

## **DEVELOPMENT OF SPECIAL PHYSICAL TRAINING OF GRECO-ROMAN WRESTLERS WITH THE HELP OF SPECIAL SIMULATORS**

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### **Annotation**

This article substantiates the effectiveness of Greco-Roman wrestlers' flexibility development technology based on the use of special simulators and exercises.

**Keywords:** Flexibility, wrestlers, athletes, training, physical, research, competition, improvement, struggle, performance, development.

### **Abstract:**

The purpose of this article is to determine the degree of flexibility development in Greco-Roman style wrestlers with the help of special physical training exercises performed with special equipment. This scientific approach led to the creation of a pedagogical experiment conducted on athletes of the "Department of Theory and Methodology of International Wrestling" of the State University of Physical Culture and Sports of Uzbekistan.

Reliability of the research results is based on the theoretical and methodological basis, logical sequence of scientific research, opinions of domestic and foreign scientists in the field of theory and methodology of physical education and sports training, as well as practicing coaches. The application of complementary research methods is determined by the processing of the obtained results with the help of methods of mathematical and statistical analysis.

Scientific significance of the research results lies in the fact that on the basis of the results obtained during the conducted pedagogical experiments, new training means and methods for Greco-Roman style wrestlers and a set of sports equipment and special exercises aimed at flexibility development are proposed. The efficiency of their use is scientifically estimated, the essence is revealed and the interrelation of improvement of special physical training of qualified Greco-Roman style wrestlers is proved in practice.

Practical significance of the results consists in the fact that taking into account the changes in the rules of Greco-Roman wrestling competition, a technology was developed to improve the special physical training of athletes, and by improving physical qualities, the effectiveness of their competitive activity increased. The principles are explained with the provision of the opportunity to use them for specialists in the wrestling departments of other sports educational institutions and in the training of the national wrestling team of Uzbekistan.

**Reliability of the research results.** The reliability of the obtained research results is based on the theoretical and methodological basis, logical sequence of scientific research, opinions of domestic and foreign scientists in the field of theory and methodology of physical education and sports training, as well as practicing coaches. As well as the fact that they are compatible with the research objectives and mutually compatible. The application of complementary research methods is determined by the processing of the obtained results with the help of methods of mathematical and statistical analysis.

**Scientific and practical significance of the research results.** Scientific significance of the research results lies in the fact that on the basis of the results obtained during the conducted pedagogical experiments, new means of training and training of Greco-Roman style wrestlers and a set of sports equipment and special exercises aimed at the development of MJT are developed. The efficiency of their use is scientifically estimated, the essence is revealed and the interrelation of improvement of special physical training of qualified Greco-Roman style wrestlers is proved in practice.

Practical significance of the results of the study consists in the fact that taking into account the changes in the rules of competition in Greco-Roman wrestling was developed technology to improve the special physical training of athletes, and by improving physical qualities managed to increase the effectiveness of their competitive activity. The principles are explained with the provision of the opportunity to use them to specialists in the wrestling departments of other sports educational institutions and in the training of wrestlers of the national team of Uzbekistan.

Subject of the research: means, methods and criteria of development of special physical fitness of Greco-Roman wrestlers on the basis of the use of exercises performed with the help of a special simulator.

The "Chain Method" aimed at the development of special physical fitness and flexibility of Greco-Roman wrestlers. The total training time during the week is 4 hours, and the total number of exercises is 8. First of all, before each training session, after performing a 15-minute twisting exercise, each week the number and seconds of repetitions of exercises are increased according to the number and seconds in the table. The rest time between each exercise is 2 to 3 minutes, and the rest time between each repetition is 30 seconds to 1 minute. The most important quality of flexibility in wrestlers insufficiently formed, for example: suppose that a wrestler performs the exercise of touching the tips of hands with feet 4-6 times, lying on his back on the wrestling mat with hands. hands up 8-10 times without any difficulties, it can form a good quality of flexibility. This method was presented to the athletes of the Republican

Center of Olympic and Paralympic sports training in 2022-2023 academic year and it was found that the flexibility of Greco-Roman style wrestlers increased by 15% in 5 months.

Table 1 presents the indicators of comparative analysis of athletes' performance in special exercises on the sports equipment "Elastic ZI" at the beginning of the study of experimental and control groups. It involved two groups (experimental and control), which included masters of sports and wrestlers who are candidates for master of sports.

Selection of subjects in the experimental and control groups was carried out according to the results of preliminary testing. At the beginning of the experiment there was practically no difference between their indicators. ( $P > 0,05$ ). The indicators recorded at the end of the teaching experience are presented in Table 3 below.

### **Experimental and control groups at the end of the study, index and comparative analysis of special exercises on the sports projectile "Elastic ZI"**

The experimental group (EG) consisted of 14 people. The control group (TG) consisted of 14 wrestlers. Training in TG was characterized by a specific orientation, based on the individual style of competition. This is expressed in the fact that the means and methods of training were chosen taking into account the leading factors of each weight category. In NG the training was carried out according to the traditional program.

Also on the basis of special exercises an experiment was conducted to determine to what extent the special physical preparedness of Greco-Roman style wrestlers is developed. The indicators obtained from the pedagogical experience are presented below.

From the data in Table 2 we can see that the results at the end of the study: The results at the beginning of the study were 12.14 in TG and 11.91 in NG, respectively, in chest lift (10 times sec). . At the end of the study these values were 10.01 in TG and 11.07 in NG respectively, the difference is statistically significant ( $P < 0.05$ ).

The results at the beginning of the study were 14.05 in TG and 13.79 in NG, respectively, in the exercise of deadlift with own weight on both sides (10 times per second). At the end of the study, these values were 11.24 in TG and 12.55 in NG respectively, the difference was statistically significant ( $P < 0.05$ ).

The results at the beginning of the study in the exercise of turning the handle to the left (10 times s) with holding the handle in a semi-bent position were 10.03 in TG and 9.83 in NG, respectively. At the end of the study, these values were 8.06 in TG and 9.16 in NG, respectively, the difference was statistically significant ( $P < 0.05$ ).

At the beginning of the study, the results of the barbell half incline exercise with holding the weight of own weight to the right (10 times per sec) were 13.12 in TG and 12.91 in NG,

respectively. At the end of the study, these values were 10.18 in TG and 11.35 in NG, respectively, the difference was statistically insignificant ( $P>0.05$ ).

At the beginning of the study, the results of the barbell exercise in a semi-crouched position to the left (10 times per second) were 10.09 in TG and 9.88 in NG, respectively. At the end of the study, these values were 8.22 in TG and 9.21 in NG respectively, the difference was statistically significant ( $P<0.05$ ).

At the end of the study TG and NG showed the level of reliability of athletes in special exercises on the sports apparatus "Elastic ZI" in 4 exercises out of 5 ( $P<0.05$ ).

## CONCLUSIONS

Based on the analysis of scientific-methodological and specialized literature, pedagogical observations, pedagogical control, results of instrumental-methodological and pedagogical experience, the following conclusions were made.

1. In the training system of Greco-Roman style wrestlers, many studies were conducted to control and evaluate their special motor training. The level of strength, quickness, endurance, agility and flexibility of wrestlers was determined, and also pedagogical observations were carried out to control other motor training. But in the process of determining the special physical fitness of Greco-Roman style wrestlers in different weight categories were identified athletes with poorly developed flexibility, on which insufficient scientific research was conducted. Nowadays, the use of innovative technologies in the system of athletes' training has become an integral part of the athletes' training system.

2. Sports equipment "Elastic ZI" is developed for the purpose of assessment, control and improvement of special physical fitness of qualified wrestlers of Greco-Roman style (Intellectual Property Agency under the Ministry of Justice of the Republic of Uzbekistan (№006003) 20.04.2023 ).

In the experimental group due to repeated performance of special exercises on the sports equipment "Elastic ZI" the quality of flexibility in athletes increased by 15%, and the efficiency of the function of the vestibular apparatus increased by 17%.

3. According to the analysis of scientific and methodical literature, aimed at the study of special physical training and training processes of Greco-Roman style athletes, it was possible to determine the presence of a pronounced desire to form a special physical training of young Greco-Roman style wrestlers. on the basis of innovative methods in modern conditions. The increase of special physical preparation of Greco-Roman style wrestlers on the basis of the use of special sports equipment and exercises in wrestling is considered one of the actual and little-studied problems.

4. In the course of the study, taking into account the peculiarities of the development of the quality of flexibility of Greco-Roman wrestlers, determining the level of joint mobility and the use of exercises performed on the sports equipment "Elastic ZI", directed at passive stretching of muscles in training in Greco-Roman wrestlers improved the ability to perform high-amplitude exercises and 15% improved flexibility during the fight.

5. Due to the repeated performance of exercises performed on the sports projectile "Elastic ZI", designed taking into account the changes in the position of the head and body in space and the position of the body during the fight, there is an opportunity During the study the function of the vestibular apparatus increased by 17%, the level of reliability increased ( $P<0.05$ ).

6. The possibilities of special physical training of Greco-Roman style wrestlers are improved due to the development of "Technology of active training", aimed at the systematic development of functional capabilities and necessary physical qualities at a high level and having an exceptionally high effect. As a result, the effectiveness of special physical training of wrestlers increased by 17%.

7. In the course of the competition was developed a complex of "Large-amplitude special exercises", aimed at maintaining a high level of elasticity of Greco-Roman style wrestlers and through the inclusion in the training during the training, led to a qualitative mastering of technical and tactical elements in a short time, and the level of performance ( $P<0.05$ ) increased ( $P<0.05$ ).

8. The use of the developed technique and special exercises in training reduces the time required for technical and tactical training of Greco-Roman style wrestlers. Also, the fact that the wrestlers of the experimental group achieved positive results in the main competitions indicates that the selected method and technology are effective.

9. In Greco-Roman wrestling, on the basis of the "Chain method" aimed at developing stability and maximum resistance in eliminating the opponent's attacks and improving counterattacks, exercises were performed individually and in pairs "holding hands and neck", which improved the skill of performing the "throw" method. Also, the reliability level of the ability to perform the method increased ( $P<0.05$ ).

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