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STANDARD METHODOLOGY OF THROWING TECHNIQUES IN JUDO AND THEIR EFFECTIVENESS

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Abstract: This article examines the effectiveness of standard teaching methodology for throwing techniques in judo. The research is based on experimental training sessions and video analysis, evaluating the precision of execution, force application points, and movement synchronization. Findings indicate that downward-directed force, step-by-step instruction, and biomechanical approaches play a crucial role in technical mastery. The article also provides recommendations to enhance training efficiency through individualized instruction and integration of biomechanical feedback systems.

Key words: judo, technique, throwing methodology, force application, synchronization, biomechanics, athlete preparation.

INTRODUCTION

At the current stage of development of physical culture and sports, judo is recognized not only as a competitive combat discipline but also as a comprehensive tool for shaping an athlete's physical and psychological preparedness through technique, tactics, and methodical approaches. In particular, proper technical training of judokas is a key factor in gaining an advantage over the opponent. Therefore, throwing techniques and the standard methodological guidelines used in teaching them form the core of judo training sessions.

To date, a system of methodological guidelines has been developed for the effective execution of throwing actions in judo. These guidelines are widely applied in the training of athletes of various age groups and skill levels. Such methodological approaches facilitate the step-by-step acquisition of technical elements, automation of movements, rapid situational analysis, and development of decision-making skills. However, due to individual characteristics, anthropometric data, and psychophysiological preparedness, the effectiveness of these methods may vary from athlete to athlete.

This article analyzes the standard methodological guidelines applied in teaching throwing techniques in judo and evaluates their practical effectiveness. It also presents scientific conclusions based on the impact of these methods on athletes' technical-tactical indicators, training session outcomes, and areas for improvement.

REVIEW OF LITERATURE ON THE SUBJECT

The technical and methodological aspects of judo have been extensively studied in both international and local academic literature. One of the most notable studies on developing standard methodology for throwing techniques and assessing their impact on athlete preparation was conducted by Matsumoto Hiroshi. He emphasized the importance of a step-by-step, functional approach and situational modeling in increasing training efficiency. He also recommended an individual approach that considers athletes' psychophysiological conditions.

French researcher Michel Brousse focused on the evolution of judo techniques and the analysis of methodological approaches in modern training. He identified the distribution of body weight, loss of balance,

and correct assessment of movement trajectory as key factors in successful throws. Brousse also stressed the importance of using didactic models and tactical games in teaching techniques.

Russian experts such as A. Ya. Khomenko and I. P. Shubin have examined the selection and improvement of technical tools tailored to the athlete's level of preparation. They argue that standard methodologies effectively develop motor automation but should be regularly adapted to the athlete's age and proficiency level.

In the traditional judo schools founded by Japanese scholar Jigoro Kano, particularly the Kodokan system, technical instruction is supported by both traditional approaches and modern biomechanical analyses. This combination has contributed to enhanced effectiveness in performing throwing techniques.

Among Uzbek researchers, E. R. Ismatullayev has conducted several studies on methodological recommendations and the analysis of competitive techniques in judo. His work demonstrated the impact of technical instruction on athlete performance through practical experimental results.

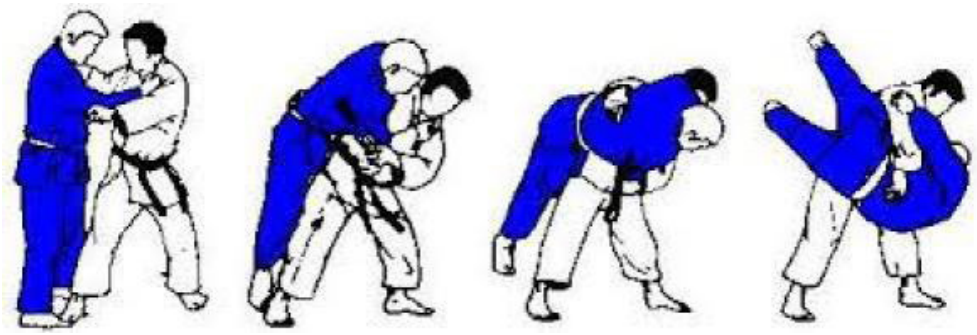
Overall, the literature suggests that the effectiveness of throwing techniques in judo depends not only on the correct execution of movements but also on the consistent and appropriate application of teaching methods. Thus, it is essential to continuously update modern methodologies, adapt them to the athlete's individual characteristics, and utilize advanced pedagogical strategies in training.

RESEARCH METHODOLOGY

The data in this study were obtained through experimental training sessions, video analysis, and observation of athletes' technical movements. The collected data were analyzed using statistical methods, including comparative analysis and correlation evaluation, and were assessed based on criteria that determine the effectiveness of methodological guidelines.

ANALYSIS AND RESULTS

According to laboratory experiments, the O position in drilling (bent inside the chest) during the initial phase of rotation towards the opponent involved a reverse twist without time specificity. In the first and second year phases of throwing, the throw was performed without initial rotation (Figures 1 and 2).



1) Frame 0; 2) Frame 480; 3) Frame 640; 4) Frame 1040.

Figure 1. Lateral throw toward the opponent with preliminary rotation

Figure 2. Pulling the opponent to the right side without initial lateral rotation, while gripping the neck area with the left hand, blocking the opponent's right leg from the left side using the left knee, followed by a preliminary rotation and a lateral throw

Moreover, the point and direction of force application to the opponent have a significant impact on the effectiveness of this class of throwing techniques. Effective approaches within this class include:

- pulling the opponent downward rather than pushing backward;
- controlling from the front rather than gripping the wrist.

Thus, our experimental laboratory and model trial data indicate that when executing a backward throw—performed with a bent posture and a sweeping leg motion from the inside (as in Yu. A. Shulika's *Judo. O-uchi-gari*)—the technique is most effective without feints or preliminary rotations, under the following conditions:

– the opponent is controlled vertically at the attacking leg, not at a distance;

– the grip should be positioned below the shoulder level, at the belt;

– the leg sweep should be performed not laterally (away from oneself), but from beneath the attacker's own center of mass (Tables 1 and 2).

Table 1. Optimal contact points and force direction for arm application in one-sided slope-type throws.

Throw Phases	Average Pull	Reverse Pull
Grip	Belt grip – withdraw	Grasping own belt
Frame (kadr)	±	±
Leg Insertion	480 ± 3	380 ± 17
Pulling Action	160 ± 7	280 ± 8
Depriving Exit	400 ± 7	240 ± 11
Eye Contact	360 ± 16	340 ± 15
Total	1400 ± 66	1240 ± 51
Total Duration	1.4 sec ± 0.66	1.24 sec ± 0.51

Table 2. One-sided trajectory of slope-type throws.

№	Trajectory Line	Relative Position	Proximity
1	Waist level	Heteronymous	Heteronymous
2	Downward through the sleeve	Heteronymous	Heteronymous

Furthermore, imbalance and leg attacks are performed without additional steps, as introducing a step during execution reduces the transfer of force to the opponent. Since the technique is applied from the inside with the attacking leg moving simultaneously through the opponent's legs, it can be considered that leg control and shin contact occur at the same time.

It should be emphasized that in the model experiment, following traditional judo literature, the throw was assumed to be performed without any resistance from the opponent. We recommend that the mid-phase structures of the throw be studied under conditions free from dynamic interference.

In the same model experiment, it was found that, due to the knockout effect, sweeping the opponent's leg by straightening the popliteal fold ensures greater stability compared to unsupported sweeping when the attacker's leg makes contact with the tatami.

CONCLUSION AND SUGGESTIONS

The analysis of standard methodological approaches in teaching judo throwing techniques confirms their crucial role in shaping athletes' technical and tactical proficiency. Experimental findings demonstrate that the effectiveness of throwing depends not only on the accuracy of movement execution but also on the optimal force application points, timing, and synchronization between upper and lower body actions. Special emphasis should be placed on techniques involving vertical control, inward leg sweeping, and minimizing unnecessary movements such as stepping, which can weaken force transmission. These observations support the idea that biomechanical precision and movement economy are central to mastering effective throws.

In order to further improve training efficiency in judo, it is essential to adapt existing instructional models to the individual physical and psychological characteristics of athletes. Integrating biomechanical analysis, motion capture technologies, and video-based feedback systems into training processes can enhance the personalization and objectivity of technical development. Moreover, methodical experimentation under controlled conditions, such as non-dynamic simulation environments, should be expanded to better understand the intermediate structural phases of throws. Promoting collaboration between coaches, sport scientists, and biomechanics specialists will also facilitate the continuous refinement of teaching methodologies, ensuring the sustainable progress of judo as a high-performance discipline.

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