Academicia Globe:
Inderscience Research

ISSN: 2776-1010 Volume 4, Issue 4, April, 2023

THE LEVEL OF PHYSICAL DEVELOPMENT AND PHYSICAL FITNESS OF STUDENTS IN GRADES 9-11

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Abstract

It is necessary to regularly monitor the dynamics of physical development and physical fitness data of 9-11th grade students in order to determine the optimal loads, increase the desire to engage in physical exercises, choose the most reasonable exercises and make effective adjustments to training plans in time.

Indicators of physical development and physical training can be the basis for thinking about the correct organization and planning of the educational process. In this case, the control exercises that represent the level of development of individual movement qualities of students will greatly help both the teacher and the student.

In addition, control exercise and physical development data, as well as the student's course of study, should be taken into account, as there are significant individual differences at this age.

In order to verify the stated strategy, a main experiment was conducted with the participation of the main and experimental groups. The control groups of grades 9-11 were evaluated according to the traditional system, and after the completion of each academic semester, they were evaluated according to the norms established in the State Education Standard of Uzbekistan. The students of the experimental groups were evaluated in tests according to the developed monitoring system.

Table 1 shows the data obtained from the control groups of 9-11th grade students before and after the experiment.

The analysis of the level of physical development indicators before the experiment showed that the weight of the 9th graders, whose average weight was 58±1.3 kg, increased to 59±1.3 kg by the 10th grade, and remained unchanged at 59±0.9 kg in the 11th grade. .

The same situation was observed in the experimental group, whose body weight varied between 58-59 kg. Chest circumference in control group students of 9th grade averaged 78±8.4 cm, and by 11th grade, the figure reliably increased by 9 cm or 10.6% and averaged 83±4.0 cm.

In the experimental group, the index of chest circumference was 2 cm more than that of the control group in 9 classes and was 78±8.4 cm on average. In the 10th grade, this indicator was 4 cm, and by the 11th grade, the average result increased by 9 cm (10.4%) compared to the 9th grade students, and the indicator was equal to 83±4.0 cm. In the control group of students of the 9th grade, before the start of the experiment, the average was equal to 3780±252 ml, by the 10th grade it was 3970±186 ml, and in the graduates, this result decreased to an unconvincing level of 3940±118 ml. The indicators of the experimental groups changed by 3755±108 ml in 9 classes according to the growth calculation.

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ISSN: 2776-1010 Volume 4, Issue 4, April, 2023

Comparative data of the physical development of the control group of high school students during the pedagogical experience (n= 20)

№	Indicator types	9th grade					10th grade					11th grade				
		In the beginning		At the end		Reliability of differences	In the beginning		At the end		Reliability of differences	In the beginning		At the end		Reliability of differences
		$\overline{X}$	σ	$\overline{X}$	σ	P	$\overline{X}$	σ	$\overline{X}$	σ	P	$\overline{X}$	σ	$\overline{X}$	σ	P
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Body weight (kg)	58	1,3	58	2,3	>0,05	59	1,3	59	1,8	>0,05	59	0,9	61	1,4	>0,05
2.	Chest circumference (cm)	76	8,0	78	8,4	>0,05	76	4,1	77	8,6	>0,05	85	4,2	86	7,2	>0,05
3.	Vital capacity of the lungs (ml)	3780	252,6	3755	303,4	>0,05	3970	186,7	4015	1899	>0,05	3940	118,8	4075	831,4	>0,05
4.	Right palm strength (kg)	41	2,2	42	3,2	>0,05	41	3,0	41,2	3,1	>0,05	42	1,6	43	2,6	>0,05
5.	Left palm strength (kg)	39	3,9	40	3,2	>0,05	39	4,6	40	2,5	>0,05	40	2,6	41	3,0	>0,05
6.	Body weight (kg)	72	15,7	77	20,1	>0,05	46	14,6	86	5,9	>0,05	78	12,9	83	6,4	>0,05

As a result of the assessment of strength indicators with the right palm strength test, it was found that the average result of 9th grade students of the control group was 39±2.2 kg, while in the experimental groups this indicator was 39±3.9 kg, which is less than 2 kg. In the experimental group of 10th graders, the result increased by an average of 6 kg and was 40±2.2 kg.

By the 11th grade students, the dynamometry indicators of the experimental group increased by 41±3.4 kg. The control indicators of strength also increased, it was equal to 70±4.6 kg and decreased by 2 kg from the experimental groups. The same situation was observed in both groups under study on left palm dynamometry.

The analysis of body strength indicators shows that the students of the control group of the 9th grade gained up to 5 kg more (6.5%) than the experimental group, and the average weight was 73±20.1 kg.

The experimental group of 10th graders showed a result of 75±15 kg, while that of the control group was 6.9%, and the experimental group was 9.2%, more than their results. This corresponds to an average of 1 kg.

By the 11th grade, the results of the students moved towards equalization and averaged around 9.0-7.2 kg, the indicator increased by 7% in the experimental group, and by 1.0% in the control group. This corresponded to an average of 5.2 kg. From the indicators recorded in the form of a final conclusion, it

Academicia Globe:
Inderscience Research

ISSN: 2776-1010 Volume 4, Issue 4, April, 2023

was found that the analysis of physical development indicators in the 11th grade, the physical development of the tested groups in the experimental and control groups was reliably the same level.
The initial level of physical training before the pedagogical experience showed the result of the speed capabilities of students of the 9-11th grades after passing 100 m distance in the studied 9th grades with a separation of 14.3-14.6 seconds.
The average result of the experimental group of 10th graders was 14.3±0.8 seconds, which is 2.1% better than the 9th graders' data, and by the 11th grade it was 14.1±0.8 seconds and 3.5 from the results of the 9th grade %, improved by 2.4% from 10 classes (Table 3.2).
In the control group, students from grades 9 to 11 had a result equal to 14.3 seconds.
Reliable changes were observed in the standing long jump, 181-189 cm, in the running long jump, 9 classes showed 3.59±9.9 cm. Those in the control group had less results up to 14 cm (3.8%).
By the second year of study, standing long jump results decreased by 2 cm in the control group and by 1 cm in the experimental group.
The results of 11th-grade students are reliable (r<0.0.5) in both experimental groups, surpassing those of 9-10th-grade students, and in accordance with the indicator, 20.6±19.3 cm (12.2%) in the experimental group, and in the control group it was 20.0±23.2 cm (51%).
Evaluating the long jump results, it was found that 10th graders surpassed 9th graders by 21 cm (5.6%), while the difference in the control group was 8 cm (2.1%).

Comparative data of the physical development of the experimental group of schoolchildren during the pedagogical experience (n= 20)

№	Indicator types	9th grade					10th grade					11th grade				
		In the beginning		At the end		Reliability of differences	In the beginning		At the end		Reliability of differences	In the beginning		At the end		Reliability of differences
		$\overline{X}$	σ	$\overline{X}$	σ	P	$\overline{X}$	σ	$\overline{X}$	σ	P	$\overline{X}$	σ	$\overline{X}$	σ	P
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Body weight (kg)	58	1,3	58	2,3	>0,05	59	1,3	59	1,8	>0,05	59	0,9	61	1,4	>0,05
2.	Chest circumference (cm)	76	8,0	77	8,4	<0,05	76	4,1	77	8,6	<0,05	77	4,2	78	7,2	<0,05
3.	Vital capacity of the lungs (ml)	3780	252,6	3755	303,4	<0,05	3970	186,7	4015	189,9	<0,05	3940	118,8	4075	831,4	<0,05
4.	Right palm strength (kg)	41	2,2	42	3,2	<0,05	41	3,0	41,2	3,1	<0,05	42	1,6	43	2,6	<0,05
5.	Left palm strength (kg)	39	3,9	40	3,2	<0,05	39	4,6	40	2,5	<0,05	40	2,6	41	3,0	<0,05
6.	Body weight (kg)	72	15,7	77	20,1	>0,05	46	14,6	86	5,9	<0,05	78	12,9	83	6,4	<0,05

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Inderscience Research

ISSN: 2776-1010 Volume 4, Issue 4, April, 2023

In the third year of study, the indicator increased reliably (r<0.0.5) and was 385±19.2 cm in the experimental group, and 407±26.5 in the control group.
In throwing a grenade, the result in the control group of 9th grade was 35±3.4 m on average, which is 6.5% lower than the experimental group.
In 10 classes of the control group, the average figure decreased by 1 m, and by the third year of education, the result reached 40±3.4 m.
In the experimental group, the result of the 10th grade increased by 2.7%, and by 11th grade by 5.2%.
The analysis of the results of the 4x10 m shuttle race showed that students covered the distance in an average of 9.90±0.7 seconds, while in the experimental group this indicator was 0.50±0.6 seconds. Second-year groups achieved a result of 9.67±10.7 seconds, while in 11th grade it was 9.26±0.7 seconds, which was 6.5% better than in 9th grade.
A similar change in the dynamics of indicators was observed in the experimental group depending on the academic years. Accordingly, the average result in 10 classes was 9.49±1.2 seconds, and in 11 classes it was 9.44±0.9 seconds (Table 4.2).
In the 3000 m run, the initial performance was reliably the same in both groups of 9 classes, ranging from 14.50 to 14.68 min/sec. In the 10th grade, the results in the experimental group improved by 4.1%. In the third academic year, it was observed that the performance of students of both groups improved to a reliable (r<0.01) result. It improved to 12.90±1.25 min/sec in the experimental group and 12.47±1 min/sec in the control group, correspondingly to 12.2% and 14.0%.
There was no significant difference in holding the 900 angle while hanging on the bar, and the average time was 9 seconds. It was 12 sec in classes I-10, 13 sec in class 11 (Figures 4.1-4.3)
The assessment of strength capacity was tested by lying on the floor, bending and straightening the elbow, the result of the 9th grade experimental group was 34±4.6 repetitions, and the control group was 32±5.3 repetitions (difference 5.9%).
By the 10th grade, an increase in the result (by 2 times) was observed in both groups, and in the 11th grade, it improved from 2 to 4 times.
During the pedagogical experiment, small differences were found in 11 out of 15 indicators in 9 classes when r<0.05. The vital capacity of the lungs was worsened by the result of the 1000 m running time.
10th graders improved their performance on the hanging angle test. Body muscle strength increases with age. In 13 out of 15 indicators, there was no improvement in 11th grade students (r>0.05). Significant differences (r<0.01-0.05) occurred in the hanging angle hold and running long jump tests. There was no improvement in 13 out of 15 indicators in 11 classes. It should also be taken into account that individual differences (level of sexual maturity, physical development and physical fitness level) are typical for adolescents of this age, and it is necessary to know and take into account them on the basis of quick, current and continuous control, which is the basis of monitoring.
Reliability of differences in 9 classes (r<0.05) chest circumference, O'TS, right and left palm strength, 100m run, shot put, 3000m cross country, 4x10m shuttle run, hanging angle hold, lying down handstand observed in bending-writing indicators. No reliable changes were observed in tests such as body weight, body strength, standing long jump and running long jump (r>0.05). According to our first

ISSN: 2776-1010 Volume 4, Issue 4, April, 2023

recommendations, the content of exercises for students of the 9th grade became more health-oriented. It is based on the fact that students face great challenges: new classmates, new teachers, a new educational system. Adaptation of 9th graders to study takes place under stressful conditions, so in 9th grade only tests evaluating physical development indicators are recommended.

Based on the above, it should be noted that physical development indicators of I-11th grade college students at the beginning of the annual experimental cycle were close to each other.

Controlling the physical condition of students first of all implies an accurate assessment of physical development and physical fitness indicators. This is explained in Chapter III.The physical condition of students of 9th grade depends only on the indicators of physical development, and by 10th grade, physical fitness tests: standing long jump, running long jump, 4x10 m shuttle run, and by 11th grade running 100 m, running long jump, hanging The angle of 900 is determined based on the tests.

The tools selected for rapid control of physical condition are completed by determining how college students' physical education has been affected and making timely adjustments.

The quality of assessment in the educational process is related to the effectiveness of physical education and the conditions of systematic rapid assessment aimed at improving the physical coordination of students during the course of study.

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