



## *The impact of Training methods on learning the kata skill in karate do*

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### **Abstract:**

The impact of Training methods on learning the kata skill in karate do, (A field study on the age group 10- 12 years old of a team of karate do in tebessa).

the aims of our research is detect the best training methods for learning the kata skill in the karate do for the age group targeted, and giving proposals to attain the goals of the kata skill learning whilst wining effort and time.

the hypotheses of this research, that there is a relationship between learning the kata skill in the team of karate do of tebessa and it's training methods.

The method followed in our research was the experimental method Where we measured the level of the athletes in an initial test and prepared a training program for them that contains the three training methods for teaching the kata skill in karate-do. After a period of time, we repeated a second test in which we measured the level of athletes in performing the same kata.

**Keywords:** *Training methods; kata; karate do; The age group (10-12 years).*

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## 1. INTRODUCTION

Martial arts is the destination of the majority of those wishing to practice sports in different age groups, and this is due to the obsession with self-defense from all threats that may threaten the lives of individuals, and the Karate Do has the largest number of practitioners at the level of the city of Tebessa and its municipalities, as it's considered a fights that has arbitration controls and practice conditions, and it also include very similar disciplines. The Kata is a specialty in the sport of karate-do, in which the athlete performs a set of successive and coordinated movements that have a beginning and an end, in which both hands participate. And the legs and postures, as well as changing the position to weave a skill that is beautiful in appearance, wonderful in performance, during which the athlete exerts his maximum energy in all physical, motor and psychological aspects until he masters it, and it is the place for competitive and elite tournaments from the circular roles, then state and national until elite athletes reach the continental competitions , regional and international, not to mention that the performance of this skill is considered necessary in the exams to pass the belts for all athletes according to the degree from beginners to skillful ones, as each level has a type of kata Specific to traverse it and pass to a higher level.

The kata skill represents a major part of the sport of karate-do, prepared by skilled trainers based on their experience in sports disciplinessignificant which contain a number of defensive and offensive techniques, evasion techniques, and breathing and movement exercises. They are performed in an orderly and sequential manner, with great concentration within a specific area, and some schools require Defensive return to starting position. (Abdul Karim, 2004, p. 114).

Since the sports season is short and includes various qualifying courses for senior roles, in addition to scheduling belt exams in the calendar for distributing sports season activities of the Algerian Karate-Do Federation, every athlete must perform the skill during the exam.

In order for the athlete to acquire, perform, and master the skill, the coach must teach it to him according to the available training methods, so that he acquires it by learning, then performs it automatically, and then masters it according to its judgment. The conditions and controls are such that they are evaluated by examiners in belt passing exams and also by judges in competitions.

With this in mind, we find ourselves facing the following problem:

**Is there a relationship between the training methods (total, partial and mixed), and learning the kata skill in Karate Do?**

**Sub-questions :**

1- Are there statistically significant differences between the first and the second tests in favor of the second test in relation to the total method?

2- Are there statistically significant differences between the first and the second tests in favor of the second test with regard to the partial method?

3- Are there statistically significant differences between the first and the second tests in favor of the second test for the mixed method?

## **2. RESEARCH ASSUMES:**

Jazia Kiran says that the hypothesis is: "a suggestion or an idea in which the researcher noticed something prominent that aroused his interest and attention, and is suitable as an explanation for the phenomena he witnessed." (Kiran, 2008, p. 28).

And through the theoretical background, we can put the following hypotheses to start work on its basis:

### **2.1. General Hypothesis:**

There is a relationship between the training methods (total, partial and mixed), and learning the kata skill in Karate Do.

### **2.2. Partial Hypotheses:**

A- There are statistically significant differences between the first and second tests in favor of the second test in relation to the total method.

B- There are statistically significant differences between the first and second tests in favor of the second test with regard to the partial method.

C- There are statistically significant differences between the first and second tests in favor of the second test with regard to the mixed method.

## **3. RESEARCH AIMS:**

- ❖ Introducing the training methods adopted in learning the kata skill in karate-do.
- ❖ Knowing the most effective training methods for teaching the skill.
- ❖ Directing trainers towards the most effective training methods to gain effort and time in teaching the skill.

## **4. RESEARCH IMPORTANCE:**

The importance of the study lies in trying to raise the level of training in the field of martial arts, especially with regard to teaching the kata skill in karate-do, which is considered an integral part of the practical practice of the specialist, by providing trainers with the necessary knowledge to gain time and effort in order to achieve the specific goal. It is the achievement of learning the skill so that they can be evaluated by judges in sports competitions as well as by examiners in belt passing tests.

## **5. RESEARCH METHODOLOGY:**

The subject of the research is a study to reveal the effect of training methods on teaching the skill of kata in Karate Do by conducting a test for the skill level of the sample available for study for this sport, then we applied a training program for each of the three groups for the specialty and after For about two months, we repeated the same test on the sample, and to achieve this, the most appropriate approach for our study is the experimental approach, and this is to ensure the validity of our hypotheses.

This approach is considered one of the most effective and accurate approaches to sports training because it is closer to objectivity, in which the researcher can control the various factors that affect a studied phenomenon.

## **6. RESEARCH POPULATION AND SAMPLE:**

### **6.1. RESEARCH POPULATION:**

Our research population is the age group (11-12 years old) of a team of karate-do Tebessa.

### **6.2. THE RESEARCH SAMPLE:**

The sample of the study included one group for a karate-do team in the age group (11-12 years old), with The same capabilities and physical preparations.

### **6.3. HOW TO SELECT A RESEARCH SAMPLE:**

The sample was selected through a random drawing of the age groups for karate, and then the group selected in a random drawing from their team was subjected to the scientific study of the subject of this research.

We conducted our study on the team a karate-do team affiliated with a sports association in the city of Tebessa, where our study was confined to the age group (11-12 years old)

We applied the test to a group of 12 karate-do athletes. We divided them all into three groups (4 + 4 + 4). The division also underwent a lottery process to form the three groups.

The performance level of the kata (heian sandan) in karate-do was measured in a second test by the judges in this discipline, and the results of that test were saved.

A training program was drawn up for each of the three groups in karate-do for about 08 weeks. Each group had a specific goal, and it was as follows:

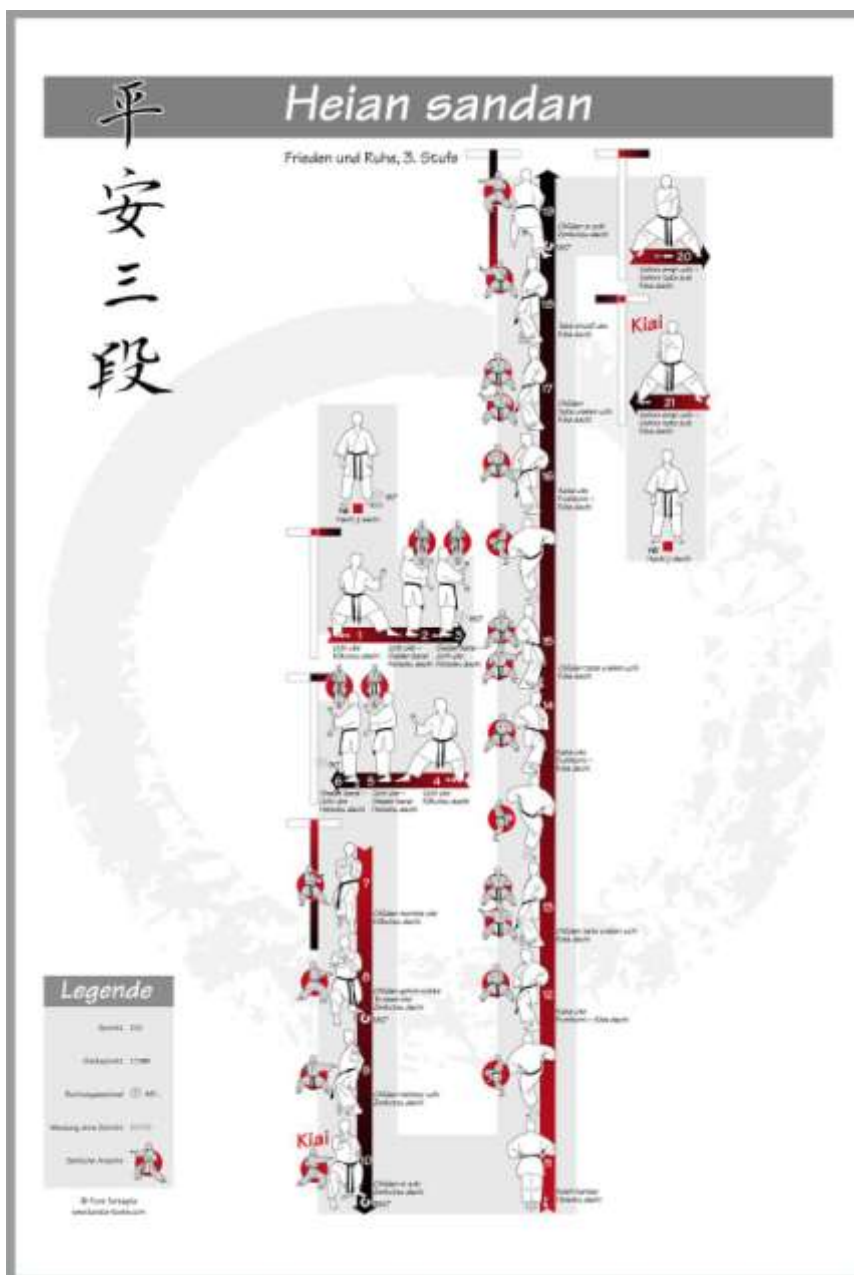
**The first group:** the total method of education and crystallization.

**The second group:** adopting the partial method in education and crystallization.

**The third group:** Adopting the mixed method (partial and total) in education and crystallization.

After approximately 08 weeks of training and applying the lined program for each of the three groups, the arbitration staff for karate do were re-called to supervise the second-evaluative test for the same sample, and the results of the second test were taken for study, and we subjected the results obtained in the two tests to the statistical study.

Figure (01): shows a schematic diagram of (Heian sandan).



**7. PRESENTATION, ANALYSIS AND DISCUSSION OF THE RESULTS OF THE HYPOTHESES:**

**7.1. PRESENTATION, ANALYSIS AND DISCUSSION OF THE RESULTS OF THE FIRST HYPOTHESIS:**

**7.1.1. PRESENTATION OF THE RESULTS OF THE FIRST HYPOTHESIS AND ITS ANALYSIS:**

There are statistically significant differences between the first and the second tests in favor of the second test in relation to the total method.

The T-test was applied to two related samples in calculating the first hypothesis:

**Table (01): The first and the second test for the total method.**

the test	The arithmetic mean of the first test	The arithmetic mean of the second test	The standard deviation of the first test	The arithmetic mean of the second test	Values (T)	probability value (Sig.)	significance level
The first group of the karate team	19,01	20,70	0,102	0,295	-10,427	0,002	0,05

Through the results of Table (01): Comparing the results of the first and the second tests of the first group subject to the total method after applying the training program, where they achieved in the second test an arithmetic mean and a standard deviation estimated, respectively, by: (19.01 and 0.102), and in the first test The second test has an arithmetic mean and a standard deviation estimated, respectively, at: (20.70 and 0.295) for karate-do.

**7.1.2. DISCUSSING THE RESULTS OF THE FIRST HYPOTHESIS:**

hit value (T) Calculated (- 10,427) and the probability value(Sig.)(0.002) for the first and the second tests, both of which are smaller than the level of significance (0.05), so the differences are significant in favor of the second test, and from it we conclude that there are statistically significant differences between the first and the second tests in favor of the second test with regard to the total method of karate do.

**It can be said that the first hypothesis has been fulfilled.**

## 7.2. PRESENTATION, ANALYSIS AND DISCUSSION OF THE RESULTS OF THE SECOND HYPOTHESIS:

### 7.2.1. PRESENTATION AND ANALYSIS OF THE RESULTS OF THE SECOND HYPOTHESIS:

There are statistically significant differences between the first and the second tests in favor of the second test with regard to the partial method.

T-test applied for two related samples in calculating the second hypothesis:

**Table (02): It represents the first and the second test for the partial method.**

the test	The arithmetic mean of the first test	The arithmetic mean of the second test	The standard deviation of the first test	The arithmetic mean of the second test	Values (T)	probability value (Sig.)	significance level
The second group of the karate team	19,27	21,09	0,185	0,296	-9.803	0,002	0,05

Through the results of Table No. (02): Comparison of the results of the first and the second tests of the second group subject to the total method in the training program, where they achieved in the first test an arithmetic mean and a standard deviation estimated, respectively, by: (19.27 and 0.185), and in the second test An arithmetic mean and a standard deviation estimated, respectively, at: (21.09 and 0.296) for karate-do.

### 7.2.2 DISCUSSING THE RESULTS OF THE SECOND HYPOTHESIS:

hit value (T) Calculated (-9,803) and the probability value(Sig.)(0.002) for the first and the second tests, both of which are smaller than the level of significance (0.05), so the differences are significant in favor of the second test, and from it we conclude that there are statistically significant differences between the first and the second tests in favor of the second test with regard to the partial method of karate do.

**And from it we can say that the second hypothesis has been achieved.**

### 7.3. PRESENTATION, ANALYSIS AND DISCUSSION OF THE RESULTS OF THE THIRD HYPOTHESIS:

#### 7.3.1. PRESENTATION AND ANALYSIS OF THE RESULTS OF THE THIRD HYPOTHESIS:

There are statistically significant differences between the first and the second tests in favor of the second test with regard to the mixed method.

T-test applied for two related samples in calculating the third hypothesis:

**Table (03): The first and the second test for the mixed method.**

the test	The arithmetic mean of the first test	The arithmetic mean of the second test	The standard deviation of the first test	The arithmetic mean of the second test	Values (T)	probability value (Sig.)	significance level
The third group of the karate team	19,49	23,40	0,585	0,611	-12,213	0,001	0,05

Through the results of Table (03): Comparing the results of the first and the second tests of the first group subject to the mixed method (partial college) in the training program, where it achieved in the first test an arithmetic mean and a standard deviation estimated, respectively: (19.49 and 0.585), In the second test, an arithmetic mean and a standard deviation estimated, respectively, at (23.40 and 0.611) for karate-do.

#### 7.3.3. DISCUSSING THE RESULTS OF THE THIRD HYPOTHESIS:

hit value(T)Calculated (-12,213) and the probability value(Sig.)(0.001) for the first and the second tests, both of which are smaller than the level of significance (0.05), so the differences are significant in favor of the second test, and from it we conclude that there are statistically significant differences between the first and the second tests in favor of the second test with regard to the mixed method of karate do.

**And from it we can say that the third hypothesis has been fulfilled, which indicates the fulfillment of the overall general hypothesis**



## **8. COMPARING THE RESULTS OF THE THREE TRAINING METHODS:**

The three groups for the major is homogeneous in term of performance level, and after subjecting them to different training programs that included: total, partial, and mixed successively, and through the results given in the statistical treatment in the following table :

From here we conclude that there is a relationship between the training methods (total, partial and mixed), and learning the kata skill in Karate Do, and that the most effective and best training method in the skillful educational process is the mixed method for the age group ( 10–12 years) for Karate Do, as this conclusion can be generalized to the same age group of the specialist for the region of Tebessa Province because they share morphological and environmental characteristics.

## **9. FUTURE SUGGESTIONS:**

Our research resulted in data that directed us to put forward some suggestions regarding the necessity of adopting trainers, especially in teaching kata skill for the aforementioned age group, for Karate-Do as follows:

- ❖ Adopting the mixed method (partial and total) for the smaller groups more than other methods because of its significant impact on the achievement of skill learning in parallel with the gain of time and effort with the achievement of the goal in an optimal way.
- ❖ The need to master the evaluation methods to know the achieved level compared to the required level.
- ❖ Taking into account the diversification of training methods to break the obsession with routine in the smaller groups and achieve better goals.
- ❖ The necessity of training the trainers academically in the theory and methodology of sports training, taking into account the individual differences of the athletes
- ❖ The necessity of familiarizing the trainers with the laws of the practiced sport and teaching the laws to the athletes.

Finally, we must point out that our work is only a starting point for addressing scientific research topics and other problems in order to address similar topics in one or more variables and enrich the field of science and techniques of physical and sports activities.

## **10. CONCLUSION:**

As trainers, we must be convinced that the athlete's guardian brings his son to us so that we can teach him the ABCs and foundations of practicing karate. It is also necessary for us to be convinced that athletes are considered a trust in our hands. Our primary mission is to maintain their safety in the health and psychological aspects, and then set goals to lead them to achieving titles in various sporting events, because "today's child is tomorrow's hero," without forgetting that our mission is to participate with the family and the school in preparing citizens with good behavior. And positive actors in their community.

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- Appendices

**Results of the first test for the first group of karate-do**

1	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	6.8	6.6	6.4	6,8	6,4	19.8	0.7	13.86	19.14
physical behavior	5.8	5.8	6	6	5.6	17.6	0.3	5.28	
2	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	6.8	6.6	6.4	7	6.2	19.8	0.7	13.86	18.96
physical behavior	5.6	5.6	5.8	6.4	5.6	17	0.3	5.1	
3	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	6.4	6.6	6.2	6	7	19.2	0.7	13.44	18.9
physical behavior	6	6.2	6	6	6.4	18.2	0.3	5.46	
4	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	6.8	6.6	6.4	6,8	6,4	19.8	0.7	13.86	19.02
physical behavior	5.6	5.6	6	6.2	5.4	17.2	0.3	5.16	

**Results of the second test for the first group in Karate-Do**

1	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	7	6.8	6.8	7	6,4	20.6	0.7	14.42	20.48
physical behavior	6.4	7	6.8	6.4	7	20.2	0.3	6.06	
2	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	7.4	7.2	7.2	7	7.6	21.8	0.7	15.26	21.02
physical behavior	6.4	6.6	6.2	6	7	19.2	0.3	5.76	
3	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	7	6.8	6.8	6.4	7	20.6	0.7	14.42	20.42
physical behavior	6.6	6.8	6.6	7	6.4	20	0.3	6	
4	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	7.2	6.8	7	6,8	7.4	21	0.7	14.7	20.88
physical behavior	6.6	7	7	7.4	6.2	20.6	0.3	6.18	

**Test des échantillons appariés**

Paire 1	الاختبار القبلي - الاختبار البعدي	Différences appariées	t	ddl	Sig. (bilatéral)
		Intervalle de confiance de la différence à 95 %			
		Supérieur			
		-1.178-	-10.427-	3	.002

Results of the first test for the second group of karate-do

1	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	6.4	6.6	6.6	6,8	6.2	19.6	0.7	13.72	19.06
physical behavior	6	6	5.8	5.4	6.4	17.8	0.3	5.34	
2	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	7	6.8	6.4	6.2	7	20.2	0.7	14.14	19.3
physical behavior	5.8	6	5.4	5.4	6.2	17.2	0.3	5.16	
3	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	7	6.6	6.8	7	6.4	20.4	0.7	14.28	19.5
physical behavior	6	5.8	5.6	5.4	7	17.4	0.3	5.22	
4	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	6.4	6.6	6.8	7	6,4	19.8	0.7	13.86	19.2
physical behavior	6.2	6	5.6	6	6.4	17.8	0.3	5.34	

Results of the second test for the second group in Karate-Do

1	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	7	7.2	7	7.4	6.8	21.2	0.7	14.84	21.14
physical behavior	6.8	7	7.2	7.4	6.6	21	0.3	6.3	
2	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	7.8	7.4	7	7	7.8	22.2	0.7	15.54	21.48
physical behavior	6.4	6.8	6.6	6.4	7	19.8	0.3	5.94	
3	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	7.4	7	6.8	7.6	6.4	21.2	0.7	14.84	20.9
physical behavior	6.8	6.8	6.6	6.4	7.2	20.2	0.3	6.06	
4	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	7	7.2	6.8	7.4	6.6	21	0.7	14.7	20.82
physical behavior	7	6.6	6.8	6.6	7.2	20.4	0.3	6.12	

Test des échantillons appariés

	Différences appariées	Intervalle de confiance de la différence à 95 %	Supérieur	t	ddl	Sig. (bilatéral)						
							Paire 1	الاختبار القبلي - الاختبار البعدي	-1.229-	-9.803-	3	.002

Results of the first test for the third group of karate-do

1	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	7	6.8	6.4	7	6,4	20.2	0.7	14.14	19.48
physical behavior	5.8	6	6	5.8	6.4	17.8	0.3	5.34	
2	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	6.6	6.8	6.4	7	6,4	19.8	0.7	13.86	19.32
physical behavior	6	6.2	6	6.4	6	18.2	0.3	5.46	
3	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	6.8	6.4	6.4	6.8	6,4	19.6	0.7	13.72	18.88
physical behavior	5.8	5.6	5.8	6	6	17.2	0.3	5.16	
4	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	7	7.2	6.8	7	6.6	21	0.7	14.7	20.28
physical behavior	6.2	6	6.4	6.2	6.6	18.6	0.3	5.58	

Results of the second test for the third group in Karate-Do

1	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	8.2	7.6	7.4	7.4	8.2	23.2	0.7	16.24	22.66
physical behavior	6.8	7.2	7.4	7	7.6	21.4	0.3	6.42	
2	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	8	7.6	7.8	7.2	8	23.4	0.7	16.38	23.22
physical behavior	7.4	7.6	7.8	8	7.2	22.8	0.3	6.84	
3	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	8	8.2	8.2	8.6	8	24.4	0.7	17.08	23.62
physical behavior	7.6	7	7.2	8	7	21.8	0.3	6.54	
4	judge 1	judge 2	judge 3	judge 4	judge 5	total	postman	result	sum
technical behavior	8.4	8	8	7.8	8.6	24.4	0.7	17.08	24.1
physical behavior	7.8	8	7.6	7.4	8	23.4	0.3	7.02	

Test des échantillons appariés

	Différences appariées	t	ddl	Sig. (bilatéral)
	Intervalle de confiance de la différence à 95 %			
	Supérieur			
Paire 1 الاختبار القبلي - الاختبار البعدي	-2.891-	-12.213-	3	.001