



A Training Program (Sensory - Kinesthetic) for Attack Distances and Its Effect on Offensive Skills in Kumite Matches in Karate

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Abstract

The study aims to design a training program (sense-kinesthetic) for the attack distances and test its impact on the offensive skills of the kumite juniors so that the player can perform kicks and punches in the recording areas during the kumite matches. The sample was (50) players aged (14: 15) years, whose weights were as follows (52 kg, 58 kg, 63 kg, 70 kg, +70 kg). The results showed that the training program (Sensory - Kinesthetic) resulted in improvement of offensive performance tests and its components (endurance - maximum speed - endurance speed), as well as improved the direct attack of the kumite players (Kiyako Jerry - Uramawashi Jerry - Kyako Suki Kizame Mwash Jerry - Kyako Suki Kizame Ura Mwash Jerry - Kisami Suki Kiizami Mwash Jerry - Kizame Suki Kizame Ura Mwash Jerry - Kyako Suki - Kizame Suki - Kiyako Suki - O Kizami Uramwash - Jerry Mwash - Kizami Mwash Jerry - Kizami Suki Keizami Mwash - Kiyaki Suki Mwash - Kiyaki Suki Kizame Uramwash - Kiyaki Suki Kizame Mwash - Kayaki Suki Mwash), the training program also improved skill performance right and left using (arms – legs – mixed).

Keywords: Biomechanics, angle of foot rotation at pushing-off, performance level, racewalkers

Introduction

Karate has become widely practiced all over the world and its players are characterized by many

physical, skill, psychological, physiological and mental qualities, and through the boom that occurred inside Egypt in the achievement of its players in the first three places in the





World Championship for juniors and youth, we must maintain this global level and that Relying on training programs that are built on sound scientific foundations and also keeping pace with the times through educational technology, data preservation, and placing training loads, not only to reach the distinguished level, but to maintain it, and there must be a continuous change of duties, whether defensive or offensive, after achieving the goal of the training process "championship." In order to maintain this achievement and to achieve it again.

Indicates" Mahmoud Rabea" (2005) pointed that we must know and determine the artistic styles of the types of punches and kicks the most widely used and used in compound offensive formation for the sport of karate which can be effective if used in the appropriate distance and on time (15:4)

And by looking and scanning Reference for references and scientific research and also to see the amendments to the International Karate Law 2021, which was represented in the different times of matches, calculating points and the number of referees in the stadium.

Coinciding with the offensive performances of the different distances of the kumite juniors and through the results of the visual technical analysis conducted by the researchers for the finals of the Republic Championship for juniors under the age of (14 15,years), as the final match for each group and the final match for the same weight i.e. three matches in each of the five legal weights for the season (2018: 2019).

According to the law of Kumite, the good posture (good form), athletic behavior (sporting attitude), effective powerful application (vigorous application), perception and focus (Zanshin), Awareness, good timing, and correct distance are some conditions for calculating the points by the referee. (9:22)

Therefore, researchers believe that some young players perform an ineffective attack in the registration areas according to the International Karate Law because the player does not realize the distance between him and the opponent to perform effective punches and kicks in the registration areas and does not have the ability to adjust or employ kinetic skills according to the correct distance of punches and kicks during the match And this correct distance is among



the (6) conditions for calculating the points for the referee.

Therefore, the researchers tried to design a training program (sense-kinesthetic) for the attack distances and its impact on the offensive skills of the kumite juniors so that the player can perform kicks and punches in the recording areas during the kumite matches.

Research importance

1. The correct distance to perform the attack in Karate is among the criteria (the (6) conditions for calculating points legally.
2. The distance for juniors to the Jodan area is calculated from no touching up to (10) cm, and for young people from touching to (5) cm, in accordance with the International Law of Karate in accordance with Article "6(28) ."
3. Distance training leads to improved offensive performance which makes the attacker safer to counterattack or be fouled according to the International Karate Law.
4. It also leads to the players' ability to act tactically when the distance is short, medium or long during kumite matches (17:65)

The research aims to design a training program (sensory -

kinesthetic) for attack distances to improve offensive skills during kumite matches in karate

Methods

The researcher used the experimental method by designing the measurement (pre-post) for one experimental group and that is due to its relevance to the nature of the research.

Sample

The research sample was chosen in an intentional way from young players registered in the Egyptian Karate Federation (Menoufia region) from Meet Khaqan Sports Club and Al-May Youth Center and who have a minimum of 1 brown belt, and a black belt (Dan 1) as a maximum, participating in the Republic Championship for the sports season 2018/2019 , whose ages ranged from (14: 15) years, and their number reached (50) players, who were divided into two groups. First, the survey sample which included (10) juniors whose weights were as follows (52 kg, 58 kg, 63 kg, 70 kg, +70 kg) with two (2) juniors in each weight. Second, the basic research sample which included (20) junior, their weights were as follows (52 kg, 58 kg, 63 kg, 70 kg, +70 kg) with a number of (4) juniors in each weight.



The researchers selected the members of the experimental research sample so that they meet the following conditions:

1. The regularity of the players in training.
2. The location of the training ground is close to the place of residence of the players.
3. The sample of the study is close to age, training age, physical abilities and skill.

Data collecting tools

1. The homogeneity of the research sample were conducted for all research members (exploratory and basic) in the growth, the physical variables, the kinesthetic variables, and the torsion coefficient.
2. The researchers surveyed experts to determine the most important physical tests for research and the most important tests for sensory-kinesthetic perception of attack distances and offensive skills for karate beginners (kumite) in its initial form, in order to express an opinion on its validity and suitability in its final form. It consists of (18) tests and is divided into (8) Sensory-kinesthetic tests of attack distances and motor skills and (10) tests of offensive distance skills

Sensory-kinesthetic tests:

1. The test of perceiving the front distance "50 cm", then the performance of Kizami Zuki, then Kiyako Zuki in karate, which aims to measure the kinesthetic sense of the movements of the feet for the required distance and directing the punch by hand (right - left).
2. The test of perceiving the front distance "60 cm" by Kiyako Zuki, then Kizame Mawashi Jerry in karate, which aims to measure the kinesthetic sense of the movements of the feet for the required distance and directing the punch by hand and foot (right - left).
3. The test of awareness of the rear distance "50 cm" in karate, which aims to measure the kinesthetic sense of the movements of the feet for the required distance (right - left)
4. The test of awareness of the background distance "60 cm" in karate, which aims to measure the kinesthetic sense of the movements of the feet for the required distance (right - left).
5. A test of kinesthetic perception of the motor skills of the required target and aims to measure the kinesthetic sense of directing the hand punch and the foot kick

Tests for distances and offensive



skills:

1. The test of the front distance (50 cm) and the performance of the skill of Kizame Zuki and Kiyako Zuki 20" seconds "The aim is to measure the ability to withstand performance with the movements of the feet for the required distance and the performance of the skill of Kizame Zuki and Kiyako Zuki (right - left)
2. The test of the front distance (60 cm) and the performance of the skill of Kizame Zuki, Kiyako Zuki and Kizame cattle Jerry 25" s. "
3. The test of the front distance (70 cm) and the performance of the skill of Kizami Zuki and Kizami Uramawashi Jerry 20" s. "It aims to measure the ability to endurance performance with the movements of the feet for the required distance and the performance of the skill of Kizami Zuki and Kizami Uramawashi Jerry) right - north.(
4. The test of the front distance (60 cm) and the performance of the skill of Kiyako Zuki, Kizami Zuki, and Kizami Uramawashi Jerry 20" s. "
5. The test of sub-directions and the forward distance (60 cm) and the performance of the skill of Kiyako Zuki, Kizami Zuki and Kizame Mawashi 20" seconds. "

Objectives of the survey:

1. Identify the scientific coefficients of the tests used in the research.
2. Identify the appropriate place and tools used to conduct the tests.
3. Determine the tools needed for the measurement process.

Scientific Transactions:

The validity and reliability of the tests used were calculated as follows:

Validity of the test:

The researchers used the validity of differentiation to find the differences between the distinguished and non-distinguished players, where the number of distinguished players was (5) players with advanced positions in the tournaments, and the number of non-distinguished players reached (5) players with less advanced positions in the tournaments, who were chosen in a deliberate way, The tests were applied for the variables of kinetic sense of attack distances, and variables of offensive skills for distances, on Friday, 1/3/2019 AD , to identify the significant differences between the averages of the results of each test) .attachment 1

Test stability:

To find the reliability coefficient, the researchers applied and re-applied the test Test-Re- test On the exploratory research sample





consisting of (10) players, and in the same age group as the research sample, with a week difference between the two applications in the period from 2019/3/2 to 8/3/2019 , and the correlation coefficient was calculated between the results of the first application and the second application) .attachment 1

Preparation of the training program:

The training program aims to identify the effect of a training program (sense - kinesthetic) for attack distances and its effect on offensive skills in kumite matches in karate for the research sample. The researchers analyzed the Republic Championship for Juniors for the 2018/2019 season from the role of (8) for all weights (52 K - 58 K - 63 K - 70 K - Above 70 K) with (3) matches in each balance for the player and competitor, in order to identify the effect of a training program (sensory - kinesthetic) for attack distances to improve offensive skills during kumite matches in karate, Which was relied upon to build the training program

The introductory part (warm-up period):

The warm-up aims to give the athlete the flexibility and elasticity necessary for the muscles, widening blood vessels, increasing the speed of

ventilation and vision, and activating the vital physiological systems necessary for the requirements of body activity.

The main part (the basic training period):

The main part of the training unit contains physical and skill exercises and kinesthetic perception of distances that help to use offensive motor skills through (direct or indirect attack) and that contribute to the development and development of attack distances to improve the offensive skills of the research sample .

The concluding part (the cooling off period):

The concluding part aims to try to return the athlete to his normal state, or as close to it as possible, by gradually reducing the training load using a set of exercises intended to return to the normal physiological state.

Program application:

The researchers applied the training program to the basic research sample from Saturday 14/9/2019 to Friday 6/12/2019, in the training hall of Mit Khaqan Sports Club.

Dimensional measurement:

The researchers applied the dimensional measurement to the



main research sample, and the same judges were used in the tribal measurement on Saturday 7/12/2019.

Statistical processors

The authors used the following statistical parameters:

- Arithmetic Mean
- Improvement ratio equation
- Standard Deviation
- Skewness Coefficient
- T-test
- Pearson's simple correlation coefficient. Simple Correlation (person) coefficient

Exploratory study

An exploratory study for tests (stability – reliability) were conducted from 1/3/2019 to 8/3/2019.

Results and Discussion:

1. Sensory-kinesthetic variables for motor skills and offensive distances

There are statistically differences between measurements nickname and dimensional for sample search in the level of perception (sense-kinesthetic) of attack distances and its effect on offensive skills in favor of dimensional measurements.

Results Table (1) refers to the arithmetic mean and standard deviation of the tests in question in pre and post measurement research sample, as it is clear that there are statistically significant differences between the premeasurement of the sample where the "T" calculated greater than "T" Tabulated .

The results of Table (1), indicate that there are statistically significant differences between the averages of the pre and post measurements of the research sample by the effect of the perceptual-kinesthetic exercises on the offensive distances and some motor skills of the Karate players (under research) in favor of the measurement

Table (1) The significance of the differences between the pre- and post-measurement in Sensory-motor variables under study n = 20

Variables	Tribal measure.	Dimensional Measure.	Mean Diff.	Deflection on Diff.	T* value	Changing rate
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		mean	SD	mean	SD				
1	Kizame Zuki then Kiyako Zuki	4.40	0.89	8.38	0.59	3.98	0.24	16.77	91%
2	Kizami Zuki then Kizami Livestock Jerry	4.30	0.68	8.54	0.46	4.24	0.18	22.99	99%
3	Kizami Zuki and then Kizami Uramwashi Jerry	4.68	0.57	8.66	0.44	3.98	0.16	24.89	85%
4	Kiyako Zuki then Kizame Livestock Jerry	5.16	0.66	8.73	0.35	3.57	0.17	21.44	69%
5	Kizame Zuki then Kiyako Zuki	4.40	0.89	8.53	0.80	4.14	0.27	15.51	94%
6	Kizami Zuki then Kizami Livestock Jerry	4.30	0.68	8.50	0.46	4.20	0.18	22.88	98%
7	Kizami Zuki and then Kizami Uramwashi Jerry	4.68	0.57	8.82	0.22	4.14	0.14	30.37	88%
8	Kiyako Zuki then Kizame Livestock Jerry	5.16	0.66	8.80	0.27	3.64	0.16	22.85	70%
9	Forward distance test (50 cm) Kizame Zuki then Kiyako Zuki	5.40	0.99	8.65	0.36	3.25	0.24	13.74	60%
10	The front distance test (60 cm) Kiyako Zuki then Kizame cattle Jerry	5.35	0.93	8.70	0.41	3.35	0.23	14.70	63%
11	Forward distance test (50 cm) Kizame Zuki then Kiyako Zuki	5.35	0.99	8.65	0.32	3.30	0.23	14.22	62%
12	The front distance test (60 cm) Kiyako Zuki then Kizame cattle Jerry	5.25	0.97	8.70	0.36	3.45	0.23	14.93	66%
13	Back- distance test (50cm)	4.80	0.83	8.71	0.36	3.91	0.20	19.27	81%
14	Back- distance test (60cm)	4.70	0.73	8.75	0.32	4.05	0.18	22.61	86%
15	Back- distance test (50cm)	4.85	0.88	8.76	0.27	3.91	0.20	19.08	81%
16	Back- distance test (60cm)	4.70	0.73	8.78	0.27	4.08	0.17	23.32	87%

*T value (0,05)= 2.093

The results of Table (1) indicate the rates of improvement of the premeasurements over the post measurements of the effect of

sensory-kinetic perception on the Karate players among the kumite juniors (under research) in favor of the dimensional measurement of the





research sample.

The researchers believe that the differences between the averages of pre and post measurements of sensory-kinetic perceptions of the offensive distances among the kumite juniors in Karate (under research) in favor of the dimensional measurement may be due to the use of the training program (sense-kinesthetic) and what it included of sense-kinetic exercises for the different distances and the

in the performance of the experimental group. The reason for the development is due to the kinesthetic-specific training curriculum, which included standardized exercises to acquire a kinetic sense of attack distances and motor skills among the kumite juniors.

This is in agreement with the study of Ahmed Batayn , HassanAl-Widyan , Hussein Hassan (1) (2016) Jamal Alaa El-Din and others (1980) (3), Sameh Abdel-Raouf (1998) (6), and Sami Moheb

basketball, volleyball, so they feel with the ball and the movements of the opponent team members.

2. The tribal measurements and the offensive skills performance

In the variables related to

motor path for kinetic skills in Karate (kumite)

Through the foregoing presentation and analysis of the previous table, it is clear that there is a development of tests for the abilities of the emerging players in the “kumite” sport of the experimental group.

The researchers believe the reason for the great development that occurred

Hafez (1992) (7), And Siham Ahmed Al-Nuaimat (1997) (8), Amr Hassan Al-Sukari (1990) (11) and Wael Fawzi Ibrahim (2006) (19), and Wael Muhammad Hassan (20) (2005) that the practice of sports activity imposes on the player certain advantages From the special sensory-kinesthetic perception, the Karate player has sensory perceptual abilities that differ from the player of football, basketball and other games, as the Karate player has sensory-kinesthetic perception limited to the opposing player in the motor skills expected of him and the legal playing field allocated to the Kumite player in Karate . Football,

distances and offensive skills under consideration, results in table (2) refers to the arithmetic mean and standard deviation of the tests in question in pre and post measurement research sample, as it





is clear that there are statistically significant differences between the tribal measurement of the sample where the "T" calculated greater than "T" Tabulated .

It is clear from Table (2), which shows the value of the arithmetic mean and the standard deviation of the tests of offensive skills under discussion in the pre and remote measurements of the research sample

The results of Table (2) indicate that there are statistically significant differences between the averages of the pre and remote measurements of the research sample for the tests of the offensive skills of the Karate players (under research) in favor of the measurement.

The results of Table (2) also indicate the rates of improvement of the pre measurements over the post measurements in the offensive skills of the Karate players among the kumite juniors (under research) in favor of the dimensional measurement of the research sample.

The researchers believe that the differences between the averages of the tribal and remote measurements of offensive skills of the kumite juniors in karate (under research) in favor of the dimensional measurement may be due to the use of the training program (sense - kinesthetic) and the sense-kinetic exercises it included for the offensive skills in karate (kumite).

Through the foregoing presentation and analysis of the previous table, it is clear that there is a development of tests for the abilities of the emerging players in the "kumite" sport of the experimental group.

The researchers believe the reason for the great development that occurred in the performance of the experimental group. The reason for the development is due to the kinesthetic training curriculum, which included standardized exercises to acquire a kinetic sense of distances and offensive skills, and this is in agreement with Mohammed Allawi (1990) and Wajih Shamandi (2002)(20) that a successful player

Table (1) The significance of the differences between the pre- and post-measurement in the variables under study n = 20

Variables	Tribal measure.		Dimensional measure.		Mean Diff.	Deflection Diff.	T value*	Change rate
	mean	SD	mean	SD				





1	The front distance test (50 cm), then Kizame Zuki and Kiyako Zuki (20s)	28.65	3.41	37.5	2.4	8.85	0.93	9.5	31%
2	The front distance test (60 cm), then the performance of Kizame Zuki, Kiyako Zuki and Kizame Mawashi Jerry (20 sec)	27.6	2.62	38.3	1.42	10.7	0.67	16.05	39%
3	Forward distance test (70cm), then Kizami Zuki and Kizami Uramawashi (20sec)	27.05	2.5	38.7	1.66	11.65	0.67	17.36	43%
4	The Forward Distance Test (60cm), then the performance of Waukiko Zuki, Kizame Zuki, and Kizame Uramawashi Jerry (20sec)	26.95	1.99	38.1	2.07	11.15	0.64	17.36	41%
5	Direction and forward distance (60 cm), then Kiyako Zuki, then Kizami Zuki and Kizame Mawashi (60cm) in (20 sec)	26.35	2.56	36.2	1.7	9.85	0.69	14.32	37%
6	The front distance test (50 cm), then the performance of Kizame Zuki and Kiyako Zuki (20 sec)	29.4	2.5	38.15	2.06	8.75	0.72	12.08	30%
7	The front distance test (60 cm), then Kizame Zuki, Kiyako Zuki and Kizame Mawashi Jerry (20 sec)	28	2.32	38.45	1.32	10.45	0.6	17.54	37%
8	Forward distance test (70cm), then Kizami Zuki and Kizami Uramawashi (20sec)	27.55	2.58	38.55	1.5	11	0.67	16.45	40%
9	The Forward Distance Test (60cm), then Waukiko Zuki, Kizame Zuki, and Kizame Uramawashi Jerry in (20s)	27.05	1.96	38.2	2.02	11.15	0.63	17.74	41%
10	Direction and forward distance (60 cm), then Kiyako Zuki, then Kizami Zuki and Kizame Mawashi (60m) in (20 sec)	26.85	1.53	36.26	1.52	9.41	0.49	19.25	35%

*T value (0,05)= 2.093

who is able to respond to the speed of the motor right offensive skills at the moment when the exciting shows.

These results are also in agreement with what Imad Al- Sirsi (2001)(10), Bradley, said Bradley

(2000)(23), Nashayama and Richard Nashayama , Richard (1990) (25), Ahmed Ibrahim (1991) ,(2) that karate (kumite) is one of the sports that is characterized by rapid motor performance and sudden and rapid change, which requires the ability to





quickly realize the appropriate offensive skills, due to the changing conditions and conditions of play throughout the match period.

Conclusions:

1. Improvement of offensive performance tests and its components (endurance - maximum speed - endurance speed)
2. Improvement of the direct attack of the kumite players (Kiyako Jerry - Uramawashi Jerry - Kyako Suki Kizame Mwash Jerry - Kyako Suki Kizame Ura Mwash Jerry - Kisami Suki Kiizami Mwash Jerry - Kizame Suki Kizame Ura Mwash Jerry - Kyako Suki - Kizame Suki - Kiyako Suki - O Kizami Uramwash Jerry Mwash - Kizami Mwash Jerry - Kizami Suki Keizami Mwash - Kiyaki Suki Mwash - Kiyaki Suki Kizame Uramwash - Kiyaki Suki Kizame Mwash - Kayaki Suki Mwash).
3. Improved skill performance right and left using (arms – legs – mixed).

Recommendations:

Based on the data and the most important results and conclusions reached by the research and within the limits of the research sample and its fields, the following recommendations can be made:

1. The use of kinesthetic exercises under discussion to determine the training status of kumite players
2. Work on applying the sensory-kinesthetic program to improve the offensive performance of the varying distances in the junior sector.
3. Using the tests contained in the research for the purposes of measurement, evaluation and training in karate.
4. Paying attention to training planning and developing training programs based on scientific foundations that are appropriate for each age stage in the training process.
5. Paying attention to the offensive tactical aspect to achieve the highest degree of effectiveness in the attack, and then saving the effort.
6. Conducting more similar research related to sensory-motor abilities under investigation in other variables and at different age stages.

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