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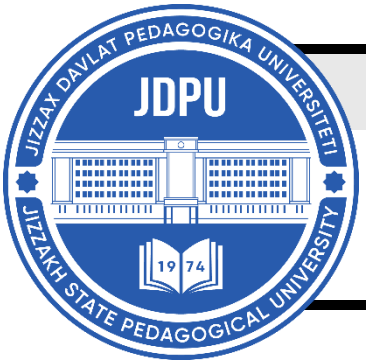

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THE IMPORTANCE OF WEIGHTLIFTING TOOLS IN DEVELOPING EXPLOSIVE STRENGTH USED TO IMPROVE THE TECHNICAL AND TACTICAL ACTIONS OF STUDENT JUDOKAS

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ABOUT ARTICLE

Key words: student judokas, sports training, weightlifting, physical fitness, psychofunctional condition, technical and tactical competence, strength and endurance, intensive training, competition cycles, coaching methodology, sports strategy, training process, sports reserve, qualification tournaments, training sequence, judo and weightlifting integration.

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Abstract: In modern sports practice, particularly in the selection of athletes for the Olympic Games, World Championships, and high-ranking qualification tournaments, special attention is paid to student judokas. Within this framework, it is strategically important to develop their physical fitness, psychofunctional condition, technical and tactical competence, as well as strength and endurance. This becomes especially relevant in the context of intensive training held twice a day and long-lasting competition cycles. Student judokas must improve their training process through the use of special weightlifting exercises, mastering the correct sequence of execution, and understanding how to apply weightlifting techniques effectively in judo. The use of scientifically grounded methods and advanced coaching practices plays a key role in enhancing the competitive readiness of judokas.

Introduction: In the Republic of Uzbekistan, reforms in education and upbringing, as in all sectors, are shaping how university students conceptualize choosing a career in physical culture and sport, acquiring the necessary skills, and working effectively. The concept of one's attitude towards their profession is a significant psychological factor that subsequently determines a specialist's effectiveness. The issues of training highly qualified specialists in physical culture and sport, and organizing their work activities in accordance with modern demands, are becoming increasingly important.

In order to implement the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 118 dated February 13, 2019, "On Approval of the Concept for the Development of Physical Culture and Mass Sports in the Republic of Uzbekistan for the Period 2019-2023, measures have been developed to improve sports medicine, promote healthy lifestyles and nutrition, and engage youth and the general population in physical education and mass sports. Extensive promotional activities are being conducted in this direction.

This work serves, to a certain extent, the implementation of tasks set forth in several regulatory legal acts related to the field of physical culture and sport. These include the Decree of the President of the Republic of Uzbekistan No. PD-5368 dated March 5, 2018, "On Measures for the Radical Improvement of the State Management System in the Field of Physical Culture and Sport," and the Decree of the President of the Republic of Uzbekistan No. PD-5924 dated January 24, 2020, "On Measures to Improve and Ensure the Mass Participation in Physical Culture and Sport in the Republic of Uzbekistan [1; 2].

Materials and methods

The level of student judokas is steadily increasing, and in terms of progression, it is even higher than that of other combat sports. However, at the beginning of the experiment, an analysis of the training and competition periods of the student judokas revealed that the following techniques, which were most frequently used by student judokas in the 60–66 kg weight category, were demonstrated with the aim of executing them within 15 seconds.

Result and discussion

The techniques presented in the table (see Table 1) were the most frequently used by student judokas during the training and competition periods. Therefore, at the beginning of the research, we used these very techniques to determine the level of explosive strength of the

student judokas. The table below presents the results of the student judokas at the start of the experiment.

According to the data presented in the table, the number of throws performed within 15 seconds using the techniques listed was recorded for the experimental group during the training sessions. In order to improve the initial results of the student judokas, we developed a set of exercises for explosive strength training that included weightlifting exercises (see Table 2).

Table-1

Analysis of specific techniques of student judokas in the experimental and control groups at the beginning of the research. (n=28)

№	Move 15 seconds	EG (n=14)			CG (n=14)		
		$\overline{X}$	σ	V%	$\overline{X}$	σ	V%
1.	(Seoi-nage)	7,64	1,08	14,15	8,00	1,04	12,97
2.	(O-goshi)	8,07	1,21	14,95	8,71	1,20	13,82
3.	(Ura-nage)	5,07	0,83	16,34	5,64	0,84	14,92
4.	(Seoi-otoshi)	4,79	0,70	14,61	5,29	0,73	13,74
5.	(Tai-otoshi)	7,00	0,88	12,53	7,36	0,84	11,44
6.	(Uchi-mata)	6,07	0,73	12,02	6,50	0,94	14,47
7.	(O-soto-otoshi)	6,50	0,76	11,69	7,07	1,07	15,15

Table-2

Taking into account the lightweight categories, the aim at the beginning of the experiment was to improve the general and specific physical preparation of the student judokas (at the beginning) (n=28)

INDICATORS	WEIGHT CATEGORIES AND OBTAINED SCORES

		60-66 kg				
		1	**2**	**3**	**4**	**5**
Special exercises for explosive strength training	From a standing position, rotate a 15 kg barbell to the left and right, then throw it forward from the chest level	**8**	**10**	**15**	**20**	**25**
	Throwing a 20 kg barbell overhead with both hands	**10**	**12**	**15**	**20**	**25**
	Pulling a 30 kg barbell up to under the chin from a position with arms extended downward	**10**	**15**	**15**	**20**	**25**
	From a half-bent position, alternately pulling a 10 kg stone upward from below	**10**	**12**	**15**	**15**	**20**
	Throwing a 15 kg stone alternately to the right and left from a standing position	**10**	**12**	**15**	**20**	**25**
	Jumping up from a seated position with a 5–10 kg stone	**7**	**12**	**15**	**20**	**25**
	Jumping for distance from a standing position with a 15 kg barbell	**8**	**12**	**15**	**20**	**25**
	Jumping up from a kneeling position with a 20 kg barbell on the shoulders	**6**	**8**	**12**	**15**	**20**

The exercises developed from the special weightlifting exercises presented in the table were used during training and competition to enhance explosive strength in student judokas. These exercises were designed to effectively support the execution of judo-specific technical actions by judokas in the specified weight categories during both training and competition,

through the demonstration of explosive power. The level of explosive strength development in student judokas is shown in table format below, based on the results of all student judokas at the beginning and end of the research (see Table 3).

Table-3

Analysis of the special techniques of student judokas in the experimental and control groups at the end of the research (n=28)

№	Techniques 15 seconds	EG (n=14)			CG (n=14)			t	P
		$\overline{X}$	σ	V%	$\overline{X}$	σ	V%		
1.	**Seoi-nage**	10,29	1,07	10,39	9,57	0,94	9,80	2,13	P<0,05
2.	**O-goshi**	11,57	0,94	8,10	10,86	1,17	10,75	2,02	P<0,05
3.	**(Ura-nage)**	7,07	0,92	12,97	6,36	0,84	13,24	2,43	P<0,05
4.	**(Seoi-otoshi)**	6,64	0,74	11,21	6,21	0,70	11,25	1,78	p>0,05
5.	**(Tai-otoshi)**	8,79	1,05	11,96	8,07	0,83	10,27	2,26	P<0,05
6.	**(Uchi-mata)**	8,14	0,86	10,62	7,57	0,76	9,98	2,11	P<0,05
7.	**(O-soto-otoshi)**	8,71	0,91	10,49	8,07	0,73	9,04	2,33	p<0,05

The special exercises performed using weightlifting stones, as presented in the table above (see Table 3), proved effective in increasing the efficiency of executing each technique during student judokas' training, practice matches, and competitions. Moreover, they contributed to the further development of explosive strength in the arms and legs when applying techniques against an opponent.

Conclusion

The results of this research confirm the effectiveness of a specialized program of explosive strength training using targeted weightlifting exercises in enhancing the technical performance of student judokas. Initially selected based on the most frequently employed techniques during training and competitions, the study focused on exercises specifically designed to simulate and support the explosive demands of these judo movements. The

exercise regimen, which included dynamic lifts and throws using barbells and weighted stones of varying loads, was tailored to the physical preparation needs of lightweight athletes (60–66 kg category) and applied consistently across training cycles.

The intervention led to measurable improvements in the execution of key judo techniques, as demonstrated by statistically significant increases in the number of repetitions performed within 15 seconds for five of the seven studied techniques (Seoi-nage, O-goshi, Ura-nage, Tai-otoshi, Uchi-mata, and O-soto-otoshi) in the experimental group compared to the control group. Notably, the results also indicate that the explosive strength gains were not merely general but translated effectively into sport-specific contexts, directly enhancing the judokas' competitive capabilities.

The use of weighted, functionally relevant resistance exercises proved instrumental in improving explosive strength in both the upper and lower limbs, which are critical for the rapid execution of throwing techniques in judo. The statistical significance ($p<0.05$) observed in most of the techniques validates the relevance of the training protocol. These findings support the integration of specialized strength conditioning protocols into judo training programs, particularly for developing athletes, and emphasize the need for aligning strength development with technical performance requirements.

Overall, this research highlights that a focused, systematically applied program of explosive strength training can yield significant benefits in both physical performance metrics and technical efficiency in competitive judo, particularly for athletes in the lightweight category.

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