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TÍTULO: El desarrollo de las cualidades de velocidad-potencia de los estudiantes.

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RESUMEN: El artículo tiene como objetivo determinar la efectividad del uso de elementos de sambo para el desarrollo de las cualidades de velocidad y potencia de los estudiantes en las clases para la selección de deportes. Hemos compilado un conjunto de ejercicios que incluye elementos de lucha sambo. Este complejo ha sido probado. El artículo presenta la metodología para el desarrollo del entrenamiento de fuerza y velocidad de estudiantes de 17-18 años de edad mediante la lucha sambo para la elección de deportes, analiza los resultados de probar un conjunto de ejercicios para el desarrollo de cualidades de velocidad y potencia, y se revela la efectividad de la aplicación del método del juego para el desarrollo del entrenamiento de velocidad y fuerza de los estudiantes.

PALABRAS CLAVES: entrenamiento de fuerza-velocidad, cualidades de velocidad-potencia, lucha de sambo, educación física, sambo.

TITLE: The development of speed-power qualities of students**.**

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ABSTRACT: The article is aimed to determine the effectiveness of the use of sambo elements for the development of speed-power qualities of students in classes for the selection of sports. We have compiled a set of exercises that includes elements of sambo wrestling. This complex has been tested. The article presents the methodology for the development of speed-strength training of students aged 17-18 years old by means of sambo wrestling for the choice of sports, analyzes the results of testing a set of exercises for the development of speed-power qualities, and the effectiveness of the application of the game method for the development of speed-strength training of students is revealed.

KEY WORDS: speed-strength training, speed-power qualities, sambo wrestling, physical education, sambo.

INTRODUCTION.

The theory and practice of physical education and sports shows that there is a category of abilities, the degree of development of which largely determines the success of the development of speed-strength training.

The development of speed-strength training is characterized by a number of parameters of motor activity (Kolpakova, 2018) related to the speed of reaction, adaptation to changing conditions of movement, spatial, temporal and dynamic accuracy of movements (Mirzaev, 2017). The age of students 17-18 years is sensitive for the development of motor activity (Kolpakova, 2018), speed and power qualities (Mirzaev, 2017).

The level of social, mental and anatomical and physiological development of students at this age stage (Golovin, Romanova, 2017) contributes to the formation and development of speed-power abilities through specially organized activities (Yakovlev, Yakovleva, 2019). Improving the speed-strength training of youth is an urgent task of the upbringing process, as it prepares the basis for mastering complex motor skills, and also trains the plasticity of the processes of the central nervous system.

Sambo is a complex of physical exercises that combine general physical and special training in interaction with psychological principles, which involve the realization of higher values through the system of physical culture, self-improvement, both physical and spiritual (Uskov, Gladnikov, 2015). The practice of martial arts, as a fitness system, has been going on for many years (Akhromova, Zavgorodniy, 2016).

Martial arts such as sambo have no significant restrictions, which is why the elements of sambo are being introduced into the theory and practice of physical education of youth. The borrowing of sambo elements should not be mechanical, but only selective, suggesting the preference of the most successful techniques, methods for achieving goals, improving movements in the functional and

psychological plan (Afonina, 2011). As a rule, in sambo, they are most often encountered with a complex manifestation of the speed-power qualities of a wrestler.

The duration of a wrestler's performance of various technical actions greatly depends on the reaction time and speed of performing single movements. In this regard, the speed of the integral movement, and not its elementary forms, is of particular practical importance (Dubinetsky, 2017). However, the speed of complex movement is determined not only by the level of development of speed qualities, but also by other factors.

DEVELOPMENT.

Purpose and objectives of the study.

The object of study is the process of developing speed-power qualities of students.

The subject of the study is the methodology for the development of speed-power qualities of students by means of sambo wrestling.

The purpose of the study is to identify the effectiveness of Sambo wrestling aids in the formation of speed-power qualities among students aged 17-18 in physical education classes.

Research Objectives.

The research objectives are:

1. To conduct a diagnosis of the development of speed-strength training of students.

2. To compare the diagnostic results at different stages of the experiment.

3.To analyze the results.

4. To determine the means of sambo wrestling for the formation of speed-strength qualities of students in physical education classes.

5. To evaluate the effectiveness of speed-strength training of students in physical education classes by means of sambo wrestling.

Research hypothesis.

we assume that the development of speed-power qualities of students 17-18 years old in physical education classes will be effective if we use the means of sambo wrestling for this.

Materials and methods.

The experimental base of the study is in Altai State Pedagogical University, Altai State University, Altai Pedagogical State University and Barnaul Law Institute of the Ministry of Internal Affairs of the Russian Federation, and the pedagogical experiment and mathematical data analysis were the methods used.

Results and discussions.

We conducted a study to determine the level of development of speed-power qualities. Students of the control group were engaged in the usual program, which was proposed by the teacher of physical education, and classes with the students of the experimental group were conducted according to the method developed by us, aimed at the effective development of speed-strength qualities.

After the end of the first stage of the experiment, testing was repeated, the main purpose of which was to determine the effectiveness of exercise complexes with elements of sambo wrestling aimed at developing speed-power qualities of students.

When performing the «Pulling up on the crossbar» test, the results of the experimental group were higher than that of the control group (Fig. 1). So, in the control group, the test results amounted to 4.1 pull-ups, and in the experimental group - 7.4 pull-ups.

According to the results of the test «Flexion and extension of the arms with emphasis lying on the floor», students in the control group showed the result 16.3 times, and students of the experimental group 19.2 times. Figure 2 illustrates the results of this test.

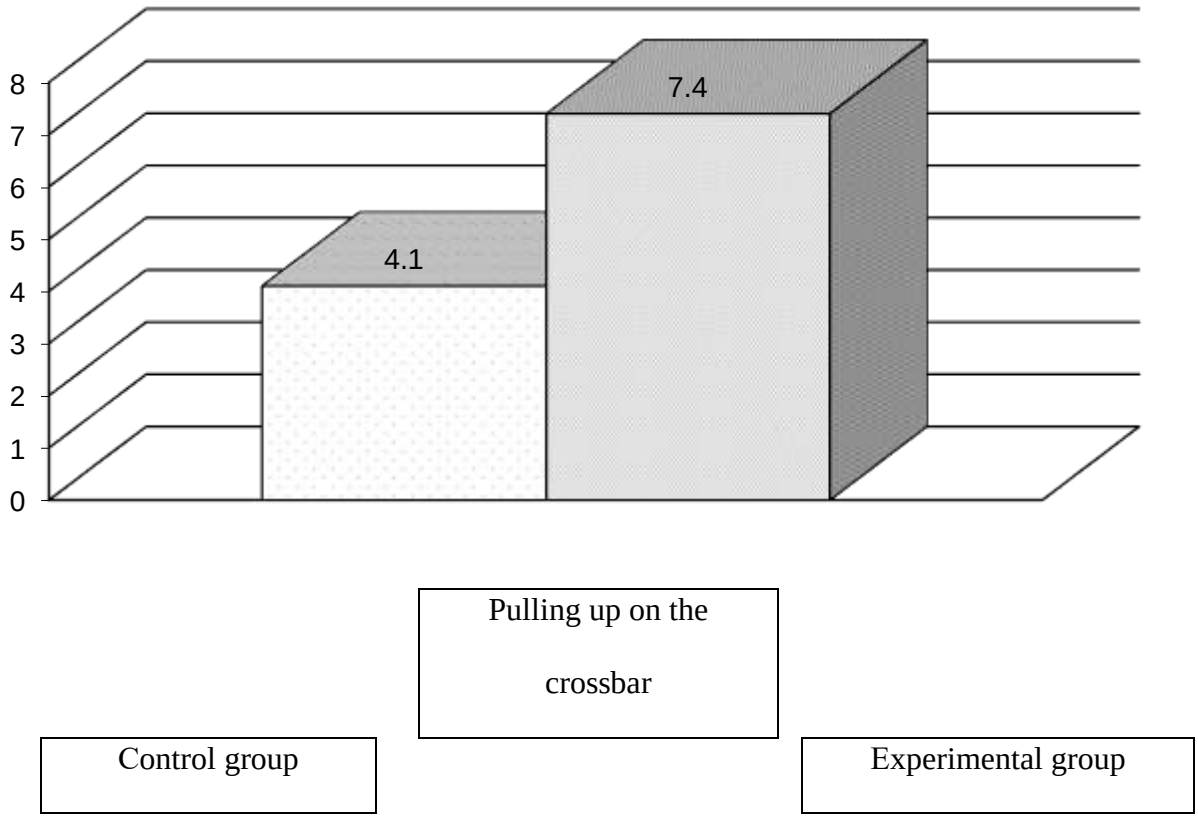
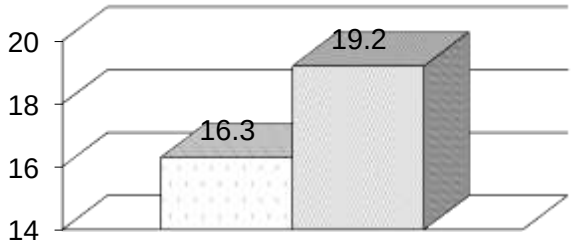


Fig. 1. The results of the test «Pulling up on the crossbar» in the control and experimental groups at the end of the experiment.



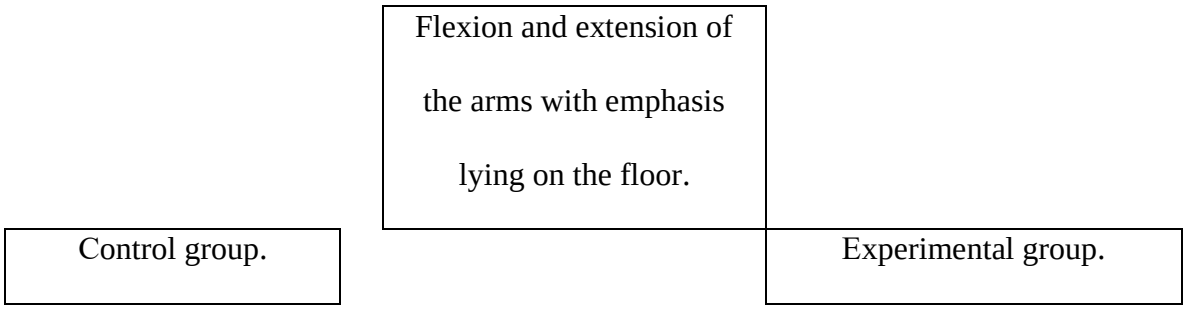


Fig. 2. The results of the test «Flexion and extension of the arms with emphasis lying on the floor»

When performing the test «10 dummy throws» in the control group, students showed a result of 34.4 seconds, and in the experimental group this result was 33.6 seconds. Figure 3 illustrates the results of the test «10 dummy throws».

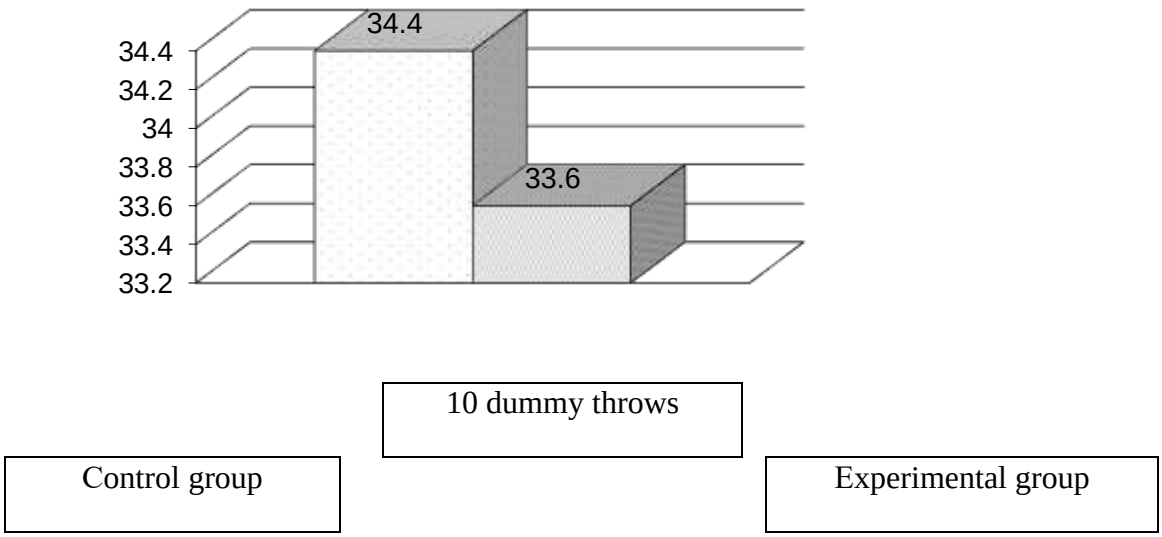


Fig. 3. The results of the test «10 dummy throws»

When performing the test «Stuffing ball throw » in the control group, students showed a result of 364.7 cm, and in the experimental group this result was 476.9 cm. Figure 4 clearly shows the results of the test «throwing the ball».

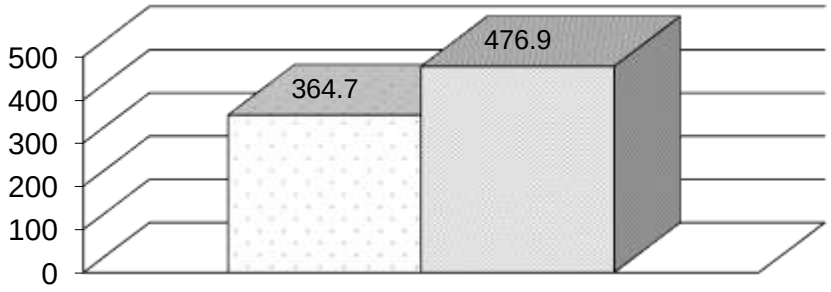


Fig. 4. The results of the test « Stuffing ball throw » at the end of the experiment.

According to the results of the test «Lifting the torso from a lying position to a sitting position», students of the control group showed the result - 13.1 times, and students of the experimental group - 18.6 times (Fig. 5).

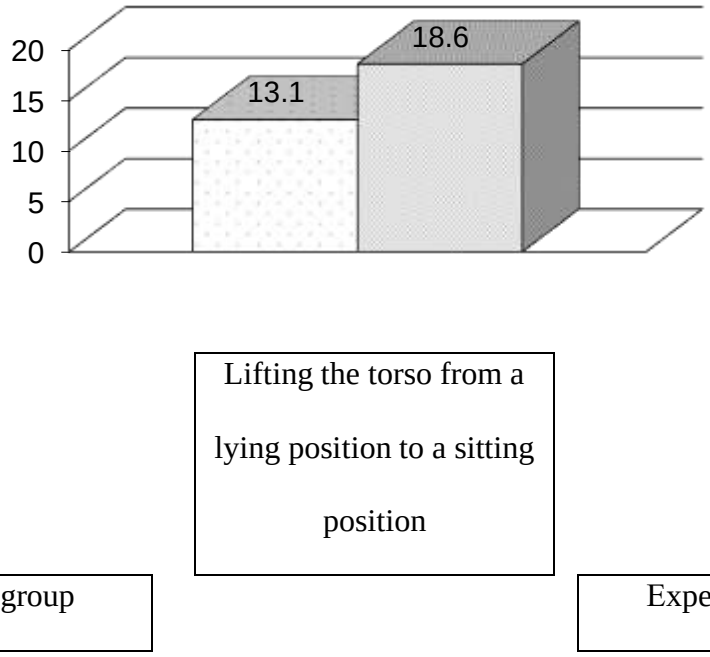


Fig. 5. The results of the test «Lifting the torso from a lying position to a sitting position» at the end of the experiment.

According to the results of the «long jump from standstill» test, students in the control group showed a result of 138.3 cm, and students in the experimental group were 25.5 cm better - 164.7 cm, respectively. Figure 2 illustrates the test results.

According to the results of the «jumping» test, students in the control group showed a result of 60.3 cm, and students of the experimental group were 21.2 cm better - 79.2 cm, respectively (Fig. 7).

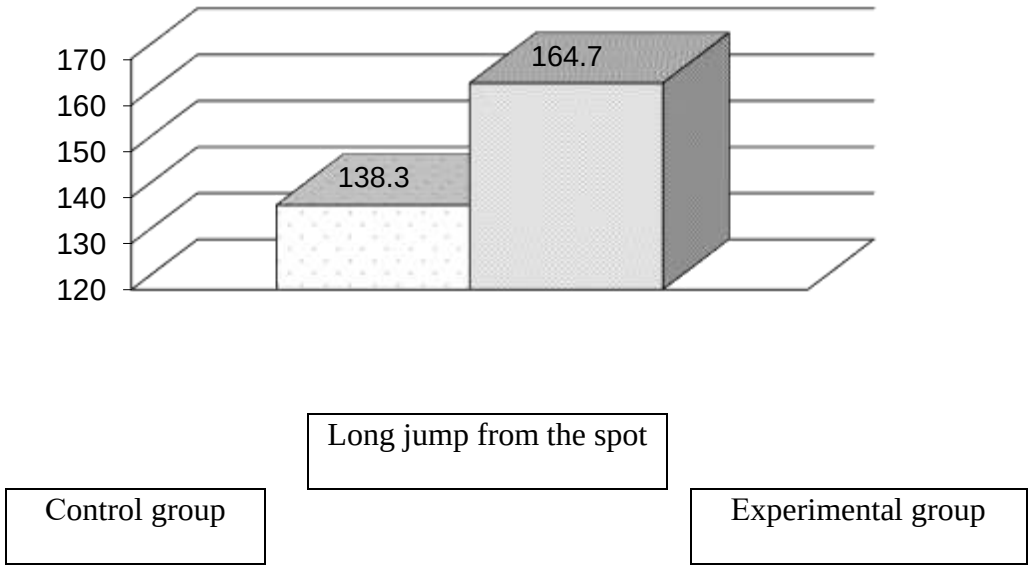


Fig. 6. The results of the test «Long jump from the spot».

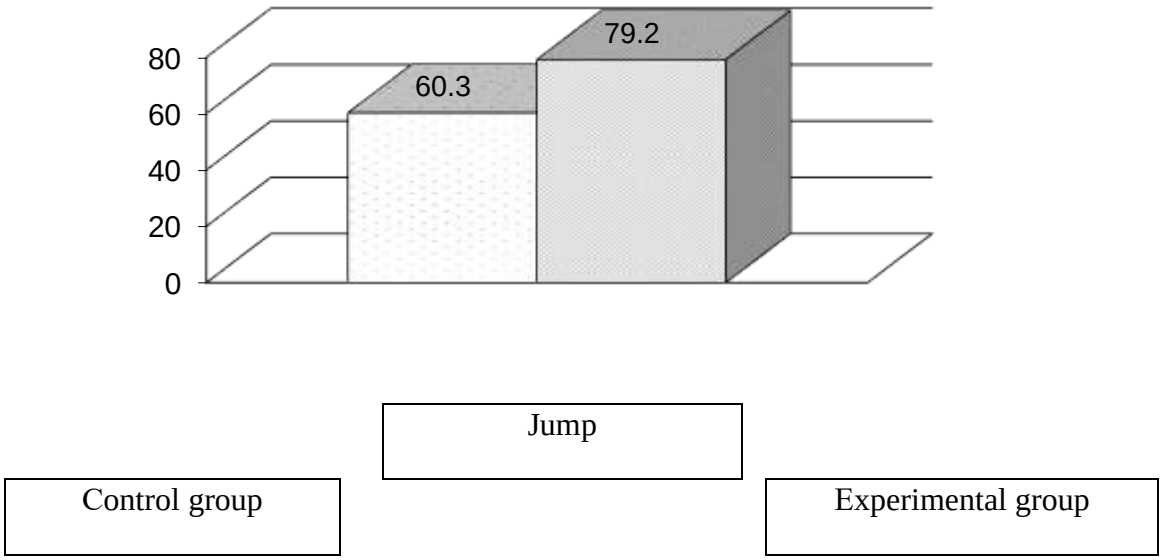


Fig. 7. The results of the test "Jump" at the end of the experiment.

Thus, according to the data presented in Figures 1-7, it can be seen that indicators of the level of development of speed-strength training in students of the control and experimental groups differ from the initial indicators, if we compare the results of the indicators of students of the experimental group at the beginning and at the end of the study, the results of the study differ significantly.

When performing the «pull-up on the bar» test at the beginning of the experiment, the students of the experimental group received a result of 5.7 times, and at the end of the experiment, this result improved by almost 1.7 times and amounted to 7.4 times, respectively.

When performing the test «flexion and extension of the arms with an emphasis lying on the floor» at the beginning of the experiment in the experimental group, the result was 16.1 times, and at the end this result improved by 3.1 times and amounted to 19.2 pull-ups, respectively.

The results of the «10 Dummy Throws» test improved by 0.6 sec. and at the end of the study were 34.1 seconds at the beginning of the study, this indicator was 33.5 seconds.

The results of the test «throwing a stuffed ball from behind a head» improved by 210.9 cm and at the end of the study amounted to 476.9 cm. At the beginning of the study, this indicator was 266 cm.

When performing the test «lifting the torso from a lying position to a sitting position» at the beginning of the experiment in the experimental group, a result was obtained - 13.7 times and at the end this result improved by 4.9 times and amounted to 18.6 pull-ups, respectively.

The results of the «long jump from standstill» test improved by 28.5 cm and at the end of the study amounted to 167.7 cm. At the beginning of the study, this indicator was 139.2 cm.

The results of the test «jumping to the top» at the beginning of the experiment in the experimental group, the result was 58.1 cm. and already at the end this result improved by 21.1 and amounted to 79.2 cm.

Thus, the results of the experimental group based on the results of the pedagogical experiment improved significantly more than in the control group. This indicates the effectiveness of the development of speed-power qualities of students using sambo wrestling tools.

CONCLUSIONS.

There is a need for work to optimize the methodology for the development of speed-strength training of students.

An effective means of developing students' speed-strength training is the sambo wrestling. We have compiled a set of exercises that includes elements of sambo wrestling. This complex has been tested.

A comparative analysis of the control tests of the ascertaining and control stages of the pedagogical experiment showed that the students of the experimental group increased the level of speed-power qualities.

Thus, the hypothesis of the study was confirmed: the development of speed-power qualities of students in physical education classes will be effective if we use the means of sambo wrestling for this.

The results of this study can be used by teachers of any educational institution both in the classroom and in extracurricular activities in physical education classes. The implementation of the set of exercises presented in this paper will contribute to the best speed-strength training of students.

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