

THE IMPORTANCE OF THE SPEED EXECUTION IN THE TECHNICAL PROCEDURES SPECIFIC TO THE STYLE ASHIHARA KARATE

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Abstract: *This article brings to the attention of specialists in the field, considerations regarding the determining character of the execution speed in the technical procedures that are specific to the training of Ashihara Karate practitioners. The purpose of the research is to determine the influence that the development of execution speed has on technical training, and implicitly on sports performance. The experimental research took place over a period of 8 weeks, including 15 athletes, members of the Sen Craiova Sports Club, aged between 20 and 35. Following the analysis of the results, we emphasize the importance of improving the execution speed of specific training techniques in obtaining an optimal competitive performance.*

Key words: *Ashihara Karate, speed execution, specific procedures.*

1. Introduction

The format of the bulletin will be A4. Ashihara Karate, a style named after its founder Hideyuki Ashihara, is one of the newest and most complex martial arts systems in the world. The idea from which Ashihara started was to create a new “fighting karate” system [11].

This style has its roots in Kyokushin Karate but has various influences from different styles of martial arts (Muay Thai, Jujutsu, Boxing) with an emphasis on sabaki.

This article aims to optimize training in karate training with the aim of creating

favorable conditions for achieving sports performance at the national and international level.

The present study is an integral part of a wider research, dedicated to the discovery of modern orientations and trends in the sports training of Ashihara Karate-style martial arts practitioners.

Increasing the performance capacity is the main goal of the sports activity, in order to optimize it, an analysis of its competitive and conditional factors is necessary, factors that derive from the relationship between the athlete, coach and environment.

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The preparation of athletes for competitions requires choices of training programs oriented to the competitive requirements [10].

The main reason for choosing the theme is to understand and efficiently solve the problem of improving the training system, by increasing the speed of execution in the technical procedures specific to the Ashihara Karate style, in order to obtain the expected performances.

The studies related to the issue of achieving sports' performances in the martial arts and especially in karate are found especially in the international literature.

Technical training is the determining and defining expression of a sports branch that reflects the efficiency of the entire sports training process, manifested in competitions. A factor in sports training, it is supported by physical training; a component that supports the characteristics of the movement and that contributes decisively to the increase in performance.

Any approach aimed at improving performance capacity, which is based on objective data, leads to methodical and methodological clarifications for training practice.

The present research aims to highlight the importance of the development of execution speed in karateka athletes, highlighting at the same time the importance of this preparation factor and its determining character in the correct and efficient performance of the phases of a specific technical procedure.

The purpose of the research is to determine the influence that the development of the speed of execution has, as a form of manifestation of the

conditional motor capacity on the level of training of the athletes [5].

In the research, it was started from the hypothesis that by using an adequate planning and selected actuation systems, the speed of execution can be significantly improved.

Research tasks are:

- deepening the knowledge of the problem addressed by consulting the specialized literature;
- establishing the subjects included in the research;
- selection of methods and system of means for the evaluation of subjects;
- initial assessment of subjects, karateka athletes;
- elaboration and application of the proposed ameliorative programs;
- final testing, processing and interpretation of recorded data;
- formulating the conclusions of the preliminary research.

2. Objectives

- Identifying the degree of importance that practice gives to speed of execution in the physical training of karateka athletes.
- Validation of the techniques and tools for evaluating the level of physical training of the athletes included in the research.
- Determining the moments or phases of the movement in which it is necessary to intervene for the correction and consolidation of specific technical procedures, in relation to the rhythm and speed of their execution.
- Establishing the degree of efficiency of the proposed work programs and the necessary intervention directions [2], [3].

3. Material and Methods

3.1. Methods used in research

- The method of theoretical documentation: for the knowledge of new data, which the specialized literature provides, we studied works, textbooks, books of other specialists, as well as materials obtained by using the Internet.
- The observation method: was used throughout the research and aimed at the direct observation of the athletes both in specific training and to monitor their behavior and evolution throughout the entire training period.
- Applied evaluation methods: the technical procedures were selected and applied: Mawashi geri and Gyaku tsuki [1], [8], [9].
- Statistical and mathematical method:
- In order to process the data recorded in the preliminary research, we used the excel analysis program, through which the arithmetic mean, standard deviation, minimum value and maximum value, as well as the T-test for paired samples were analyzed.
- The method of graphic representation:
- It is a method of expressing the meanings of mathematically processed data, so that their presentation allows their correct evaluation by the researcher.

3.2. Organizations and conduct of research

The experimental research took place over a period of 8 weeks, including 15 athletes, all of them being of sex masculin, members of the Sen Craiova Sports Club, during the preparation period for

participation in the National Championship, aged between 20-35.

The samples used in the research (names derived from the martial art Ashihara Karate):

We considered the use of 2 specific samples, respectively:

1) Mawashi geri - consists of kicking forward with the back leg.

From the Kumite dachi position - the fighting position with the left foot in front - the mawashi geri - kick forward with the right foot - is executed on the signal, after which it returns to the initial position [2].

This execution is considered to be done under standard conditions.

The execution is recorded with the help of the video camera, after which, with the help of the image analysis program, the execution time, the reaction time are measured, the trajectory of the foot movement is highlighted, the speed reached by the foot from point a to point b [6].

2) Gyaku tsuki consists in executing a forward punch with the hand that is not on the same side of the front leg.

From the Kumite dachi position - the fighting position with the left foot forward - it is executed on the signal - forward strike with the fist of the right hand - after which it returns to the initial position.

We consider this execution to be performed under standard conditions.

The execution is recorded with the help of the video camera, after which, with the help of the image analysis program, the execution time, the reaction time are measured and the trajectory of the first movement is highlighted, the speed

reached by the fist from point a to point b [6].

Thus, in order to identify the impact of the elaborated programs, initial tests were carried out that aimed to investigate the speed of execution for two technical procedures most often used in kumite competitions.

To verify the validity of the execution speed data, considering the specific technique in the ashihara style, two procedures were chosen, namely Mawashi geri and Gyaku tsuki.

In the following eight weeks, after the initial testing, a specific physical training program was applied in order to develop the motor skills of the athletes, who were tested again at the end of the training period, following the recorded progress.

During the preparation period, the following exercises were mainly applied, about 4-5 times a week:

- Exercises for strength development in speed mode;
- Exercises for the development of coxo-femoral mobility (stretching);
- Exercises to strengthen specific techniques;
- Exercises to strengthen the fighting techniques most often used in competitions: Maegeri, Mawashi geri, Gyaku tsuki;
- Meditation exercises necessary for relaxation both mentally and physically.

4. Results

The results obtained after the initial and final tests were the following:

Table 1
Execution speed results in Mawashi geri at the initial and final testing

Sportsmen	Initial speed [m/s]	Final speed [m/s]
Sportsman 1	1.9	2.45
Sportsman 2	1.93	2.47
Sportsman 3	1.97	2.5
Sportsman 4	1.96	2.46
Sportsman 5	1.99	2.45
Sportsman 6	2.01	2.48
Sportsman 7	2.04	2.46
Sportsman 8	2.06	2.51
Sportsman 9	2.08	2.6
Sportsman 10	2.1	2.65
Sportsman 11	2.15	2.49
Sportsman 12	2.2	2.84
Sportsman 13	2.25	2.8
Sportsman 14	2.35	2.46
Sportsman 15	2.4	2.45

	Initial	Final
Arithmetic mean	2.093	2.538
Standard deviation	0.151	0.128
The minimum value	1.900	2.450
Maximum value	2.400	2.840
T-test for paired samples	0.00000050	
Pearson correlation	0.317	



Fig. 1. *The evolution of the average execution speed*

In Mawashi geri, execution speed records an average value of 2.093 m/s in initial testing, with values ranging from 1.90 to 2.40 m/s. Following the application of the developed means, this parameter improves, the average value being 2.538 meters/second, the minimum value being 2.45 meters/second and the maximum being 2.84 meters/second.

Applying the T-test between the means of the two tests, a value of $t=0.000000050$ was obtained, which demonstrates that execution speeds have improved following the application of the work programs.

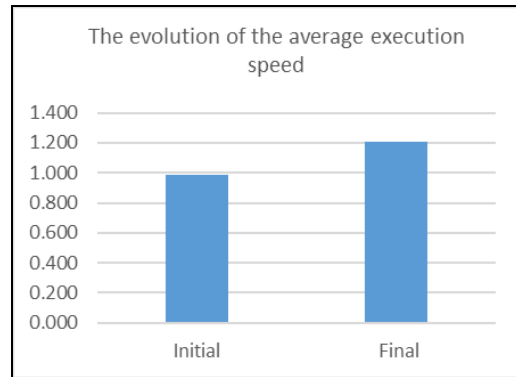


Fig. 2. *The evolution of average execution speed*

Table 2

Execution speed results in Gyaku tsuki at the initial and final testing

Sportsmen	Initial speed [m/s]	Final speed [m/s]
Sportsman 1	0.75	1.06
Sportsman 2	0.83	1.23
Sportsman 3	0.91	1.07
Sportsman 4	0.77	1.15
Sportsman 5	0.8	1.09
Sportsman 6	0.93	1.17
Sportsman 7	0.82	1.21
Sportsman 8	1.01	1.08
Sportsman 9	1.03	1.22
Sportsman 10	0.85	1.09
Sportsman 11	0.96	1.07
Sportsman 12	1.11	1.28
Sportsman 13	1.31	1.62
Sportsman 14	1.36	1.41
Sportsman 15	1.4	1.39

The execution speed recorded in the initial testing in Gyaku tsuki has an average value of 0.989 m/s, with values ranging from 0.75-1.40 m/s. Following the application of the work program, this parameter improves, the minimum value increasing to 1.06 m/s and the maximum to 1.62 m/s, the average value being 1.209 m/s.

Applying the T-test between the averages of the two tests, a value of $t=0.000011585$ was obtained, observing a progress of the execution speed between the two tests.

5. Conclusions

We believe that the results obtained from the tests carried out regarding the training level of the karateka athletes allowed, complementary to the theoretical analysis of the specialized literature, the concretization of the basic principles of the problem, as well as the existing deficiencies in the training practice of the athletes.

	Initial	Final
Arithmetic mean	0.989	1.209
Standard deviation	0.216	0.160
The minimum value	0.750	1.060
Maximum value	1.400	1.620
T-test for paired samples	0.000011585	
Pearson correlation	0.804	

The present study demonstrates that the execution speed of the tested athletes improved, as a result of the training program used, the research hypothesis being thus confirmed.

Like any research, this has certain limits, one of them concerns the number of subjects on which the research was carried out, namely 15 athletes, the results obtained cannot be generalized on a large scale.

Another limit is given by the few existing scientific researches in specialized literature that have dealt with martial arts in particular, the Ashihara Karate style in particular.

The proposed work programs have proven their effectiveness, following their application obtaining positive effects on the level of general physical training of the subjects included in the research, a relative increase in the execution speed values. We can thus state that the obtained results support the beneficial influence of specific training in martial arts on some forms of speed manifestation.

In sports training, the main purpose of the evaluation is to highlight functional changes, presented in the form of adaptation states determined by the influences of long, medium or short-term training.

The conclusions drawn from the analysis of the obtained results will constitute the starting point and, at the same time, the basis for the elaboration of some plans, in some cases, individualized for correcting the entire training process or certain aspects of the training, sometimes going as far as reformulating the training

objectives and pursuing depending on the situation, their completion or reduction [7].

We believe that it is also very important to improve the professional level of practicing coaches in order to use modern technologies in the training process and to carry out periodic control of the training level of karateka athletes.

Following the values obtained after the final tests performed, we appreciate that they can be used as a benchmark for further determinations both for athletes with an average training level and for established athletes, as well as in other styles of martial arts, with technical content and regimen similar competitive effort.

The results obtained in the initial testing helped us to develop appropriate training programs, which led to the achievement, in general, of higher levels of manifestation of motor qualities in the final testing.

We believe that to increase sports performance it is necessary that trainers should also have at their disposal modern, inexpensive, easy-to-apply investigative techniques, through which they can obtain concrete data with a higher degree of fidelity, in order to design training programs.

Most of the subjects included in the research improved their sports results, which entitles us to say that the orientation of the training content of karateka athletes, which is based on concrete data provided by modern investigative techniques, leads to an increase in sports performance.

Although the specialized literature analyzed is not so vast, most of the works have highlighted the role of execution speed in achieving sports performance in karate, many authors who have studied martial arts placing it among the motor qualities that condition the achievement of sports performance.

In order to obtain good sports results in competitions, it is necessary that the training is based on a very well monitored and controlled training program as well as methods and means by which the values of the athletes' motor qualities are developed and maintained at high parameters.

Orienting the content of training programs towards improving motor skills will implicitly contribute to improving the execution speed of technical procedures in karate, the Ashihara style.

Considering all the arguments presented in this research, we believe that the use of modern methods of monitoring execution speed can represent an important tool for coaches involved in the sports training process.

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