.4 m in the 3rd course, and 34.8 m in the 4th course.

6 minutes to test the qualities of speed, endurance and power. In the continuation, the results of the walking-running test were 1440 m in the 1st course, 1420 m in the 2nd course, 1400 m in the 3rd course, and 1440 m in the 4th course.

The same situation was repeated when comparing the results with the standards of the "Barchinoy" test set for girls.

As can be seen from the data given in the tables, there was a trend of decreasing results for all indicators before the experiment up to 4 courses. We can say that the reason for this is that it is not enough to teach physical education and sports science in only 1 course for 1 semester for non-specialist students.

Table 1
Comparative description of physical fitness indicators of students with the normative requirements of the "Alpomish" test (boys).
(Until the experiment)

№	Indicators	«Alpomish»		Level I (n =25)			Level II (n =25)			Level III (n =25)			Level IV (n =25)		
		Test	Mark	Result		v (%)	Result		v (%)	Result		v (%)	Result		v (%)
				$\bar{X}$	σ		$\bar{X}$	σ		$\bar{X}$	σ		$\bar{X}$	σ	
1.	100 m run, sec.	14,0	13,5	15,9	0,6	4	15,7	0,6	3,8	16,2	2,3	12,2	16,4	0,4	2,5
2.	3000 m cross, min.	12.20,0	12.00,0	13.80,00	0,64	4,6	13.60,00	0,68	5	13.80,00	0,85	6,1	14.10,00	0,82	5,8
3.	Standing long jump, cent.	220	240	198,5	7,4	3,7	204,4	8,1	3,9	200,5	10,7	5,3	200,4	8,5	4,2
4.	Throw a grenade m. 700gr	36	40	31,2	2,78	8,9	33	2,8	8,6	34,4	2,58	7.4	34,8	2,5	7,3
5.	Walk/run for 6 min	1500	1600	1440	66	4,5	1420	45,2	3,2	1400	75,3	5,4	1440	92,5	6,4

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Table 2
Comparative description of physical fitness indicators of students with the normative requirements of the "Alpomish" test (boys).
(Afterexperiment)

№	Indicators	«Alpomish»		Level I (n =25)			Level II (n =25)			Level III (n =25)			Level IV (n =25)		
		Test	Mark	Result		v (%)	Result		v (%)	Result		v (%)	Result		v (%)
				$\bar{X}$	σ		$\bar{X}$	σ		$\bar{X}$	σ		$\bar{X}$	σ	
1.	100 m. run, sec.	14,0	13,5	13.8	0.2	1.4	13,7	0,35	2,5	13,8	0,33	2,4	13,9	0,53	3,8
2.	3000 m. Cross, min.	12.20,0	12.00,0	12.30,00	0,3	2,5	12.52,00	0,4	3,2	12.50,00	0,33	3,1	12.72,00	0,34	2,6
3.	Standing long-jump, cent.	220	240	229	7,74	3,4	230,8	5,8	2,5	232,7	6,8	2,9	234,4	6,1	2,6
4.	Throw a grenade, m. 700 g	36	40	41,3	2,45	5,9	40,4	3,5	8,8	41,7	2,5	5,9	41,2	2,7	6,7
5.	Walk-run for 6min	1500	1600	1590	60,3	3,8	1570	39,4	2,5	1580	50,3	3,2	1580	68,9	4,3

Table 3
Comparative description of physical fitness indicators of students with the normative requirements of the "Barchinoy" test (girls)
(Until the experiment)
№

Indicators	«Barchinoy»	Level I (n =25)		Level II (n =25)			Level III (n =25)								
		Test	Mark	Result		v (%)	Result		v (%)	Result		v (%)	Result		v (%)
				$\bar{X}$	σ		$\bar{X}$	σ		$\bar{X}$	σ		$\bar{X}$	σ	
1.	100 m run, sec.	17,5	17	18,03	0,43	2,4	18,09	0,68	3,8	18	0,49	2,7	17,78	0,53	3,02
2.	2000 m. cross, min. Sec	13.30,0	12.30,0	13.40,00	0,47	3,5	13.30,00	0,54	4,08	13.50,00	0,37	2,8	13.60,00	0,64,4	4,7

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3.	Standing long-jump, cent.	160	180	158,3	3,85	2,4	159,8	3,84	2,4	156,7	4,6	2,9	158,2	6,14	3,9
4.	Throw a grenade, m. 500 g	18	22	16,6	3,3	9,8	17,4	2,9	6,7	17,5	0,98	5,6	17,6	0,5	3,1
5.	Walk-run for 6 min , m	1250	1350	1200,8	61,7	5,1	1200,2	30,4	2,5	1225,5	30	2,4	1210,4	21,2	1,7

Table 4
Comparative description of physical fitness indicators of students with the normative requirements of the "Barchinoy" test (girls)
(After experiment)

№	Indicators	«Barchinoy»		Level I (n =25)			Level II (n =25)			Level III (n =25)			Level IV (n =25)		
		Test	Mark	Result		v (%)	Result		v (%)	Result		v (%)	Result		v (%)
				$\bar{X}$	σ		$\bar{X}$	σ		$\bar{X}$	σ		$\bar{X}$	σ	
1.	100 m run, sec.	17,5	17	16,9	0,3	1,8	17,08	0,2	1,2	17,2	0,37	2,1	17,1	0,35	2,1
2.	2000 m. cross, min. sec	13.30,0	12.30,0	12.49,00	0,34	2,8	12.47,00	0,4	3,22	12.30,00	0,25	2,08	12.40,00	0,36	2,9
3.	Standing long-jump, cent.	160	180	176,3	9,5	5,4	179,2	4,4	2,5	180	3,9	2,2	181	3,2	1,8
4.	Throw a grenade, m. 500 g	18	22	20,7	1,9	9,1	20,8	2,04	9,8	21,8	2,1	9,7	22,3	1,7	7,5
5.	Walk-run for 6 min, m	1250	1350	1350,2	13,9	1,03	1330,3	24,7	1,8	1337,6	35,5	2,6	1342,2	17,5	1,3

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We experimentally verified the implementation of 4 hours of optional training in physical education during the 4-year study years proposed by us and the submission of test standards for this subject every semester. In this process, the doctor-pedagogical control was established. 2 hours of the classes were organized based on various exercises given by the mandatory teacher, and the remaining two hours were organized based on the sports chosen by the students according to their interests.

25 students with the same physical fitness were selected for the experimental groups, and they were examined based on the tests given above.

The results obtained at the end of the experiments showed that the introduction of the physical education program proposed by us proved to be effective (the results are given in Tables 2 and 4).

100 m run, 3000 m, 2000 m cross country, standing long jump, grenade throwing, 6 min. performance on running tests improved significantly.

If we look at this in the case of boys, the results of running 100 m averaged 13.8 sec. in the 1st course, 13.7 sec. in the 2nd course, 13.8 sec. in the 3rd course, and 13.8 sec. in the 4th course averaged 13.8 seconds.

The results of the 3000 m race were 12.30.00 sec. in the 1st course, 12.52.00 sec. in the 2nd course, 12.50.00 sec. in the 3rd course, and 12.72.00 sec. in the 4th course.

The results of the standing long jump test designed for movement coordination were 229 cm in the 1st course, 230.8 cm in the 2nd course, 232.7 cm in the 3rd course, and 234.4 cm in the 4th course.

We can see that the results of the grenade throwing test set to determine the physical quality of strength were 41.3 m in the 1st course, 40.4 m in the 2nd course, 41.7 m in the 3rd course, and 41.2 m in the 4th course.

6 minutes to test the qualities of speed, endurance and power. In addition, the results of the walking-running test were 1590 m in the 1st course, 1570 m in the 2nd course, 1580 m in the 3rd course, and 1580 m in the 4th course, and we can observe that the results are low compared to "Alpomish" standards.

At the end of the experiment, it was found that the indicators of endurance, strength, and agility of students of all experimental groups increased significantly, which indicates the need to pay attention to the training of endurance, strength, and agility of university students during the entire educational process.

It should be noted that students have a very high interest in working out for their own physical fitness. Among the students, there are those who regularly work independently, but they are a minority. One thing should be mentioned here, that the activities of the university sports club should be brought up to the required level. Because the sports club should take measures to increase the knowledge of physical education and sports for permanent non-specialist students in the university, to expand the scope of work on forming a healthy lifestyle in them, to regularly involve students in traditional sports competitions, and to report them it is appropriate to conduct it.

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