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INCREASING THE EFFECTIVENESS OF COMBINATION OFFENSIVE MOVEMENTS BY IMPROVING THE TECHNICAL AND TACTICAL TRAINING OF QUALIFIED GRECO-ROMAN WRESTLERS

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Abstract: This article studies the issues of increasing the effectiveness of technical and tactical actions by improving the combinational actions of Greco-Roman wrestlers. The study analyzes effective training methods aimed at increasing the technical and tactical preparation of athletes, and scientifically examines the role of the combinational approach in their offensive actions.
Keywords: Greco-Roman wrestling, technical and tactical preparation, combination, sports training, coordination of movements, attack effectiveness.

Relevance of the research. Greco-Roman wrestling requires a high level of physical abilities and technical and tactical skills of athletes to succeed in modern international competitions. The amendments to the international wrestling rules in 2018 emphasized active offensive movements and increased the need to develop combination strategies. “Combination offensive movements are based on a sequence of deceptive movements and throws to overcome the opponent’s defense” (15; 45-b), which confirms their central role in the effectiveness of the competition. As Sh. Tursunov (2018) noted, “combination movements put the opponent in an unpredictable situation and give the wrestler a strategic advantage” (22; pp. 318–322).

The physical and technical foundations of combination attacks have been widely studied in the scientific literature. L. Matveyev (2021) believes that “physical qualities, in particular muscle strength and agility, serve as the main support in performing complex technical movements” (16; 67-b). At the same time, “specific muscle groups, especially the back and shoulder muscles, require a high level of coordinated strength and endurance in combination attacks” (14; 10–15-b). Bompa (1999) emphasizes that “to increase the effectiveness of combination movements, it is necessary to use training loads adapted to specific muscle groups” (4; 134-b). Yu. Verkhoshansky (2021) points out the importance of modern training methods, stating that “special strength exercises using elastic resistance devices increase the speed and accuracy of throwing movements” (25; 89-b). However, Issurin (2015) notes that there is a scientific gap in this area, stating that “special methodologies for developing combination movements for skilled athletes are lacking” (12; 112-b).

In domestic research, F. Kerimov (2002) showed that “combination attacks can increase efficiency by 15-20% through synchronization of deception and throws” (13; 145-b). At the same time, at the international level, “the effectiveness of attacks in Greco-Roman wrestling is based on a combination of deception and throws” (3; 342-b), which requires special attention in training. Franchini et al. (2011) emphasize that “training should be focused on the rapid execution of combination attacks to improve technical and tactical skills” (8; 147–166-b).

The importance of combination movements in competition has been confirmed by numerous studies. “Successful athletes in modern competitions have the ability to perform multiple movements in a sequential and coordinated manner” (27; 178-b), which is an important skill for wrestlers. Tunnemann (2013) believes that “combination attack strategies are a key factor for success in modern competitions” (23; 8-b). At the same time, “combination

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movements require a high level of coordination and rapid decision-making from the athlete" (21; 123-b), which indicates the need for special pedagogical approaches.

This study aimed to fill the scientific gap in improving combinational attacks in Greco-Roman wrestling. The study tested a pedagogical experimental methodology that combines the general and special physical training of wrestlers with technical and tactical execution. The hypothesis that "a special training program significantly increases the effectiveness of combinational attacks and competition results" was put forward and tested through experimentation. This work aimed to support the success of Uzbek athletes in international competitions, as well as to introduce new methodological approaches to global sports science.

The purpose of the study is to improve the combinational attacking movements of Greco-Roman wrestlers through special technical and tactical training methods.

The objectives of the research are:

1. To scientifically study and identify the methods of improving the combinational movements of Greco-Roman wrestlers.

2. To propose and experimentally verify special technical and tactical training methods aimed at improving the combinational movements of Greco-Roman wrestlers.

Methods and organization of the study. The study involved 24 Greco-Roman wrestlers (age 20.1±1.3; training experience 5.2±1.1 years) from Olympic and Paralympic sports training centers. When recruiting athletes to the experimental (n=12) and control groups (n=12), equality was ensured in terms of their age, experience, and level of participation in competitions (based on the results of local competitions). At least three years of competition experience and the absence of serious injuries in the last six months were also taken into account, which is consistent with the wrestler selection protocols.

The pedagogical experiment was conducted in October-November 2024, during a two-month pre-competition preparation period of the athletes in a regular training cycle, and the data were based on the results obtained at the beginning and end of the experiment. The experimental group trained according to a special program focused on combinational attacking movements, while the control group followed a standard training regimen. This is consistent with the recommendations for assessing training adaptations in wrestling (9; 1752-b).

The experimental program was developed based on the proven principles of technical and tactical training (N. Tastanov, 2015) and strength training (Yu. Verkhoshansky, 2021) and included three main components:

1. Combinations based on distracting movements: The exercises focused on distracting movements to break the opponent's balance, ending with exaggerated throws from the waist and shoulders. These exercises were adapted from the proposal of N. Tastanov, (2015), who stated that "successful offensive movements in Greco-Roman wrestling are often based on a combination of deception and throws." Each exercise was performed three times a week, with 10–12 repetitions for each technical movement.

2. Resistance exercises: Asymmetric throws from the shoulders were performed using elastic bands (resistance: 10–15 kg), which increased specific strength and coordination. This was based on the recommendation of Ratamess (2012) that "specific resistance exercises increase skill in complex movements" (18; 34-b). Each exercise was performed in 3 series, with each exercise being repeated 8–10 times.

3. Isometric exercises: Exercises that continuously maintain muscle activation (e.g., holding a position for 20–30 seconds) were used to increase endurance during combination

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sequences. This is consistent with Kraemer et al. (2004)'s idea of "synchronous muscle activity for complex technical movements" (14; 112-b). Each exercise was performed for 3 sets.

The experimental program was integrated into a standard training schedule (three 90-minute sessions per week) for a total of 24 sessions over a two-month period. The control group continued their usual training program, focusing on general fitness and basic techniques, without special emphasis on combination movements.

Several methods were used for a comprehensive evaluation, which is consistent with the standards of wrestling research (3; 1426-b):

1. Literature review: More than 30 scientific sources on Greco-Roman wrestling were reviewed to formulate the experimental program.

2. Pedagogical observations: Several competitive matches were videotaped and evaluated by two experienced coaches, and common combination techniques, such as waist and shoulder throws, were identified (10; 10–12-b).

3. Control tests: The following tests were conducted at the beginning and end of the experiment, and indicators of physical fitness (strength, endurance, agility) and technical skill (level of success of combination movements) were obtained.

All control tests were conducted under standard conditions (e.g., the same carpet surface, temperature 22–24°C), ensuring reliability (4; 245-b).

Results and discussion. Significant differences were found between the experimental and control groups after 2 months of pedagogical experience. The results are presented as follows in terms of physical fitness, technical skills and competition performance.

Physical fitness performance in the experimental group improved significantly. The 30-meter run time in the experimental group was 5.13 seconds on average at the beginning of the experiment, but by the end of the experiment it decreased to 4.17 seconds ($p<0.05$), and in the control group it changed from 4.96 seconds to 4.54 seconds ($p<0.01$), the difference between the groups was statistically significant ($t = 2.64$, $p < 0.01$). The pull-up performance on the horizontal bar increased from 17.79 to 21.93 times ($p<0.01$) in the experimental group, and from 17.27 to 19.33 times ($p<0.01$) in the control group ($t=3.32$, $p<0.01$). It can be seen that the increase in the standing long jump result was significantly higher in the experimental group (19.26%) than in the control group (6.78%) ($t=2.66$, $p<0.01$). The rate of descent from a standing position to a bridge position (5 times) was 12.32 seconds in the experimental group at the beginning of the experiment and 10.21 seconds (17.13%) at the end, while in the control group it was 9.38% ($p<0.05$), but the difference between the groups was not statistically significant ($t=1.97$, $p>0.05$). The number of repetitions of neck muscle-building movements in the bridge position in 60 seconds increased from 49.74 to 65.87 times in the experimental group ($p<0.001$) and from 51.36 to 57.35 times ($p<0.001$) in the control group ($t=3.62$, $p<0.001$) (Table 1).

Table 1

Dynamics of physical fitness levels of the control and experimental groups at the beginning and end of the study

Indicator	Experimental group (TG)		t	p	Control group (NG)		t	p
	at the beginning of the	at the end of the study			at the beginning of the	at the end of the study		

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	study				**study**			
30 meter dash (seconds)	5,13±0,61	4,17±0,46	4,35	<0.001	4,96±0,57	4,54±0,51	1,90	>0.05
Pull-ups on the horizontal bar (times)	17,79±2,47	21,93±2,89	3,13	<0.001	17,27±2,31	19,33±2,53	2,08	<0.05
Standing long jump (cm)	173,26±16,98	209,66±19,14	4,93	<0.001	180,26±16,94	192,49±17,68	1,71	>0.05
Falling from a standing position to a bridge position 5 times (seconds)	12,32±1,33	10,21±1,04	4,33	<0.001	11,94±1,26	10,82±1,11	2,31	<0.05
Neck muscle-building repetitions in bridge position (within 60 seconds) (times)	49,74±6,89	65,87±8,74	5,1	<0.001	51,36±6,93	57,35±7,54	2,03	<0.05

These results show that the special training program used in the experimental group significantly increased physical fitness indicators. In particular, in such indicators as 30-meter run, pull-up on the horizontal bar, long jump and 60-second repetition of the neck muscle-developing movement in the bridge position, the experimental group achieved higher results than the control group. Although the difference between the groups in the indicator of falling from a standing position to a bridge position was insignificant, the increase in the level of general

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physical fitness was much higher in the experimental group. This confirms the effectiveness of the special training program and its important role in improving the physical fitness of Greco-Roman wrestlers.

Table 2

Dynamics of control test indicators for technical methods at the beginning and end of the study in the control and experimental groups

Indicator	Experimental group (TG)				Control group (NG)		t	p
	at the beginning of the study	at the end of the study			at the beginning of the study	at the end of the study		
Grabbing the opponent by the arm and waist and throwing them above the waist	17,26±2,17	22,79±2,76	5.46	<0,001	17,75±2,29	19,19±2,34	1.52	>0,05
Pulling the opponent by the arm and taking them to the ground - throwing them over the shoulders	18,94±2,04	21,41±2,19	2.86	<0,001	18,24±1,98	18,46±1,94	0.27	>0,05
To throw an opponent over the head by grabbing their arms and neck from above – throwing them over their shoulders	19,12±1,87	23,83±2,16	5.71	<0,001	19,77±1,94	21,29±1,94	2.48	<0,05
Holding the opponent by the arms and waist and throwing	20,87±2,42	27,11±3,03	5.57	<0,001	21,58±2,58	23,03±2,56	1.38	>0,05

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them over the chest – throwing them over the waist								
To take an opponent to the ground by pulling them by the arm – a throw above the waist	19,48±2,06	21,89±2,25	2.74	<0,05	18,82±2,05	20,32±2,09	1.77	>0,05
To throw an opponent over the shoulder by grabbing their arms and neck from above.	20,98±2,44	25,75±2,88	4.38	<0,001	20,35±2,42	23,09±2,58	2.65	<0,05

Note: All exercises were performed with a partner of equal weight for 60 seconds.

In the experimental group, the number of throws by grabbing the opponent by the arm and waist was 17.26 at the beginning of the study, and reached 22.79 at the end of the study ($p<0.001$), while in the control group it changed from 17.75 to 19.19 ($p<0.05$), the difference between the groups was statistically significant ($t=4.87$, $p<0.001$). The number of throws by grabbing the opponent by the arm and transferring him to the ground - throws by the shoulders increased from 18.94 to 21.41 ($p<0.001$) in the experimental group, and from 18.24 to 18.46 ($p>0.05$) in the control group ($t=4.94$, $p<0.001$). The rate of throwing the opponent by the arms and neck from the front and above - throwing the opponent by the shoulders changed from 19.12 to 23.83 ($p<0.001$) in the experimental group, and from 19.77 to 21.29 ($p<0.05$) in the control group ($t=4.29$, $p<0.001$). The rate of throwing the opponent by the arms and waist from the chest - throwing the opponent by the waist increased from 20.87 to 27.11 ($p<0.001$) in the experimental group, and from 21.58 to 23.03 ($p<0.05$) in the control group ($t=5.20$, $p<0.001$). The rate of throwing an opponent by the arm - throwing from the waist increased from 19.48 to 21.82 ($p<0.05$) in the experimental group, and from 18.82 to 20.32 ($p<0.05$) in the control group ($p<0.05$). The rate of throwing an opponent by the arm and neck from the front and above - throwing from the shoulders increased from 20.98 to 25.75 ($p<0.01$) in the experimental group, and from 20.35 to 23.09 ($p<0.01$) in the control group ($t=3.37$, $p<0.01$).

This means that the special training program applied to the participants of the experimental group significantly increased the indicators of technical methods. In particular, the experimental group achieved higher results than the control group in such indicators as throwing the opponent by the arm and waist, throwing the opponent by the arm and waist from the chest - throwing the opponent from the waist, and throwing the opponent by the arm and neck from the front - throwing the opponent from the shoulders. At the same time, although the increase in the indicator of throwing the opponent by the arm to the ground - throwing the opponent from the

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waist was relatively lower, the increase in the level of general technical and tactical skills was much higher in the experimental group. This confirms the effectiveness of the special training program and its important role in improving the technical methods of Greco-Roman wrestlers.

Analysis of the competition results of the participants of the experimental and control groups shows that the applied methodology has yielded results, and the experimental group has achieved higher results than the control group. In the experimental group, the number of matches won by points by performing one technical method during the competition increased from 8 to 10, and in the control group from 9 to 11. In particular, it can be seen that the experimental group also had a high increase in the number of matches won using simple and combination attack movements. It is also clear that the experimental group was more effective than the control group in terms of the number of victories in competitions (Table 3).

Table 3

Dynamics of the results achieved by the experimental and control groups in the competition activities

T /r	**Name of the indicators during the competition period**	Control group (CG)		Experimental group (NG)	
		at the beginning of the study	**at the end of the study**	**at the beginning of the study**	**at the end of the study**
1	Number of matches won on points by performing one technique in a competition	9	11	8	10
2	Number of matches won using simple attacking moves in the competition	5	6	4	13
3	Number of matches won using combination attacks in the competition	2	2	1	6
4	Number of wins	16	19	13	30

Conclusion. This study aimed to study the effectiveness of a special pedagogical approach to improving the combined attack movements of Greco-Roman wrestlers. During the two-month experiment, the special training program achieved significant results in increasing the physical fitness, technical and tactical skills of athletes and the effectiveness of competition activities. The combination of exercises used in the study served to develop the speed, accuracy and strategic approach of athletes. The results showed that the special program significantly improves not only individual performance, but also the overall effectiveness of the competition.

In practice, this approach can serve as a valuable methodological tool for coaches, especially in the process of preparing for high-level competitions. The study corresponds to the strategic goals of introducing modern training methods into the sports training system and contributes to a certain extent to increasing the competitiveness of athletes in the international

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arena. At the same time, the study provides new scientific data to sports science and provides practical recommendations for the development of combined attack strategies.

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