

## **Verbesserung der Bewegungsbereitschaft von Jugendlichen durch Grundgymnastik**

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**Anmerkung:** Anhand pädagogischer Experimente wurde die effektive Wirkung der durch die gymnastischen Grundinstrumente entwickelten Methodik auf das Bewegungstraining der 16-18-Jährigen während des Trainings untersucht, sowie positive statistische Unterschiede identifiziert.

**Schlüsselwörter:** Grundgeräte der Gymnastik, körperliches Training, Bewegungstraining, Jugendliche, Workouts.

## **Improving the movement readiness of adolescents through basic gymnastics**

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**Annotation:** The effective effect of the methodology developed through the basic gymnastic tools on the movement training of 16-18-year-olds during the training was studied on the basis of pedagogical experiments, as well as positive statistical differences were identified.

**Keywords:** basic gymnastics tools, physical training, movement training, teenagers, workouts.

Physical education in educational institutions is one of the most important educational parts of the system of continuing education. One of the tools to improve the physical and movement fitness of 16-18 year old students is a sequence of basic gymnastic exercises and Inadequate information in specialized literature, such as interdependence, Adolescents at this age are prone to all-round physical development and go through a period of puberty, their all-round sensitivity requires research to improve the physical fitness of adolescents at this age. It serves as the basis for action opportunities for the next age group. In particular, at this age, teenagers are selected for military service. V.F. Novoselsky's research found that in the first year of military service, 69.1% of strength and endurance showed no conical results in pulling on a horizontal bar, lifting weights, rotating the body on a horizontal bar, and touching the tip of the foot to the horizontal bar.

In conclusion, the development of a methodology aimed at cultivating the physical quality of strength is particularly relevant. An analysis of the scientific methodological literature (R.A. Khamrakulov) shows that the methods aimed at improving the physical fitness of adolescents aged 16-18 years are one-sided, as well as there are a number of difficulties in their implementation.

We have developed a methodology to improve the physical fitness of adolescents through basic gymnastics We found that 16–18-year-olds were more effective in the learning process through pedagogical experiences. To do this, we formed two control and experimental groups of 39 people with the same physical training. In the control group, classes were conducted according to educational standards. In the experimental group, lessons were conducted based on the methodology we developed. The results obtained on the basis of pedagogical experiments revealed statistical differences on the Pearson's criterion ( $\chi^2$  krit). In this case, 16-18-year-olds showed the following results.

**Indicators of mastery of pre-experiment and post-experiment gymnastic exercises by 16-year-old experimental and control group students. ( $\chi^2$  krit) degree of freedom 1=(3.84)**

**1- table**

№	Classes	16 years old						x <sup>2</sup> control group	x <sup>2</sup> experimental group	p
		Control group (n = 39)			Experimental group (n = 39)					
		He did the exercise	He could not do the exercise	Expected result	He did the exercise	He could not do the exercise	Expected result			
1	To be able to stand upright with the help of a partner and to move forward with the help of a partner.	$\frac{20}{26}$	$\frac{19}{13}$	$\frac{39}{39}$	$\frac{18}{29}$	$\frac{21}{10}$	$\frac{39}{39}$	9,25 4,33	$\frac{11,30}{2,56}$	$\geq 0.05$ $< 0.05$
2	Jumping on a long "gymnastic horse".	$\frac{6}{16}$	$\frac{33}{23}$	$\frac{39}{39}$	$\frac{5}{24}$	$\frac{34}{15}$	$\frac{39}{39}$	$\frac{27,92}{14,76}$	$\frac{29,64}{5,76}$	$\geq 0.05$ $> 0.05$
3	climb the rope	$\frac{20}{24}$	$\frac{19}{15}$	$\frac{39}{39}$	$\frac{19}{31}$	$\frac{20}{8}$	$\frac{39}{39}$	9,25 5,76	$\frac{10,25}{1,64}$	$\geq 0.05$ $< 0.05$

Note - Surat is the beginning of the academic year, mahraj is the end of the academic year.

At the beginning of the results of pedagogical testing in 16-year-old adolescents (n = 39) students were in control groups With the help of a partner to be able to stand on his hands and from this position to lean forward with the help of his partner 20 students were able to do, in the experimental group, 18 students completed no statistical difference was observed between the group results. At the end of the pedagogical experiment, 26 people in the control group completed the exercise, and in the experimental group, 29 people completed the given exercise, and statistical differences were observed between the group results.

In the long jump "gymnastic horse" jumping exercise was performed by 6 students in the control group, 5 students performed in the experimental group. There was no statistical difference between the results of the group. At the end of the pedagogical experiment, 16 people completed the exercise in the control group, and 24 people in the experimental group completed the given exercise, and no statistical differences were observed between the group results.

Two students performed 20 rope climbing exercises in the control group and 19 students in the experimental group. There was no statistical difference between the group results. At the end of the pedagogical experiment, 24 people performed in the control group, and 31 people in the experimental group completed the given exercise, and statistical differences were observed between the group results.

**Indicators of mastering pre-experimental and post-experimental gymnastic exercises of 17-year-old experimental and control group students. (  $\chi^2$  krit) degree of freedom 1= (3.84)**

2- table

№	Classes	17 years old		p
		Control group (n = 39)	Experimental group (n = 39)	

		He did the exercise	He could not do the exercise	Expected result	He did the exercise	He could not do the exercise	Expected result			
1	climb the rope	$\frac{20}{23}$	$\frac{19}{16}$	$\frac{39}{39}$	$\frac{16}{32}$	$\frac{23}{7}$	$\frac{39}{39}$	$\frac{9.25}{6.56}$	$\frac{13.56}{1.25}$	$\frac{\geq 0.05}{< 0.05}$
2	Creating a bridge from a standing position with the help of a partner "bridge"	$\frac{12}{21}$	$\frac{27}{18}$	$\frac{39}{39}$	$\frac{17}{30}$	$\frac{22}{8}$	$\frac{39}{39}$	$\frac{18.7}{8.30}$	$\frac{12.41}{2.07}$	$\frac{\geq 0.05}{< 0.05}$
3	Rising back and forth.	$\frac{20}{30}$	$\frac{19}{9}$	$\frac{39}{39}$	$\frac{22}{31}$	$\frac{17}{8}$	$\frac{39}{39}$	$\frac{9.25}{2.07}$	$\frac{7.41}{1.64}$	$\frac{\geq 0.05}{\geq 0.05}$
4	Perform the "Swallow" method in one attempt	$\frac{15}{28}$	$\frac{24}{11}$	$\frac{39}{39}$	$\frac{18}{36}$	$\frac{21}{3}$	$\frac{39}{39}$	$\frac{14.76}{3.10}$	$\frac{11.30}{0.23}$	$\frac{\geq 0.05}{\geq 0.05}$
5	Jumping on a long "gymnastic horse".	$\frac{8}{20}$	$\frac{31}{19}$	$\frac{39}{39}$	$\frac{7}{22}$	$\frac{32}{17}$	$\frac{39}{39}$	$\frac{24.64}{9.25}$	$\frac{26.25}{7.41}$	$\frac{\geq 0.05}{> 0.05}$
Note - Surat is the beginning of the academic year, mahraj is the end of the academic year.										

17-year-old adolescents (n = 39) in control groups at the beginning of the results of pedagogical testing in students 20 students were able to perform two rope climbing exercises in the control group, no statistical difference was observed between the results of the group of 16 students who performed in the experimental group. At the end of the pedagogical experiment, 23 people performed in the control group, and 32 people in the experimental group were able to perform the given exercise, and statistical differences were observed between the results of the group. (P<0.05)

With the help of a partner, 12 students were able to make a bridge from a standing position (bridge), while 17 students in the experimental group performed a statistical difference between the results of the group. At the end of the pedagogical experiment, 21 people in the control group completed the exercise, and 30 people in the experimental group completed the given exercise, and statistical differences were observed between the group results. (P<0.05)

In a back and forth round-up exercise 20 students performed in the control group, 22 students performed in the experimental group, no statistical difference was observed between the results of the group. At the end of the pedagogical experiment, 30 people completed the exercise in the control group, and 31 people completed the given exercise in the experimental group, and no statistical differences were observed between the group results.

In one attempt, 15 students performed in the control group in the exercise "Swallow", 18 students performed in the experimental group. There was no statistical difference between the results of the group. At the end of the pedagogical experiment, 28 people performed in the control group, and 36 people in the experimental group performed the given exercise, and no statistical differences were observed between the group results.

In the long jump on the "gymnastic horse" jumping exercise was performed by 14 students in the control group, 11 students in the experimental group performed. There was no statistical difference between the results of the group. At the end of the pedagogical experiment, 23 people completed the exercise in the control group, and 32 people completed the given exercise in the experimental group, and no statistical differences were observed between the group results.

**Indicators of mastering pre-experiment and post-experiment gymnastic exercises of 18-year-old experimental and control group students. ( $\chi^2$  krit) degree of freedom 1= (3.84)**

3- table

№	Classes	18 ìm						$\chi^2$ control group	$\chi^2$ experimental group	p
		Control group (n = 39)			Experimental group (n = 39)					
		He did the exercise	He could not do the exercise	Expected result	He did the exercise	He could not do the exercise	Expected result			
1	Overturning on a horizontal bar.	$\frac{15}{24}$	$\frac{19}{15}$	$\frac{39}{39}$	$\frac{14}{31}$	$\frac{21}{6}$	$\frac{39}{39}$	$\frac{14.76}{5.76}$	$\frac{16.02}{1.64}$	$\frac{>0.05}{<0.05}$
2	climb the rope	$\frac{18}{22}$	$\frac{21}{17}$	$\frac{39}{39}$	$\frac{18}{35}$	$\frac{21}{4}$	$\frac{39}{39}$	$\frac{11.30}{7.41}$	$\frac{11.30}{0.41}$	$\frac{>0.05}{<0.05}$
3	Rising back and forth.	$\frac{25}{33}$	$\frac{14}{6}$	$\frac{39}{39}$	$\frac{24}{36}$	$\frac{13}{3}$	$\frac{39}{39}$	$\frac{5.02}{0.92}$	$\frac{5.76}{0.23}$	$\frac{>0.05}{\geq 0.05}$
4	Running over the gymnastic bridge, stepping on both feet and climbing on the bed.	$\frac{6}{18}$	$\frac{33}{21}$	$\frac{39}{39}$	$\frac{5}{29}$	$\frac{34}{10}$	$\frac{39}{39}$	$\frac{27.92}{11.30}$	$\frac{29.64}{2.56}$	$\frac{>0.05}{<0.05}$
5	A combination of mastered exercises.	$\frac{12}{23}$	$\frac{21}{15}$	$\frac{39}{39}$	$\frac{15}{27}$	$\frac{23}{6}$	$\frac{39}{39}$	$\frac{18.69}{6.56}$	$\frac{14.76}{3.69}$	$\frac{>0.05}{<0.05}$
6	Jumping on a long "gymnastic horse".	$\frac{5}{12}$	$\frac{34}{27}$	$\frac{39}{39}$	$\frac{7}{25}$	$\frac{32}{14}$	$\frac{39}{39}$	$\frac{29.64}{18.69}$	$\frac{26.25}{5.02}$	$\frac{>0.05}{>0.05}$
7	Leaning on the arms, swinging backwards, leaning forward, swinging the legs forward, swaying to the left (right).	$\frac{14}{24}$	$\frac{25}{15}$	$\frac{39}{39}$	$\frac{17}{30}$	$\frac{22}{9}$	$\frac{39}{39}$	$\frac{16.02}{5.76}$	$\frac{12.41}{2.07}$	$\frac{>0.05}{<0.05}$

Note - Surat is the beginning of the academic year, mahraj is the end of the academic year.

18-year-old adolescents (n = 39) in control groups at the beginning of the results of pedagogical testing in students There were 15 students in the control group and 14 students in the experimental group. There was no statistical difference between the group results. At the end of the pedagogical experiment, 24 people performed in the control group, and 31 people in the experimental group completed the given exercise, and statistical differences were observed between the group results. (P<0.05)

18 students in the control group were able to perform the rope climbing exercise, no statistical difference was observed between the results of the group performed by 18 students in the experimental group. At the end of the pedagogical experiment, 22 people completed the control group, and 35 people completed the given exercise in the experimental group, and statistical differences were observed between the group results. (P<0.05)

Twenty-five students in the control group were able to complete the round-robin exercise, no statistical difference was observed between the results of the experimental group performed by 24 students. At the end of the pedagogical experiment, 33 people performed in the control group,

and 36 people in the experimental group performed the given exercise, and no statistical differences were observed between the group results.

Six students were able to run and step on the bed on both legs, crossing the gymnastic bridge, no statistical difference was observed between the results of the group performed by 5 students in the experimental group. At the end of the pedagogical experiment, 18 people in the control group completed the exercise, and 29 people in the experimental group completed the given exercise, and statistical differences were observed between the group results. ( $P < 0.05$ )

Twelve students in the control group were able to perform the combined complex exercise from the mastered exercises, no statistical difference was observed between the results of the group of 15 students who performed in the experimental group. At the end of the pedagogical experiment, 23 people in the control group completed the exercise, and in the experimental group, 27 people completed the given exercise, and statistical differences were observed between the group results.

In the long jump "gymnastic horse" jumping exercise was performed by 5 students in the control group, no statistical difference was observed between the results of the group performed by 7 students in the experimental group. At the end of the pedagogical experiment, 12 people completed the exercise in the control group, and 25 people completed the given exercise in the experimental group, and no statistical differences were observed between the group results.

“Shaking hands, swinging backwards, swinging forward, swinging legs, 14 students in the control group performed the exercise "swinging left (right)", no statistical difference was observed between the results of the experimental group performed by 24 students. At the end of the pedagogical experiment, 17 people performed in the control group, and 30 people performed the given exercise in the experimental group, and statistical differences were observed between the results of the group. ( $P < 0.05$ )

**Conclusions:** Gymnastics exercise on the results of pedagogical experiments in 16-year-old adolescent students (With the help of your partner, stand upright in your arms and from this position, with the help of your partner, move forward) mastery from 46% to 74%, 48% to 79% in rope climbing exercises. can be seen to have increased.

Gymnastics exercise on the results of pedagogical experiments in 17-year-old adolescent students (rope climbing) mastery from 41% to 82%. It can be seen that bridge construction from a standing position with the help of a partner increased from 43% to 76% in the “bridge” exercise.

Gymnastics exercise on the results of pedagogical experience in 18-year-old adolescent students (Overthrow on high bar) 35% to 79% in mastery, from 46% to 89% in rope climbing exercises, from 12% to 74% in running exercises from the gymnastic bridge, stepping on both feet and climbing on the bed. From 38% to 69% of the combined exercises in the mastered exercises, You can see an increase of 43% to 76% in the exercise of swinging on the slaves, climbing on the back swinging, swinging forward, swinging the legs forward, swinging to the left (right).

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