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METHODOLOGICAL JOURNAL****MENTAL ENLIGHTENMENT SCIENTIFIC –  
METHODOLOGICAL JOURNAL**<http://mentaljournal-jspu.uz/index.php/mesmj/index>**EFFECTIVENESS OF DEVELOPING THE TECHNICAL SKILLS OF KARATE  
ATHLETES IN THE KUMITE PROGRAM AT THE INITIAL TRAINING STAGE****Aziz Adilovich Utepov***Student of PhD at Uzbekistan state university  
of physical education and sports**E-mail address: [adilovichaziz@gmail.com](mailto:adilovichaziz@gmail.com)**Chirchik, Uzbekistan***ABOUT ARTICLE**

**Key words:** Kumite, Technical Movement, Technical Training, Special Program, karate WKF, technical skills, initial stage.

**Received:** 01.04.26**Accepted:** 02.04.26**Published:** 03.04.26

**Abstract:** This article investigates the effectiveness of developing and improving technical movements in karate athletes within the framework of the kumite program through the implementation of a specialized training methodology. The formation and enhancement of the physical, psychological, and particularly technical preparedness of highly qualified athletes and masters of sport are largely established during the initial stage of sports training. At this stage of athletic development, the foundational elements of technical mastery are systematically formed and refined through targeted pedagogical approaches. In this regard, the application of a specialized training program serves as a methodological basis for optimizing the execution of effective offensive and defensive short-distance striking techniques employed by karate athletes in kumite. The training program is designed to enhance the coordination, speed, accuracy, and tactical applicability of technical actions, thereby improving the overall efficiency of competitive performance. Particular emphasis is placed on the development of rapid attack and counterattack movements, the precise execution of striking combinations, and the integration of technical skills within the dynamic structure of kumite bouts.

**Introduction.** The world is increasingly interested in ensuring the health of the population through the development of physical education and sports. In particular, oriental martial arts are gaining popularity due to their spectacular performances, competitive fighting methods and the growing number of people practicing them [1][4]. Currently, modern karate WKF sports are also attracting young athletes from all over the world with their high level[7]. The popularity of sports determines the high level of competition and requires optimal levels of physical, technical-tactical, functional and mental preparation from their participants.

The participation of karate WKF athletes in major competitions in the world has become one of the important tasks for scientists in the field[8][9]. In particular, at the initial training stage, each athlete is engaged in activities such as increasing the individual, physical functional capabilities of the athlete and rationally organizing the training process, improving the training process based on their psychological characteristics, and developing movement skills using various special tools and methods during training[12]. In the WKF sports discipline, the development of a differential training complex aimed at the targeted development of physical (strength, speed, agility, endurance, flexibility) and technical and tactical training indicators based on a comprehensive analysis of the individual morpho-functional, psychophysiological and movement skills of the athletes at the initial training stage, and the experimentally substantiated improvement of its effectiveness, is gaining relevance as an independent research direction[2][3].

This study aims to determine the relationship between the dynamics of individual development of athletes, the functional state of the neuromuscular apparatus, coordination abilities, and the rate of mastering technical movements, as well as to develop mechanisms for managing adaptation processes by optimizing the volume and intensity of the load[6][9][10].

At the same time, one of the priority tasks of the research is to create an integrative training model aimed at gradually forming technical elements (kihon, kata, and kumite components) in karatekas at the initial stage, stabilizing movement stereotypes, and expanding functional capabilities, and to scientifically and methodologically substantiate its pedagogical and biomechanical effectiveness.

**Materials and methods.** This study was conducted to examine the effectiveness of technical striking movements in the kumite program among karate athletes at the initial stage of training and to determine the effectiveness of methodological approaches aimed at improving these techniques.

In modern society, the decrease in physical activity along with the increase in life expectancy has led to various functional limitations and a decline in physical capabilities. Such conditions negatively affect a person's ability to live independently, their quality of life, and their physiological functional capacity. Therefore, researchers emphasize the need to develop effective and economically feasible methods aimed at increasing physical activity [14][15].

One of the effective solutions to this problem is considered to be martial arts training, particularly karate practice. Research findings confirm that karate training has long played an important role in improving human health and overall well-being. According to the authors' analysis, athletes who regularly practice karate demonstrate higher levels of lower-body muscle strength and explosive power compared to other physically active individuals who do not practice karate [11].

During the research, comprehensive scientific research methods were applied, including pedagogical observation, pedagogical experiment, pedagogical testing, and comparative analysis of the obtained results.

Before the beginning of the pedagogical experiment and at its final stage, control tests were conducted based on a specially designed set of test exercises to determine the athletes' level of technical preparedness. These tests made it possible to evaluate important indicators such as the speed, accuracy, and repetition of striking techniques.

Within the framework of the study, the method of pedagogical observation was also applied, analyzing the structure and functional characteristics of technical actions used in modern kumite bouts. During the observation process, parameters such as the coordination of hand and foot striking techniques during attacks and counterattacks, the speed and accuracy of strikes, and the variability of technical movements were studied. These indicators were considered the main factors determining the effectiveness of athletes' competitive performance.

During the pedagogical experiment, a special training program aimed at improving the technical striking movements of karate athletes within the kumite program was implemented. This program included a set of exercises focused on repeatedly performing striking techniques within short time intervals, increasing the speed and accuracy of movements, and developing the ability to execute strikes in combinations. Particular attention was given to the biomechanical aspects of technique execution, movement amplitude, coordination, and balance during the training process.

To assess the athletes' level of technical preparedness, pedagogical test exercises based on the following striking techniques were applied: kizami-tsuki, gyaku-tsuki, ren-tsuki, mawashi-geri, ura-mawashi-geri, and ushiro-ura-mawashi-geri.

During the performance of the test exercises, the athlete's partner served as a stationary target. Each striking technique was performed for 10 seconds, and the number of correct and accurate strikes executed within this time was recorded. This method allowed the researchers to determine the speed, accuracy, and repetitive effectiveness of the athletes' striking techniques.

The quality of execution of hand strikes (kizami-tsuki, gyaku-tsuki, ren-tsuki) and kicking techniques (mawashi-geri, ura-mawashi-geri, ushiro-ura-mawashi-geri), the level of coordination ensuring the sequence of strikes, the variability of movements, and the athletes' ability to maintain balance were evaluated in a comprehensive manner. In addition, the speed and accuracy of technical movements were used to determine the athletes' level of special technical preparedness.

The study made it possible to scientifically substantiate the effectiveness of the training process aimed at improving and comprehensively evaluating technical actions within the kumite program of karate athletes. The data obtained during the research were later subjected to comparative analysis to identify changes in the athletes' level of technical preparedness

**Result and discussion.** In the training process, training athletes in technical strikes aimed at obtaining a quick and accurate score (point) in accordance with the conditions of the competition, their repetition in a certain amount, as well as the amount of time allocated for these actions, is an important factor in the formation and development of the athlete's technical skills. By repeatedly repeating technical actions, their automation is ensured, which expands the athlete's ability to make quick and effective decisions in accordance with the situation during the competition.

Also, the increase in the level of technical preparedness is directly related to the richness and diversity of the athlete's arsenal of technical techniques. The development of the technical arsenal allows the athlete to choose optimal actions in various tactical situations, adapt to the actions of the opponent, and achieve high sports results. Therefore, when assessing the technical skills of karate WKF athletes, it is necessary to comprehensively analyze not only the quality of individual technical elements, but also the effectiveness of their use in competitive activity.

The training process proposed by us provides for a comprehensive methodological system aimed at ensuring the biomechanical accuracy of technical actions at the initial stage of

training, their automation, and the formation of mechanisms for their application in variable combat situations. This system serves to scientifically substantiate the process of athletes entering competitive form by planning training loads based on a differentiated approach, using simulated competitive situations, and gradually increasing the complexity of technical and tactical actions. (table 1)

**Table 1**

**Kumite Training Method.**

<b>№</b>	<b>Exercise content</b>	<b>Load direction</b>	<b>Norm</b>	<b>Size</b>	<b>Rest</b>
<b>1</b>	Kizami/gyaki/ren-tsuki group count	Quick- strength/special endurance/coordination	2-3 repetitions	10-12 times	When you say "ich", take a deep breath, hold it for 2-3 seconds, when you say "nei", exhale, repeat in this position
<b>2</b>	Kizami/gyaki/ren-tsuki with partnerë				
<b>3</b>	Kizami/gyaki/ren-tsuki with partner working on the situation				
<b>4</b>	Mavashi/uramavashi/ushir ouramavashi-geri group counting				
<b>5</b>	Mavashi/uramavashi/ushir ouramavashi-geri works with a partner in a situation				
<b>8</b>	Ippon-kumite				
<b>9</b>	Circulating kumite				
<b>10</b>	Tatami kumite		7-8 repetitions	25-30 minutes	7-10 times

The level of technical indicators of our research was determined based on the WKF competition regulations. In the main part of the lesson, our program was applied to the subjects of the experimental group. In particular, the competitive combat conflict process of the kumite program is based mainly on agility, speed, speed-strength, and coordination abilities. In the course of our research, we experimentally applied the skills and abilities of executing handshots in attack and defense by developing skills and abilities of executing handshots with deceptive

movements in attack, developing flexibility and technical skills, evaluating the position of the partner's movement in the kumite process. Kizami-tsuki bosh qismiga zarba usuli

Gyaki-tsuki abdominal punching technique

Attacking with kizami-tsuki and gyaki tsuki shots of 1.2

Mawashi-geri head kick technique

Uramavashi-geri kick technique

The training process of the special training complex developed by us for the high-quality and effective organization of techniques for striking the head with the Ushiroumavashi-geri leg was implemented positively.

The indicators of the technical preparedness of karate athletes engaged in the kumite program at the initial training stage were determined based on a complex of criteria at the initial and final stages of the pedagogical experimental process and recorded for comparative analysis.

These measurements were carried out based on the criteria for assessing the accuracy, speed, coordination stability, and effectiveness of combinational activity of athletes in performing technical actions characteristic of the kumite program. The results obtained at the beginning of the study of karate athletes at the initial stage of training served to determine the level of indicators of the initial training of athletes and to determine their individual characteristics, and the indicators at the final stage made it possible to determine the effectiveness of experimental training and substantiate the scientific and practical significance of the special training program proposed by us.

**Table 2**

**Indicators of technical preparedness of karate athletes at the initial stage of training at the beginning and end of the pedagogical experiment (control n=30 and experimental n=30).**

№	Group	Beginning of experiment			End of experiment			NO'	t	P
		$\bar{X}$	$\sigma$	V, %	$\bar{X}$	$\sigma$	V, %			
1	EG	6,47	0,97	14,98	7,34	1,04	14,14	13,55	3,38	<0,01
	CG	6,33	0,93	14,61	6,74	0,91	13,50	6,42	1,72	>0,05
Kizami-tsuki accuracy: 10 seconds per attempt										
2	EG	7,87	1,26	15,99	9,02	1,36	15,12	14,66	3,40	<0,01
	CG	8,10	1,27	15,62	8,68	1,34	15,49	7,12	1,71	>0,05
Gyaki-tsuki accuracy: 10 seconds per attempt										

3	EG	5,57	0,78	13,98	6,30	0,89	14,13	13,23	3,41	<0,01
	CG	5,44	0,74	13,61	5,77	0,78	13,48	6,13	1,70	>0,05
Ren-tsuki accuracy: 10 seconds per attempt										
4	EG	5,10	0,82	15,99	5,84	0,89	15,14	14,59	3,39	<0,01
	CG	5,00	0,78	15,60	5,36	0,83	15,46	7,12	1,71	>0,05
Mavashi-geri accuracy: 10 seconds per attempt										
5	EG	5,20	0,73	13,98	6,05	0,79	13,11	16,35	4,33	<0,001
	CG	5,33	0,73	13,59	5,73	0,77	13,49	7,44	2,05	<0,05
Uramavashi-geri accuracy: 10 seconds per attempt										
6	EG	4,43	0,66	14,97	5,03	0,71	14,12	13,46	3,36	<0,01
	CG	4,34	0,63	14,61	4,63	0,67	14,51	6,68	1,72	>0,05
Ushiro-uramavashi-geri accuracy: 10 seconds per attempt										

Note: TG – experimental group, NG – Control group, - average,  $\sigma$  – standard deviation, V % – rate of change;

The results of the technical training at the beginning and end of the study are as follows; In the fixed target task of the partner for 10 seconds, the experimental group of karatekas showed an average accuracy of 6.47 times the accuracy of the test group, and after the study, it showed an average accuracy of 7.34 times, while the control group showed an average accuracy of 6.33 times the accuracy of the test group, and after the study, it showed an average accuracy of 6.74 times. In the gyaki-tsuki strike, the experimental group showed an average of 7.87 times at the beginning of the study, and after the study, it showed an average accuracy of 9.02 times, while the control group showed an average accuracy of 8.10 times at the beginning of the study, and after the study, it showed an average accuracy of 8.68 times. The experimental group in the Ren-tsuki 2-point striking technique exercise had an average accuracy of 5.57 times, and after the study, it was 6.30 times, while the control group had an average accuracy of 5.44 times, and after the study, it was 5.77 times. The experimental group in the Mawashi-geri striking technique had an average accuracy of 5.10 times, and after the study, it was 5.84 times, while the control group had an average accuracy of 5.00 times, and after the study, it was 5.36 times. The experimental group in the Uramavashi-geri striking technique had an average accuracy of 5.20 times before the study, and 6.05 times after the study, while the control group had an average accuracy of 5.33 times before the study, and after the study, it was 5.73 times. The experimental group in the Ushiro-uramavashi-geri exercise showed an average accuracy of 4.43 times before the study and 5.03 times after the study, while the control group showed an average of 4.34 at the beginning of the study and 4.63 times after the study.

Analysis of the data obtained during the research process showed that the purposeful and systematic development of each technical movement performed within the kumite program serves as the fundamental basis for increasing striking effectiveness.

It has also been found that the effectiveness of technical movements in the kumite process directly depends not only on physical indicators, but also on the correct assessment of the technical movement, the speed of decision-making, and the degree of accurate distance to the opponent's location. Therefore, consistent training of each movement, its application in various combat situations, and its effectiveness in competition activities will serve to increase.

The careful and scientifically based development of technical movements not only improves the mechanical qualities of a particular strike, but also significantly increases the effectiveness of the kumite strategy. This is an important condition for raising the all-round preparation of young karatekas to a higher level.

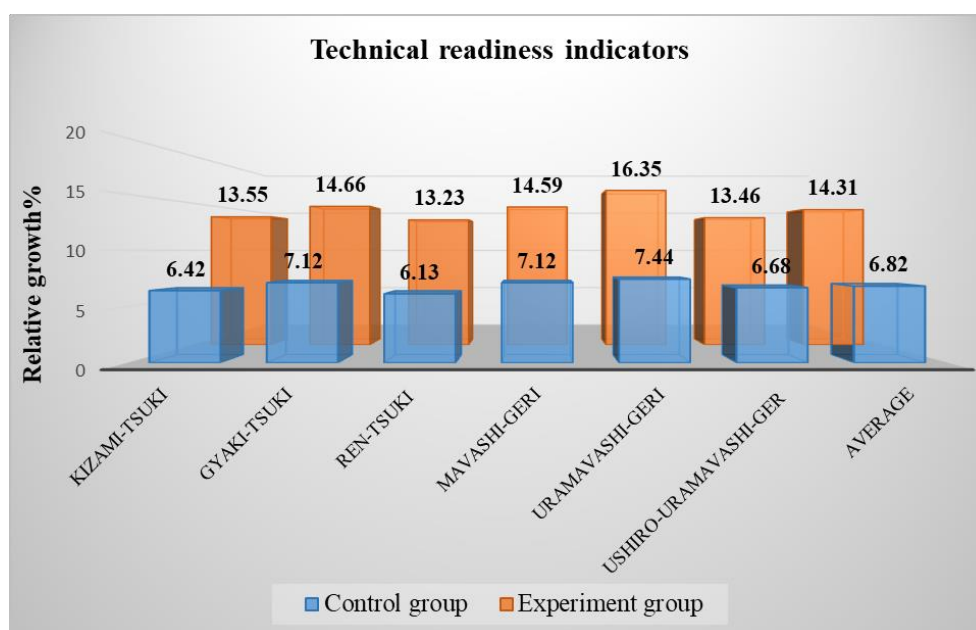


Figure 1. Technical preparation indicators recorded at the beginning and end of the pedagogical experience of the test subjects at the initial training stage

The experimental group showed an average relative increase of 13.55% in the post-study kizami-tsuki kick, while the control group showed an average of 6.42%. The experimental group showed an average relative difference of 14.66% in the gyaki-tsuki kick, while the control group showed an average of 7.12%. The experimental group showed an average relative difference of 13.23% in the ren-tsuki kick, while the control group showed an average of 6.13%. The experimental group showed an average of 14.59% in the mawashi-geri kick, while the control group showed an average of 7.12%. The experimental group showed an average of 16.35% in the uramashi-geri kick, while the control group showed an average of 7.44%. The experimental group showed an average of 13.46% in the ushiro-uramashi-geri kick, while the

control group showed an average of 6.68%. During the study, the average relative increase in technical training was 14.31% in the experimental group and 6.82% in the control group.

The analysis of the results obtained at the beginning and end of the study showed that, although some positive changes were observed in the performance of technical techniques in the karatekas of the control group, according to the results of the tests, the indicators of the effective use of these technical actions were not sufficiently activated and were manifested at a low rate. The participants of the experimental group significantly expanded their ability to perform technical techniques, and the test results showed a stable and statistically significant increase in the level of performance of technical strikes. This indicates that the special training complex used in the experimental process had an effective effect on the development of technical movement skills.

As a result of an in-depth study of the process of forming technical and practical skills in karatekas engaged in the initial training stage, the effectiveness of the methodology of a special training complex aimed at developing technical movements according to the kumite program was scientifically confirmed within the framework of our research. This methodology served to gradually improve the functional structure of athletes' offensive and defensive movements, and to develop their technical and complex practice based on an integrative approach.

**Conclusion.** At the final stage of the study of karatekas of the initial training stage, the results of the program on the level of technical training of karatekas showed a stable growth dynamics. The control group of the Tortkul district recorded an increase of 6.82%, and the experimental group - 14.31%. On average, technical training indicators increased as well as physical training indicators, that is, we can see that the indicators of the experimental groups are 2 times higher than the results of the control groups. In particular, the effectiveness of the special training program aimed at developing technical movements in the direction of the kumite program is highly justified.

The use of a complex of special exercises developed according to the kumite program at the initial training stage allowed for a deep analysis of the structure of technical and tactical movements of karatekas, which are manifested in their competitive activities. The results obtained indicate that the potential for using a complex of technical methods aimed at improving the components of attack and defense during the competition process has significantly expanded among athletes at this stage.

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