

The Effect of Some Mosston Methods on the Control Center and Outcomes of Learning Kata in Karate

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Introduction and problem of the research:

Methods are considered one of the main pillars of the process of effective teaching in the field of physical education and sports as effective teaching is not just a job performed by anyone but, it is the process of design of a multi-pronged project which has known boundaries and foundations connected directly with the peculiarities of that class that trained by it. For this, the understanding of these peculiarities and the factors influencing the teaching process are considered among the basic rules that must be known by the workers in the teaching field and understanding of the various aspects that decisions taken for them to make teaching methods. (18: 22)

Teaching is a purposeful educational process, which takes into account all components of the education, where through it both the teacher and students collaborate to achieve the educational objectives, it is also a selective social process in which parties of interest by the educational process such as

administrators, workers, professors and students, for the purpose of learners' growth and to respond to their wishes and their characteristics, and to select the knowledge, principles, activities and actions that suit them and at the same time consistent with the age and the requirements of social life. (22: 103)

"MoscaMoston" (1994) indicates that the term of teaching method had been chosen for twenty years ago, to distinguish between teaching specifications, and the terminology in circulation at that time, as contexts, forms and fields. "Afaf Abdul-Karim" (1990) adds that modern teaching methods, which have emerged in 1966, and were established by (MuskaMoston), have been applied in the field of physical education and sports, and since that time teachers have worked successfully ". (14:111)

Mosston, Ashourth, (1994) agreed that teaching is a series of decisions, which vary between the stages of skill learning whether it's before the lesson or in the stage of actual

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performance or after the lesson, and they point out that the different teaching methods are the real means of communication of the messages of education, whether the content of this message is cognitively, skillfully or psychologically, and teaching methods specializes in the teacher, so teacher must choose the best methods that suit his abilities and the learners' verbal and psychomotor abilities and also their interests, experience and the number of learners. (30: 6)

There are ten sequential methods that start with commands method and end with a manner of self-teaching and all between them from many ways as (method of guided discovery, interactive method, training method, method of self-examination, embedding method, self-revision), and those methods give teachers the freedom to move from method to another and the appropriate use according to the need, the individual differences of the learners, the surrounding air, the available possibilities, and the purpose of teaching, and these methods that made by Moston are serialized

according to decision-making for the teacher and the student during the three stages in the lesson planning, implementation and evaluation. (33) (12: 78)(25: 261)

"Mahmoud Abdel-Halim" (2006) indicates that command method (demo method) in which the teacher is one of the primary sources for the knowledge organization and transfer to the student and also acts as a teleprompter for information while the role of the student is the receiver to these information without discussion or giving opinions and the teacher is the decision-maker and takes his own decisions in all aspects of the educational process of planning, implementation and evaluation. (24: 54)

"NawalShaltout and MervatKhafajah" (2002) indicate that the learning method by discovery makes the student involved in the education process, under the supervision of the teacher. In this method the student plays basic role in learning, where the student notes, sees motor skills and apply them and collect data and information about them as well as the student may take by decision

until reach the optimal performance. (29: 96)

Guided discovery method, as a teaching method, distinguishes several attributes which can make it at the forefront of various teaching methods if the possibilities available this, and from the most important advantages of this method that it makes the learner the center of the educational process and so it helps to develop the capacity of the learner's self-learning, this method also makes learning is an ongoing process does not end once you finish the lesson, but continue beyond, where the lesson often ends with questions calling for the learner to continue the research, study and survey, in addition to that output of discovery learning is more staying of information and concepts to be used whenever he needs. (11: 196)

The interactive method is also considered from modern teaching methods that relies on interaction among colleagues to correct errors, therefore, so this method shows the capabilities of the educated to deal and communicate with each other. From the advantages of this method is to

provide sufficient time for the application and make the learner more independent, it is also useful in the first phase of teaching skills when learners need to important learning aspects to help them to correct their performance and contribute to develop the cooperative behavior, It can also be used with learners who wish to practise teaching or training, because it opens the way for them to take the appropriate decisions, and they can use the feedback in extensive way and the results of individual achievement are clear through the application process for this method, as from the concrete facts that affects learning and improves achievement is to know the results of the work and in the light of this, it is possible to give feedback to the things that can be corrected by colleague observing or by the teacher, and learning skills using interactive method conveys a degree of responsibility from teacher to student , which increases the student interaction and their positiveness as well as increasing the time of application of the students of the skill intended and times

they repeat them so, the important entrenched technical aspects of their performance increases and their neurological motor system takes opportunity for training on the proper technical performance of the skill, which may have a positive impact on the development of their performance skill with great effect. (32: 200)

Also, this method has significant impact on the social and emotional growth of the students and also can contribute to cognitive and physical growth of students in addition increasing their skillful level of performance. (31: 62)

Due to the importance of guided discovery and interactive methods, they have been chosen to apply in kata learning as the discovery method urges the student to search, and grows the cognitive development, and interactive method provides educational and social attitudes which help to self-control when exchanging different roles which gives the student a chance to be teacher and performer where feedback plays an important role in this method.

In the opinion of many researchers in sports psychology, that the concept of the control center is from one of the important psychological concepts that will help the individual athlete to evaluate his performance and results with the knowledge of the causes that lead to success or failure.

"Farouk Abdel-Fattah" (1981) indicates that the control center is the individual's sense of control over external events that could affect him, where there are two categories of control centers, which are internal control category and external control category. Members of internal category are characterized by that they believe that they are with responsibility for what is happening, and that their characteristics and personal abilities will help them to success or fail. The members category of external control are characterized by that they believe that they are not responsible for what happens to them, where they return it to an external force cannot be controlled, and this force is due to luck, chance or the strength of others, and it controls their destiny, and return their success or failure to this force (17: 277)

"Osama Ratb" (1995) suggests that the individual

superior athletic has greater degree of internal control in exchange for low degree of external control, since he explains his achievements in light of the personal factors under his control, and in the light of his abilities, and the amount of effort he made, and his response of failure is less negative and has a high degree of perseverance and determination, he also can develop his objectives in line with his abilities and level of ambition. (3: 82)

Ahmed Mahmoud Ibrahim (2009) refers that (kata) is the real essence of the karate sport , and one of the poles of the sport and also the right and effective way to understand the skill performance of the forming methods of the constructivist structure of karate sport. (Kata) is considered from the best ways to develop the level of achievement of the methods skills (defensive and offensive and the ability to self-defense. (1: 45.46)

Ahmed Mahmoud Ibrahim and Atef Mohamed Abaza (2005) agree that the kata is a set of defensive and offensive skills of rejection, punching, beating, kicking and unbalancing performed by an individual of different modes simultaneously and in consecutive manner in directions and different speeds using hands and feet, with

logical sequence against fictitious competitors according to coordination internationally recognized and it is considered as a fundamental pillar in the promotion of the belts tests. (2: 157)

The kata performance requires certain specifications and precise technique that need to kinetic capabilities and special requirements for performance, so it has to interest in searching for scientific methods and techniques that link the student for optimum performance and help to perform the correct technique for different skills.

The idea of research had been known when the researcher noticed through her teaching of karate performance that the level of kata performance of students in the third year is less than the expected to reach, and that the students` experience for new situations or surprise or even some ambient conditions may also affect the control center which is reflected on the performance level , which makes the researcher to put a proposal program using both guided discovery and interactive methods and knowledge of their influence on the control center, in addition to improving outcomes of kata learning (the level of skillful performance as

well as cognitive achievement and emotional side).

Research goals :

The research aims to design and apply an educational program using Mosston`s methods represented in (commands method ,a method of guided discovery, and interactive method) in order to identify the:

1- extent of the impact of each of them on the control center for the students

2- extent of the impact of each of them on kata learning in karate represented in (the performance level of kata , and the level of cognitive achievement and emotional aspect).

Research hypotheses :

1- There are significant differences between the pre-measurement and post-measurement for the control group(commands method) for post-measurement at the control center and outcomes of kata learning (skillful - cognitive - emotional).

2 - There are significant differences between the pre-measurement for the first experimental group (guided discovery method) for post-measurement at the control center and outcomes of kata learning (skill - cognitive - emotional).

3. There are significant differences between the pre-measurement ad post-measurement for second

experimental group (interactive method) in favor of post-measurement in the control center and outcomes of kata learning (skill - cognitive - emotional).

4 - There is improvement rate of post-measurements for each of the three groups (the control group, the first experimental group, and the second experimental group) at the control center and outcomes of kata learning (skill - cognitive - emotional).

Research terms:

Method:

"Outstanding figure in the implementation of the lesson taken by the teacher as a way to teach students." (10:57)

Method of guided discovery:

" indirect way in teaching that depends on the teacher`s guide for learners to involve them in learning process by showing a set of verbal questions that represent kinetic stimuli followed by kinetic response from the learners in the right direction for the kinetic performance using some mental processes and previous experiences." (9: 164)

Interactive method:

" Method of dividing the students within the same group into couples to work together interchangeably; one leads, and

other observes and adjusts. The role of the observation is to provide feedback with information for the performer regarding her performance and help her to determine when she can get the job done and how. (20: 183)

Control center :

"The extent of individual's sense of control over external events that can affect him," and individuals are divided into two categories :

- Internal control category: They are individuals who believe that they are responsible for what happens to them.

- External control category: They are individuals who they believe they are not responsible for what happens to them, where they turn this to external forces they cannot control them (17:24)

Learning outcomes:

"Learning outcomes are all acquired by the learner from knowledge, skills, attitudes and values as a result of a certain educational experience and studying a specific curriculum. It is also the measurement change in the level of student learning as outcome for what has been acquired to learners from knowledge, skills and

values through the practice of classroom activities and extra-curricular using various sources of knowledge (34)

Kata:

"A performance of succession according to the format recognized internationally from defensive and offensive methods represented in of bodice,, box and kick in different directions and different speeds to the three levels of the body of the attacker or group of fake attackers by taking several different equilibrium conditions (2:17).

Research Procedures:

First, the research methodology:

The researcher has used the experimental method of experimental design (pre-measurement and post-measurement) for the three groups, one control group, and the two latter were experimental, due to the nature of the study.

Second, community and sample of the research :

Research community was selected in intentional way from third year students, Karate specialization at Faculty of Physical Education for Girls - Zagazig University for the academic year (2015- 2016). The research community was (80) students, where female students were excluded for repetition and female students

who practice karate. The research sample was chosen in intentional way where their number was (75) students, divided into (22) students of the control group, which normal lecture style was applied on them (command method), and (22) students of first experimental group which

guided discovery was applied on them, and (22) students of the second experimental group, which interactive method is applied, and (9) students of exploratory sample. There was balance in the research sample in the variables under consideration table (1).

Table (1)
The total research sample balancing in (age - length – weight-physical variables - the level of kata performance , cognitive achievement and control center) N = 75

variables	Measurement unit	arithmetic average	median	standard deviation	Torsion
Length	Cm	161.30	161.00	4.09	0.22
Weight	Kg	61.78	61.00	9.01	0.26
Age	Year	18.38	18.00	0.51	2.20
ability of the	Meter	2.75	2.70	0.82	0.19
ability of the	Cm	27.90	20.00	7.92	0.80
back flexibility	Cm	00.11	07.00	7.99	0.28-
thighs flexibility	Cm	01.18	04.00	7.97	1.43-
Hard balance	Second	12.91	12.00	4.01	0.78
kinetic	degree	2.82	2.80	0.19	0.37
knowledge	degree	14.38	15	1.23	1.53-
Control	degree	26.59	27	0.50	2.50-

It is evident from Table 1 that the torsion coefficients values of the growth variables (age - length – weight-physical variables - the level of kata performance , cognitive achievement and control center)of the sample research were between (2.50- : 2.20) all these

values were limited between ± 3 , which indicate the occurrence of the sample under the equinoctial curve. This shows that the sample has no non-balanced distributions defects.then the researcher has found parity between the three groups (control research group,

and two experimental groups) table (2) show that:
in the research variables and

Table (2)
Analysis of variance for the three groups of research for the pre-
measurement in physical variables under consideration
n 1 = n 2 = n 3 = 22

Variables	Data source	Contrast Ratio	Squares average	Degrees of freedom	Sum of squares
ability of the arms muscles	Between measurements	2.05	2	1.03	1.63
	Inside measurements	39.65	63	0.63	
	Summation	41.70	65		
ability of the legs muscles	Between measurements	56.94	2	28.47	0.58
	Inside measurements	3076.09	63	48.83	
	Summation	3133.03	65		
back flexibility	Between measurements	77.55	2	49.69	0.78
	Inside measurements	3130.23	63		
	Summation	3207.78	65		
thighs flexibility	Between measurements	7.76	2	47.49	0.09
	Inside measurements	2992.00	63		
	Summation	2999.76	65		
Hard balance	Between measurements	48.12	2	24.06	1.55
	Inside measurements	977.82	63	15.52	
	Summation	1025.94	65		

*Tabulated (F) value at the abstract level (0.05) = 3.14

It is evident from table (2) that the three groups in the there are no statistically anthropometric variables and significant differences among physical variables under

consideration which shows equivalent of the three groups, where calculated value of (F) is

less than tabulated (F) at the abstract level (0.05)

Table (3)
Analysis of variance for the three groups of research for pre-measurement in (kata performance level- cognitive achievement - Control center) under consideration
n1 = n 2 = n 3 = 22

Variables	Data source	Sum of squares	Degrees of freedom	Squares average	Contrast Ratio
Kata performance level	Between measurements	0.03	2	0.01	0.33
	Inside measurements	2.41	63	0.04	
	Summation	2.44	65		
Cognitive achievement	Between measurements	0.48	2	0.24	0.13
	Inside measurements	96.50	63	1.53	
	Summation	96.98	65		
Control center	Between measurements	0.27	2	0.14	0.55
	Inside measurements	15.68	63	0.25	
	Summation	15.95	65		

It is evident from table (3) that there are no statistically significant differences among the three groups in (kata performance level- cognitive achievement - Control center) under consideration which shows equivalent of the three groups, where calculated value of (F) is

less than tabulated (F) at the abstract level (0.05)

Tools and means of data collection: Data collection tools included : Devices and research tools:

- Ristamitr device for measuring height (cm).
- A medical thermometer to measure the weight (kg).

- Stopwatch to calculate the time (s).
- Ribbon for measuring lengths (cm)
- Cones.

Physical attributes tests: attachment (1):

Tests to measure muscular ability:

- The ability of muscles of the arms (test of pushing medical ball (3) kg by hand
- The ability of the legs muscles to jump up (vertical jump test of fortitude for Sargent).

Tests to measure flexibility:

- Flexibility of the spine (trunk flexion test, behind from the prostration).
- flexibility of thigh hinge (slot Albergl test "Grand Carr")

Tests to measure balance:

- A hard balance (test of standing on the instep).

And by reference to the scientific references, it had been found that these tests have a high scientific coefficient s, as used by many of the previous studies on similar samples That indicated Facility (1).

Control center test : attachment (2):

The researcher used the "control center test for athletes" prepared by "IhabKamelAfifi" (1992) (7). The researcher has conducted some editing to some of the words to fit the nature of the performance in the sport of karate, and as to

does not violate the main content of the statements or test. It has been showed to the experts in the field of karate and psychology attachment (3), after editing to identify its appropriateness of the nature of the selected sample, the researcher used it by this form in the current research.

Measurements of learning outcomes:

(skillful aspect - cognitive aspect- the emotional aspect) Measurement of the kata performance level (skillful aspect):

The level of kata performance has been evaluated a panel of arbitrator consisting of three professors of the Department of water sports, Faculty of Physical Education for girls - Zagazig University, where the evaluation of each arbitrator has done by put individual degrees between (1-7) degrees and the average of 3 degrees attachment, This class was determined according to the form kata performance evaluated by the faculty members of the college in the light of the directives of the Quality Committee at the college offers for adoption. (3). Cognitive aspect measurement (cognitive aspect test) prepared

by the researcher attachment (5)

This test is designed to measure the achievement of students of the research sample in Kata cognitive goals (under discussion). Cognitive goals have been put which desired to measure for the skillful content, questions on the Law of kata and skillful explanation in light of the three levels (knowledge - understanding - application).

- In the light of the test objectives: It has been referred to the scientific references to confine the main aspects included in the tutorial program using guided discovery method and interactive method to improve the level of Kata performance and to evaluate the students' achievement through it preparing for determining a number main aspects and questions of each aspect.

2. Identify the scientific subject: Scientific subject has been identified based on setting goals in three aspects, namely, (- the skillful aspect - law - terms)

3- Determining the type of questions:

Two types of questions had been chosen, questions of true

or false, and multiple choice questions, taking into account the in test questions (totalitarianism- appropriateness of the level of the students - clarity of expression - measurement of content of program skills - scientific precision - determination- summary- not carrying the term for more than connotation)

4. preparation of the first form of the test:

The exam was prepared numbers in primary form to measure cognitive achievement of Kata where the test included three aspects (skillful aspect - Kata law 5- terms), which were presented to the experts.

6- Identify and formulate the vocabulary: the researcher has studied the types of objective test vocabulary, terms of its writing, the process of construction and the terms and conditions to be followed, in accordance with the rules and specifications mentioned in scientific references and previous studies and according to the previous on test questions have already been formulated according to the previous rules and put them in a separate application to determine the validity. number

of test items was (35) items. (5: 87)

- The validity of the primary form of exam: The primary form of the exam has been showed after the preparation to a group of experts. There were three aspects include (35) terms distributed on the aspects then they were presented to the experts who had not been any edit by experts to become the exam in its final form attachment (5).

7. Exam instructions: The exam instructions are clearly set up so that students know how to write the correct answer and put it in the exact location with the importance of writing their own personal data on the answer sheet.

- Determine the time of exam: the researcher determine the time required for each part of the three parts of the exam separately, where the researcher has used the following equation to determine the time: $\text{Test time} = \text{Time of the first student} + \text{Time of the last student} / 2$, so the time will be 30 minutes.

10. Analysis of the exam phrases: The exam was applied on a sample represented in community members and from outside the core sample

"exploratory sample" which is (9) students, so as to find coefficient s of ease, difficulty and excellence for the phrases of cognitive test. Table (6) shows the ease, difficulty and excellence for the phrases of cognitive test.

8. Exam correction: The exam was corrected and by giving one degree for every correct answer for each item of the exam items, moreover , key correction was prepared to correct the exam.

- Determine the time of exam: the researcher determine the time required for each part of the three parts of the exam separately, where the researcher has used the following equation to determine the time: $\text{Test time} = \text{Time of the first student} + \text{Time of the last student} / 2$, so the time will be 30 minutes.

10. Analysis of the exam phrases: The exam was applied on a sample represented in community members and from outside the core sample "exploratory sample" which is (9) students, so as to find coefficient s of ease, difficulty and excellence for the phrases of cognitive test. Table (6) shows the ease, difficulty and

excellence for the phrases of cognitive test.

Table (4)
The coefficients of ease, difficulty and excellence for
the phrases of cognitive test N=9

No.	Ease coefficient	Difficulty coefficient	Excellence Coefficient	No.	Ease coefficient	Difficulty coefficient	Excellence Coefficient
1	0.55	0.45	0.50	19	0.50	0.50	0.60
2	0.55	0.45	0.70	20	0.55	0.45	0.50
3	0.60	0.40	0.40	21	0.65	0.35	0.50
4	0.45	0.55	0.50	22	0.55	0.45	0.50
5	0.50	0.50	0.40	23	0.60	0.40	0.40
6	0.60	0.40	0.40	24	0.60	0.40	0.40
7	0.65	0.35	0.50	25	0.50	0.50	0.60
8	0.70	0.30	0.40	26	0.65	0.40	0.50
9	0.50	0.50	0.60	27	0.60	0.40	0.40
10	0.65	0.35	0.35	28	0.50	0.50	0.60
11	0.55	0.45	0.50	29	0.55	0.45	0.70
12	0.45	0.55	0.50	30	0.45	0.55	0.50
13	0.65	0.35	0.50	31	0.60	0.40	0.40
14	0.50	0.50	0.60	32	0.50	0.50	0.60
15	0.55	0.45	0.50	33	0.55	0.45	0.50
16	0.60	0.40	0.40	34	0.55	0.45	0.50
17	0.50	0.50	0.40	35	0.50	0.50	0.60
18	0.65	0.35	0.50				

* Tabular value of "R" at the level (0.05) = 0.666

It is evident from table (4) that excellence coefficient ranges between (0.40: 0.70), and this is the cognitive test phrases with marked well.

Measurement of the emotional side :

- The researcher has prepared questionnaire to measure the emotional side of the control group, which used the command method (demo). attachment(6)

- The researcher has prepared questionnaire to measure the emotional side of the first experimental group which used guided discovery method. attachment(7)

- The researcher also has prepared questionnaire to measure the emotional side of the second experimental group that used the interactive method. Attachment (8)

Emotional side questionnaire aims to identify the views and impressions of students(research samples) to the educational methods they used to learn Kata and determine the effect of those methods on the emotional side of educated students, so the researcher, including the following:

- Identify the objective of each questionnaire:

This questionnaire is designed to know the opinions of educated students (two experimental groups of the research about learning kata using the method of guided discovery and interactive method.

- Wording of the questionnaires phrases in the primary form:

The researcher has formulated and identified specific phrases of emotional side questionnaires out of the title and the goal of the research. Questionnaires phrases had been formulated in easy way and with obvious and understood meanings for the educated students in a way where it was taking into account that the phrases not to complicated and not have more than one meaning. The phrases were 14 phrases for each questionnaire initially, where 4 phrases were negative .

- Selection of questionnaires phrases:

To ensure the clarity of phrases and their validity to measure the opinions and impressions, the researcher has presented the phrases to the experts, who agreed that questionnaires phrases related to emotional aspect. The phrases were put in

their final form randomly, and the researcher used "Likert" method with five weights levels due to its appropriateness of the nature of this research as follows:

- Strongly Agree (five degrees)
- I agree (four degrees) - not sure (three degrees).
- I do not agree (two degrees) - I do not agree at all (one degree).

The proposed educational program (guided discovery method interactive method) attachment(9), (10), (11).

The researcher has prepared proposal and educational program to improve and learn the level of Kata performance, the researcher used two different methods to teach this program, namely (guided discovery method which has been applied to the first experimental group) and (interactive method which has been applied to the second experimental group), and the researcher has made the program based on the foundations and following steps:

1. Program aims: The aim of the program is to design an educational program and apply it in two different ways,

namely (guided discovery method) (interactive method).

2. Determine the effect of the methods used in the application of the program to improve the level of the control center for the students, as well as improvement of the educational process outputs (skillful, cognitive and emotional side) in Kata.

- The general aim of the program includes the following aims:

A) Cognitive aims represented in:

- Provide students with information and knowledge about the kata.
- Students acquirement of the mental aspects and the development of knowledge, understanding, skills of thinking and perception.
- Students acquirement of the ability to evaluate their colleagues.
- Students acquirement of the ability to discover the facts by themselves through the program.
- Students acquirement of the ability to observe and think in the proper performance of Kata.
- Know the importance performing kata.

B) Psycho-kinetic aims (skillful) represented in :

- Improve the kinetic harmonization between the different parts of the body while performing kata.
- Improve kinetic sense for the students during the performance of Kata.
- Improve the ability of the students towards the performance of Kata.
- Improve the ability of students to describe the proper performance of the kata skills.

(C) Emotional aims represented in :

- Student acquirement for being more controlled of the surrounding circumstances during the learning or during the performance.
- Student acquirement of the values, habits and correct approaches.
- Building integration in the personality of the students.
- Develop the capacity to self-control in different positions.
- Raise the students` motives to get high level of performance.
- Student acquirement of the ability to be organized and obey orders.
- Improve good moral qualities among the students such as

sincerity, honesty, cooperation and participation

- Student acquirement of feeling of happiness and satisfaction.
- Provide students with the expertise to enable them to handle and interact with new teaching positions through the application of the educational program by guided discovery or interactive method.

Purposes of the program:

- Improving the level performance of Kata by taking advantage of both the method of guided discovery and interactive methods.
- Student acquirement of the qualities and ethics of teamwork and the spirit of cooperation during the application.
- Identify all Kata skills and perform them perfectly.
- Student acquirement of new methods of learning.

The foundations of making program:

- Taking into account the components of the program consistent with achieving the target of it.
- To be suitable for the age, to be applied on them.
- Taking into account individual differences among students at the physical level.

- That the program is characterized by simplicity and versatility.
- Taking into account the security and safety factors.
- Help to think logically in scientific way .
- To challenge the contents of the program the educated capabilities.
- Taking into account to satisfy the needs of the student movement and activity.
- Program modules should contain main periods (good warm-up, exercises to strengthen the muscles of the legs and arms, the main part, exercises for relaxation)

- Taking into account the gradient from easy to difficult and from simple to complex.

General framework for the implementation of the program:

The researcher has put proposed educational modules for kata under discussion, according to characterize the karate curriculum for third squad, where the duration of the program (6) weeks, included (6) units for each group, of which one unit per week with the knowledge that the lecture time is (90) minutes.

Time distribution schedule of the content of the educational module:

**Table (5)
Time distribution schedule of the content of the educational module**

Statement	Time
Administrative works	4 minutes
Warm-up exercises	7 minutes
Physical preparation exercises	10 minutes
Review what has been taught in accordance with the characterization	20 minutes
Main part (program application)	45 minutes
Relaxation exercises	4 minutes

Procedures of the research implementation:

First, the exploratory study:

Before starting the implementation of the basic steps in the research

experience, exploratory study has been conducting on a sample of (9) students from the

research community and outside the core sample, starting from Sunday 27/9/2015 to Thursday 1/10/2015, as the following :

- Physical attributes exams (on Sunday 27/9/2015).

- Control center exams, cognitive exam, and the forms of emotional side. (Monday, 28/09/2015).

- Apply a unit of the proposed tutorial with guided discovery method (on Wednesday 30/09/2015).

- Apply a unit of the proposed tutorial with interactive method. (Thursday 01/10/2015).

The aim of conducting the exploratory study are the following:

(A) The validity of the exams used in the research:

- Verification of the validity of measuring devices, calibration and adequacy of the tools.

- Choosing the right place to conduct the exams.

- Conducting scientific coefficients of exams and standards used in the research.

(B) The appropriateness of the tutorial program using guided discovery and interactive methods for research sample in terms of:

- The appropriateness of the time distribution of educational unit.

- Drafting of the program in its final form.

- The discovery of the difficulties that may face a researcher at the application.

The study resulted:

1. To ensure the safety of the place of study conducting.

2. All required measurements and tools have been completed to implement the program.

3. (Sunday and Tuesday) were selected for the control group, "the command style", (Monday and Tuesday) for the first experimental group, "guided discovery" and (Sunday and Wednesday) for the second experimental group "interactive method" in the lecture included in the researcher's schedule.

4. The appropriateness of time period for each part of educational unit.

Conduct scientific coefficient s for the exams and standards used in the research, as following:

Validity of physical exam:

- The researcher has found the validity of physical attributes exams by the validity of differentiation where the researcher has applied them on the students of the fourth year, as an excellent group and students of the exploratory sample in the third year as non-excellent group, It is shown in Table (6) Attachment (14) that there are statistically significant differences between the excellent group and the

non-excellent in physical variable in favor of the excellent group and this shows that the used exams are honest in distinguishing.

The stability of physical exams:

The researcher has found the stability of physical attributes exams by exam application and re-application again with a week interval between them and the table (7) Attachment (14) It is shown in there are statistically significant relationship at the level of 0.05 between measurements of the first and second physical exams under discussion where the value of calculated (R) between (0.762: 0.991), indicating that these exams has high stability of coefficients.

The validity of cognitive exam:

It is shown in table (8) Attachment (14) that all the correlation values ranging from (0.672: 0.932), all of them are larger than the calculated value of "R", which amounts 0.666 at the level of 0.05 and this indicates that there is statistically significant correlation between the phrases and total summation of the cognitive exam which shows the validity of the internal consistency of the phrases of cognitive exam.

The stability of cognitive exam:

It is clear in the table (9) Attachment (14) that there is a statistically significant correlation between single phrases and pair phrases of the cognitive exam, where correlation coefficient of the cognitive achievement phrases was 0.876 and the value of Cronbach's alpha coefficient was 0.932. This means that the phrases of cognitive exam enjoys high stability of coefficients.

The stability of emotional side form:

The researcher has found a correlation coefficient between the degree of each item and the total summation of degrees of the form as whole in order to calculate the validity of the internal consistency of the questionnaire form of emotional side, and a table (10) showsthat Attachment (14) that there is statistically significant correlation relationship between the degree of each phrase and the total degree of questionnaire of form of students` opinions (opinions and emotional impressions), which indicates the presence of validity of internal consistency, which refers to the validity of the phrases representation of to form questionnaire of form of students.

The stability of questionnaire of emotional side:

The researcher has found correlation coefficient

between single phrases and pair phrases of questionnaire of the emotional side so as to find stability of coefficient using the method of half partition and "Alpha Cronbach" coefficient .Table (11) Attachment (14) that the value of "Alpha Cronbach" coefficient of 0.875 is a statistically significant correlation coefficient which indicates that questionnaire of students` opinions (Opinions and emotional impressions) under discussion has high stable coefficient.

The validity of scale of the control center:

It is seen from the table (12) Attachment (14) that the correlation coefficients between the degree of each phrase and the total score of the scale are significant, which shows the sincerity of the scale of what it was intended.

The stability of scale of the control center:

It is shown in Table (13) Attachment (14) that there are statistically relational significant relationship at the level of 0.05 between the first and second applications in the control center under discussion, where the calculated value of (r) between (0.845) and the value of "Alpha Cronbach coefficient is (0.674) and it is a statistically significant correlation coefficient which indicates

high stability coefficient of the exam.

Second: pre-measurement :

The researcher has conducted pre-measurements for each of the control sample and the experimental samples, on Sunday (04/10/2015), Monday (05/10/2015), as the following:

- Measurement of the control center, measurement of skillful level (on Sunday 10/4/2015)
- Measurement of emotional aspect (Monday, 05/10/2015)

Third, the application of the basic research experience:

- The researcher has applied the proposed educational program through some Mosston methods, which are guided discovery and interactive methods on the main sample (first experimental group "a guided discovery method has been applied", the second experimental group "interactive method" has been applied in lectures listed in the researcher`s schedule , in the period from Thursday 10/08/2015 until Thursday 19/11/2015, as a rate of unit per week, for each group.

- As the researcher also has taught the control group using the command style (traditional way used and represented in explanation by the teacher and performance repetition by the student with providing a good model one of the students) and the application was done with all the students (three

research groups) in the Karate Hall at the college.

Fourth: The post-measurement:

After the completion of the program application, the researcher has conducted the post-measurements for both of the two experimental groups and the control group, on Sunday, 22/11/2015 and Monday, 23/11/2015, this in the variables under discussion (the control center - the skillful aspect- the cognitive aspect-emotional aspect).

Seventh: The statistical processors:

The researcher has conducted statistical processors using SPSS program and has depended on 0.05 level. The statistical exams are represented in the following:

- Torsion - T test -distinguish coefficient -Alpha Cronbach coefficient - contrast analysis - l s d test - improvement percentages - Ka 2 test - the ease coefficient - the difficulty coefficient - the correlation coefficient.

Presentation and discussion of the results:

Table (14)

Significance of differences between the pre-measurement and post-measurement for the control group(The traditional method group) in the variables under consideration N = 22

No.	Variables	Pre-measurement		Post-measurement		Value of T and its denote
		M	A	M	A	
1	Level of Kata performance	2.80	0.19	3.82	0.50	*16.14
2	Cognitive achievement	14.41	1.26	23.41	0.50	*27.92
3	Control center	26.64	0.49	23.41	0.50	*18.63

*** The tabular value of "T" at the level of 0.05 =2.09**

It is seen from table (14) that all calculated values of t ranged between (4.12: 27.92), and it is greater than of tabulated T values which equal 2.09 at the level of 0.05 for all the variables of (level of Kata performance - cognitive achievement - the control

center) under discussion for the control group(group of traditional method) group, that is, the difference between the pre-measurement and post-measurement is moral, and in favor of the post-measurement under discussion.

Table (15)
Significance of differences between the pre-measurement and post-measurement for the first experimental group (group of guided discovery method) in the variables under consideration

No.	Variables	Pre-measurement		Post-measurement		Value of T and its denote
		M	A	M	A	
1	Level of Kata performance	2.85	0.20	5.64	0.49	*25.85
2	Cognitive achievement	14.23	1.19	33.14	0.77	*61.40
3	Control center	26.64	0.49	21.23	0.43	*34.56

* The tabular value of "T" at the level of 0.05 = 2.09

It is seen from the table (15) that all calculated values of t ranged from (17.81: 34.56), which greater than tabular T values which are equal to 2.09 at the level of 0.05 for all variables (level of Kata performance - the cognitive achievement- control

center) under discussion for the first experimental (Group of guided discovery method), meaning that the difference between the pre-measurement and post-measurement, and in favor of post-measurement under discussion.

Table (16)
Significance of differences between the pre-measurement and post-measurement for the second experimental group (group of interactive method) in the variables under discussion N= 22

No.	Variables	Pre-measurement		Post-measurement		Value of T and its denote
		M	A	M	A	
1	Level of Kata performance	2.81	0.19	6.55	0.51	*34.62
2	Cognitive achievement	14.41	1.26	30.27	0.88	*53.52
3	Control center	26.50	0.51	18.55	0.67	*57.14

* The tabular value of "T" at the level of 0.05 = 2.09

It is seen from the table of T ranged from (34.62: 57.14), which greater than

tabular T values which are equal to 2.09 at the level of 0.05 for all variables (level of Kata performance - the cognitive achievement- control center) under discussion for the second experimental (Group of

interactive method), meaning that the difference between the pre-measurement and post-measurement, and in favor of post-measurement under discussion.

Table (17)

Analysis of variance for the three groups of research for post-measurement in (level of Kata performance - the cognitive achievement- control center) under discussion N 1 = n 2 = n 3 = 22

Variables	Data source	Squares summation	Freedom degrees	Squares average	Variance percentage
level of Kata performance	Between measurements	84.85	2	42.42	*168.97
	Inside measurements	15.82	63	0.25	
	Summation	100.67	65		
cognitive achievement	Between measurements	1099.48	2	549.74	*1010.53
	Inside measurements	34.27	63	0.54	
	summation	1133.75	65		
control center	Between measurements	261.12	2	130.56	*441.36
	Inside measurements	18.64	63	0.30	
	summation	279.76	65	42.42	

*** The tabular value of (F) at the level of (0.05) = 3.14**

Table (17) illustrates that there are statistically significant differences among the three groups in (level of Kata performance - the cognitive

achievement- control center) under discussion, where the calculated value of (F) is greater than the tabular value of (F) which amounts to 3.14.

Table (18)
Significance of differences between the three groups of research
for the post-measurement in (level of Kata performance - the
cognitive achievement- control center) under discussion
N 1 = n 2 = n 3 = 22

variables	measurements	Arithmetic average	Measurements differences			L.S.D
			Group of traditional method	Group of guided discovery	Group of interactive method	
level of Kata performance	Group of traditional method	3.82		1.82	*2.73	0.52
	Group of guided discovery	5.64			*0.91	
	Group of interactive method	6.55				
cognitive achievement	Group of traditional method	23.41		9.73	6.86	0.76
	Group of guided discovery	33.14			*2.87	
	Group of interactive method	30.27				
control center	Group of traditional method	23.41		2.18	*4.86	0.57
	Group of guided discovery	21.23			*2.86	
	Group of interactive method	18.55				

Table (19)
Rates of improvement between the pre-measurement and post-
measurement for groups of researches (level of Kata performance
- the cognitiveachievement- control center) under discussion
N 1 = n 2 = n 3 = 22

No	variables	Group of traditional method		Rate of improvement	Group of guided discovery		Rate of improvement	Group of interactive method		Rate of improvement
		Pre-measurement	Post-measurement		Pre-measurement	Post-measurement		Pre-measurement	Post-measurement	
1	level of Kata performance	2.80	3.82	36.14	2.85	5.64	114.29	2.81	6.55	132.63
2	cognitive achievement	14.41	23.41	64.29	14.23	33.14	120.00	14.41	30.27	110.09
3	control center	26.64	23.41	14.81	26.64	21.23	22.22	26.50	18.55	30.02

Table (19) illustrates that there are improvement rates between the pre-measurement and post-measurement for the three

groups in (level of Kata performance - the cognitive achievement- control center) under discussion for the post measurement.

Table (20)

Duplicates the relative importance and value of Ca 2 for the responses of research sample in the emotional aspect for the control group (group of traditional method) N = 22

No.	Phrases	Agree		To some extent		Not agree		Ca2 value	Relative importance
		k	%	K	%	k	%		
1	The traditional method of teaching made me feel suspense and excitement during the discovery of the information by myself.	10	50.00	8	40.00	2	10.00	5.20	80.00
2	The traditional method of teaching did not acquire me the ability of observation and thinking during learning the rope skills	5	25.00	10	50.00	5	25.00	2.50	66.67
3	The traditional method of teaching helped me to clarify difficult points during learning kata skills	8	40.00	6	30.00	6	30.00	0.40	70.00
4	The traditional method of teaching helped me to know and apply the correct performance of kata skills	7	35.00	7	35.00	6	30.00	0.1	68.33

Follow Table (20)
Duplicates the relative importance and value of Ca 2 for the
responses of research sample in the emotional aspect for the
control group (group of traditional method) N = 22

No.	Phrases	Agree		To some extent		Not agree		Ca2 value	Relative importance
		k	%	K	%	k	%		
5	The traditional method of teaching helped me to acquire the habits and positive aspects	12	60.00	6	30.00	2	10.00	*7.60	83.33
6	The traditional method of teaching intrigued me to learn kata skills	11	55.00	5	25.00	4	20.00	4.30	78.33
7	The traditional method of teaching did not bring me anything during learning kata skills	8	40.00	6	30.00	6	30.00	0.4	63.33
8	The traditional method of teaching helped me to gain more knowledge and information of kata skills	13	65.00	5	25.00	2	10.00	*9.70	85.00
9	The traditional method of teaching improved the observation and experimentation during learning kata skills	14	70.00	4	20.00	2	10.00	*12.40	86.67

Follow Table (20)
Duplicates the relative importance and value of Ca 2 for the
responses of research sample in the emotional aspect for the
control group (group of traditional method) N = 22

No.	Phrases	Agree		To some extent		Not agree		Ca2 value	Relative importance
		k	%	K	%	k	%		
10	The traditional method of teaching did not develop my motivation toward learning	1	5.00	5	25.00	14	70.00	*13.30	88.33
11	The traditional method of teaching did not make me feel happy and satisfied during learning kata skills	2	10.00	5	25.00	13	65.00	*9.70	85.00
12	The traditional method of teaching makes me confident in my game during learning kata skills	13	65.00	5	25.00	2	10.00	*9.70	85.0
13	The traditional method improved a sense of timing and kinetic rhythm while performing kata.	12	60.00	6	30.00	2	10.00	*7.60	83.33
14	The traditional method of teaching helped me to attention during the performance	10	50.00	8	40.00	2	10.00	5.20	80.00

The value of ca2 at the level of 0.05 = 5.99

Table (21)
Duplicates the relative importance and value of Ca 2 for the responses of research sample in the emotional aspect for the first experimental group (group of guided discovery)

No.	Phrases	Agree		To some extent		Not agree		Ca2 value	Relative importance
		K	%	K	%	k	%		
1	The traditional method of teaching made me feel suspense and excitement during the discovery of the information by myself	11	55.00	8	40.00	1	5.00	7.90*	83.33
2	The traditional method of teaching did not acquire me the ability of observation and thinking during learning the rope skills	4	20.00	8	40.00	8	40.00	1.60	73.33
3	The traditional method of teaching helped me to clarify difficult points during learning kata skills	10	50.00	6	30.00	4	20.00	2.80	76.67
4	The traditional method of teaching helped me to know and apply the correct performance of kata skills	9	45.00	8	40.00	3	25.00	3.10	76.67
5	The traditional method of teaching helped me to acquire the habits and positive aspects	14	70.00	5	25.00	1	5.00	13.30*	88.33

Follow Table (21)
Duplicates the relative importance and value of Ca 2 for the responses of research sample in the emotional aspect for the first experimental group (group of guided discovery)

No.	Phrases	Agree		To some extent		Not agree		Ca2 value	Relative importance
		K	%	K	%	k	%		
6	The traditional method of teaching intrigued me to learn kata skills	12	60.00	6	30.00	2	10.00	7.60*	83.33
7	The traditional method of teaching did not bring me anything during learning kata skills	6	30.00	8	40.00	6	30.00	0.40	66.67
8	The traditional method of teaching helped me to gain more knowledge and information of kata skills	14	70.00	5	25.00	1	5.00	13.30*	88.33
9	The traditional method of teaching improved the observation and experimentation during learning kata skills	15	75.00	4	20.00	1	5.00	16.30*	90.00
10	The traditional method of teaching did not develop my motivation toward learning	1	5.00	4	20.00	15	75.00	16.30*	90.00
11	The traditional method of teaching did not make me feel happy and satisfied during learning kata skills	1	5.00	4	20.00	15	75.00	16.30*	90.00

Follow Table (21)
Duplicates the relative importance and value of Ca 2 for the responses of research sample in the emotional aspect for the first experimental group (group of guided discovery)

No.	Phrases	Agree		To some extent		Not agree		Ca2 value	Relative importance
		K	%	K	%	k	%		
12	The traditional method of teaching makes me confident in my game during learning kata skills	14	70.00	5	25.00	1	5.00	13.30*	88.33
13	The traditional method improved a sense of timing and kinetic rhythm while performing kata.	14	70.00	4	20.00	2	10.00	12.40*	86.67
14	The traditional method of teaching helped me to attention during the performance	12	60.00	7	35.00	1	5.00	9.10*	85.00

The value of ca2 at the level of 0.05 = 5.99

Table (22)
Duplicates the relative importance and value of Ca 2 for the responses of research sample in the emotional aspect for the second experimental group (group of interactive method)

No.	Phrases	Agree		To some extent		Not agree		Ca2 value	Relative importance
		k	%	k	%	k	%		
1	The interactive method of teaching made me feel suspense and excitement during the discovery of the information by myself	13	75.00	6	30.00	1	5.00	*10.90	86.67

Table (22)
Duplicates the relative importance and value of Ca 2 for the
responses of research sample in the emotional aspect for the
second experimental group (group of interactive method)

No.	Phrases	Agree		To some extent		Not agree		Ca2 value	Relative importance
		k	%	k	%	k	%		
2	The interactive method of teaching did not acquire me the ability of observation and thinking during learning the rope skills	2	10.00	7	35.00	11	55.00	*6.10	81.67
3	The interactive method of teaching helped me to clarify difficult points during learning kata skills	12	60.00	7	35.00	1	5.00	*9.10	85.00
4	The interactive method of teaching helped me to know and apply the correct performance of kata skills	11	55.00	8	40.00	1	5.00	*7.90	83.33
5	The interactive method of teaching helped me to acquire the habits and positive aspects	16	80.00	3	15.00	1	5.00	*19.90	91.67
6	The interactive method of teaching intrigued me to learn kata skills	14	70.00	5	25.00	1	5.00	*13.30	88.33
7	The interactive method of teaching did not bring me anything during learning kata skills	4	20.00	6	30.00	10	50.00	2.80	76.67

Follow Table (22)
Duplicates the relative importance and value of Ca 2 for the
responses of research sample in the emotional aspect for the
second experimental group (group of interactive method)

No.	Phrases	Agree		To some extent		Not agree		Ca2 value	Relative importance
		k	%	k	%	k	%		
8	The interactive method of teaching helped me to gain more knowledge and information of kata skills	16	80.00	3	15.00	1	5.00	*19.90	91.67
9	The interactive method of teaching improved the observation and experimentation during learning kata skills	17	85.00	2	10.00	1	5.00	*24.10	93.33
10	The interactive method of teaching did not develop my motivation toward learning	1	5.00	2	10.00	17	85.00	*24.10	93.33
11	The interactive method of teaching did not make me feel happy and satisfied during learning kata skills	1	5.00	2	10.00	17	85.00	*24.10	93.33
12	The interactive method of teaching makes me confident in my game during learning kata skills	16	80.00	3	15.00	1	5.00	*19.90	91.67

Follow Table (22)

Duplicates the relative importance and value of Ca 2 for the responses of research sample in the emotional aspect for the second experimental group (group of interactive method)

No.	Phrases	Agree		To some extent		Not agree		Ca2 value	Relative importance
		k	%	k	%	k	%		
13	The interactive method of teaching improved a sense of timing and kinetic rhythm while performing kata.	15	75.00	4	20.00	1	5.00	*16.30	90.00
14	The interactive method of teaching helped me to attention during the performance	14	70.00	5	25.00	1	5.00	*13.30	88.33

The value of ca2 at the level of 0.05 = 5.99

*** Discussion of the results:**

Table (14), (20) refer that there are statistically significant differences between averages of the pre-measurement and post-measurement for the control group, in the variables under discussion, in favor of post-measurements, and this suggests that the traditional method of teaching, which is applied by a manner orders or demo, and has positive impact on the control center and outcomes of kata learning (the level of kata performance, the

level of cognitive achievement, and emotional aspect) .

The researcher has attributed this result to that the educational process within the lecture was organized and scalable to serve the students` needs, where Mosston& Ashworth," (1994) (30) referred to that successful teaching process occurs as a result of the harmony between the desired goal and what actually happen during lessons by owning the teacher knowledge and the ability to direct and manage a number of

factors that can lead to strengthen the state of harmony or impede this is consistent with both of the "Awdat Amin Ahmed" (2002) (16), "Nasser Hesham Mohamed" (2001) (26).

The researcher also has attributed this result to the educational environment in terms of potentials and time period, where the student knowing of the content of the performance of kinetic skills helps to form a clear structure of those skills as the kinetic is always dynamic and helps consistently that the student has knowledge, as well as the importance of a teacher's presence which gives a clear idea of how is the proper performance (model) which makes him more effective as well as his ability to correct the mistakes.

this allows the student the opportunity to learn which affects positively on the proficiency and efficiency of the performance, which in turn reflects on the student's confidence in her performance as well as her ability to self-control in internal and external conditions surrounding her. Thus the first hypothesis had been achieved, which states

that "there are statistically significant differences between the pre-measurement and post-measurement for the control group in favor of the post-measurement in the control center and outcomes of kata learning (skillful- cognitive - emotional).

Table (15), (21) illustrate that there are statistically significant differences between the pre-measurement and post-measurement for the first experimental group (guided discovery method) for the post-measurement in the control center and outcomes of kata learning (skillful - cognitive - emotional). The researcher attributes these differences to the advantages of guided discovery, as it allows the opportunity of improvement of actual competence for the student.

It also provides a continuing reinforcement for the student after progress from one step to another, leading to increase the motivation and desire to continue, making the student's reinforcement internal rather than external, as it reduces the phenomenon of forgetfulness and make the subject easy to understand and

digest, it also increases the student's confidence in her performance and guides to self-learning, as it helps the student to use the upper mental operations.

Guided discovery also improves the student's autonomy and self-reliance, as it helps to transform the student from the recipient of knowledge to its maker. This is agreed upon by "LouaySaate, AhlamSadek" (2012) (91) "Nahida Abdul Zaid, Khaleda Abdul Zaid and Mohammed Hassan Alwazni" (2007) (27), which proves positivity of learning by guided discovery method as a learner's position in this method is positive, active and effective and not just a receiver of the information, but he is an explorer and researcher, as the most important step in the guided discovery approach is to determine the succession the steps. As for questions or keys to solve lead the learner to the discovery of the final result, and every step is depended on the response that is achieved in the previous step, and guided discovery must be provided to lead to one correct response for one key. (23: 147)

Moreover, this method is achieved by interest, motivation and suspense of learning, automatic attention and active work, as a learner's behavior in this method is independent behavior as an individual and as a member of his group because this method indicates that "it is based on the learning that is depended on some help from the teacher to the learner, as the learner does the primary role in the process of learning as for the role of the teacher is limited to the learner's guide and encourage him to do the process of discovery. The guided discovery provides learner the sufficient instructions to ensure obtaining valuable experience and it ensures his trends in the use of his abilities to explore scientific concepts and principles and the guided discovery style represents educational approach that allows the learner to develop knowledge through practical experience directly. (8:34)

Thus the second hypothesis was achieved, which states, "There are significant differences between the pre-measurement and post-measurement for the first

experimental group (guided discovery method) in favor of the post-measurement in the control center and outcomes of kata learning (skillful - cognitive - emotional).

As it is shown in Table (16), (22) that there are statistically significant differences between the pre-measurement and the post-measurement for the second experimental group (interactive method) in favor of the post-measurement in the control center and the outcomes of kata learning (skillful - cognitive - emotional).

The researcher attributes this development of the learning level of the research sample to the use of interactive method where this method depends on giving many opportunities for training on homework with the colleague who particularly observes in addition to giving feedback to the colleague with immediate effect, in addition to giving confidence in such this method to the learners to discuss specific aspects of homework with the colleague in addition to the learning by attempts repetition and continuing training of skills performance and errors correction which

make the learner acquire muscle and nervous compatibility and reduce her mistakes, and the performance is much better. Moreover the role of the teacher, who acts leader taking into account the individual differences among students per group and the primary goal, is to reach the student to the desired level.

This is confirmed by the results of "Abdul Hamid bin Ahmad's study, (2001) (13) which confirms that interactive learning style has a positive effect on aspects of physical, skillful, cognitive and emotional for the individual. It has been recommended to work on the informing the workers in the field of physical education with the interactive learning method and procedures of its application. Moreover, urge them to use it in teaching of physical education, and to conduct more studies to verify the effectiveness of this method in the various stages of education, and conduct similar studies on other teaching methods.

The researcher also believes that through this method learner get used at different positions, helping her to increase the confidence in

performance as well as the improvement of the internal control center, thus third hypothesis has been achieved which states that "there are statistically significant differences between the pre-measurement and post-measurement for the second experimental group (interactive method) in favor of the post-measurement in the control center and outcomes of kata performance (skillful - cognitive - emotional) "

As it can be seen in table (17) that there is contrast between the three groups of the research in the post-measurements in (level of kata performance- cognitive achievement- control center) under discussion, as well as the table (18) indicates that there is significance of the differences between the three groups of the research for the post-measurement in (level of kata performance- cognitive achievement- control center) under discussion, and the significance of differences were different in the research variables in the three groups, where it was in favor of the level of performance in interactive method compared to the traditional method and

guided discovery method which amounted (2.73 *), while it was in favor of the cognitive aspect in the guided discovery method compared to traditional method and interactive method which amounted (9.73 *), and in favor of the control center in the interactive method compared to the traditional method and guided discovery which amounts (4.86 *).

Hence the researcher indicates through the previous findings that we must choose the right educational method according to type of the aim and the purpose of the educational process, if the goal is to enrich the skillful level and improve we can use interactive method. If the purpose is the development of cognitive aspects, we can use guided discovery approach, interactive method also can be used in the control center development, and here we find that each method has characteristics that distinguish it from the other and which then has been employed in the educational process method.

Table (19) indicates to the improvement rates in the control group (command method, the first experimental

group (guided discovery), and the second experimental group (interactive method), and the rate of improvement of the control group at the control center variable (14.81), a ratio not high or rate that should the student has . The researcher has attributed this rate to the lack of student's new experiences and variety of situations, which led to increase the external control center for them, and the ability to control their behaviors during performance. As the researcher refers that the results due to external factors such as luck ,chance, or others and this what "Ali Askar" (1998) (15), and "Tariq Salah al-Din" (2002) (11) refer that the control center is how the individual recognize the confrontations of events in his life, and the control factors in the environment, and the individual may be of an internal or external control center. Individuals with internal control are characterized by the level of the best performing in the various aspects of the other owners of the external control centers. As table (19) indicates that there are improvement rates in the learning outcomes

of represented in the skillful aspect and amounts (36.14) and cognitive (64.29) .

Table (20) illustrates that the emotional aspect (7) has non-significant phrases. The researcher due the improvement rates, in spite of low rates, to the use of the traditional way in the educational process represented in explanation and model as well as the potentials and the time period, where the student knowing of the content of the skills performance helps to create a picture for those skills, It also helps the student to have a bit of knowledge, as well as the importance of a teacher's presence who gives a clear idea of the proper performance (model) which makes him more effective as well as his ability to correct the mistakes and this allows the student the opportunity to learn which affects positively although that it was not so much proficiency required in the performance and efficiency, as this method lacks the elements of suspense and change which affects the emotional aspect for students.

As shown Table (19) that there is a rate of improvement for the two experimental groups at the

control center variable, where the first experimental group (guided discovery method) reaching (22:22), also the second experimental group (interactive method) amounted (30.02). The researcher attributes this to that students exposed to varying methods during the educational process and that are not accustomed made them go through new experiences and changing and various positions which allow them to re thinking logically and organizing their ideas and develop to have realism and seriousness in decision-making and always make them realize that the success factors as well as the failure to be emitted from within them and not always these factors shall be the reasons and external factors. Osama Ratb"(1995) (3), also indicates that the superior athletic individual has experience of internal control and that's what the disparate methods helping (guided discovery - interactive) in teaching and it is the work to raise the performance of skillful and cognitive and improvement of emotional aspect. Therefore the students explain their achievements in light of the personal abilities,

with having of a high degree of perseverance, insistence and self-confidence, development of their goals in a realistic way consistent with their capabilities and their level of ambition.

As shown in Table (19) that there is a rate of improvement for the two experimental groups in the learning kata outputs, where the first experimental group (guided discovery) in the skillful aspect "level of kata performing amounts (114.29), also amounts in the cognitive test (120.00) as well as the emotional aspect, table (21) refers that there are (4) phrases which are non-significant. The researcher has attributed that the use of the guided discovery method in the teaching of Kata made the student the main focus in the learning process, and helped her to think logically and having the ability to express her opinion by correct responding that she would see in front of the rest of students and it also helped her to discover and search to get the right respond to the teacher's question and to provide her with new knowledge and information that were not known to her

before about the different skills of the kata and its sequencing and make her think about the details of each skill and what are the common parts of the body to perform each skill and how she performs in a correct manner , it also helped to use the mental abilities such as the ability to retrieval, memory, translation of meanings, the interpretation, the application, the analysis, the conjecture, and ability to solve problems. It also added new experiences of different skills of kata to her knowledge and build the self as a concept, and make her play a primary role to learn through observation of the skill, watching, data collection, experience and decide-making to get to perfect performance at the end.

The discovery method also helped the student to activate the intellectual processes through preoccupation with certain intellectual operations lead her to the discovery, moreover raise her interesting and the development of the motivation to learn the skills which combined between the practical and the theoretical aspect through searching for knowledge and information of

the skill and apply and implement it in practice, which led to the acquisition of skills and mastery, as well as enriching the cognitive and emotional aspect.

As shown in Table(19) that there is a rate of improvement for the second experimental group (interactive method) in the learning outcomes, which amounts at the skillful aspect "level of kata performance " (132.63), also amounts at the cognitive test (110.09), as well as amounts at the emotional aspect. Table (22) indicates that there is a just one non-significant phrase. The researcher attributes this to that the use of interactive method in teaching kata had a positive impact on the development of skills performance for students.

it also increased the students` interaction and their positiveness as well as increasing the situations of application of the skill which led to increase the firmness of the important technical aspects of the performance in the students` mind in addition to that it developed the social skills of students such as listening to the colleague`s orders and the development of

leadership and contributed to the treatment of increasing the students numbers within Karate the hall.

The importance of using different teaching methods during the educational process, whether (command method, guided discovery method, or interactive method), is illustrated from the foregoing where all of them helped to improve the control center and the outputs of skillful, cognitive, emotional, learning, although the rates may differ from style to another. "Ashraf Abdel Kader, Mohammed Zaki" (2003) (4) and "Nabil Khattab" (2004) (28), and "Ibrahim Fahmi" (2008), (6) have emphasized the importance of using disparate methods in teaching, which play an important role in improving the ability to control external and internal factors, as well as the educational process outputs. Thus the fourth hypothesis has achieved which states that "the rates of improvement of post-measurements for the three groups (the control group, the first experimental group, the second experimental group) at the control center and outcomes of kata learning

(skillful - cognitive - emotional)"

Conclusions and recommendations:

• Conclusions:

- The traditional method (command) followed in lectures contributed to improve the control center and the level of knowledge acquisition and learning kata for the students of the experimental group, but lesser degree than in the experimental groups.
- Experimental groups outperformed the control group in improvement rates in the variables under discussion
- Teaching by the method of guided discovery as well as interactive method had a deep impact in the improvement of the control center variable.
- Guided discovery method was more effective in improving cognitive achievement level as a first place, followed by the level of kata performance.
- Interactive method had a deep impact in enriching and improving the skillful aspect as a first place then the cognitive aspect.
- Both of (guided discovery - interactive) methods have evident effect in the emotional aspect.

- Both of (guided discovery - and interactive) methods contributed in saving time, effort, and a positive role in correcting errors and provided guidance for the students during the learning process.

- There are statistically significant differences between the pre-measurement and post-measurement for the control group in favor of the post-measurement in the control center and outcomes of kata learning (skillful - cognitive - emotional).

- There are statistically significant differences between the pre-measurement and post-measurement for the first experimental group in favor of the post-measurement in the control center and outcomes of kata learning (skillful - cognitive - emotional).

- There are statistically significant differences between the pre-measurement and post-measurement for the second experimental group in favor of the post-measurement in the control center and outcomes of kata learning (skillful - cognitive - emotional).

- The rates of improvement of the three groups (the control group, the first experimental group and, the second experimental group) vary in the control center and outcomes of kata learning (skillful - cognitive- emotional).

• **Recommendations:**

- Teachers should not lose the importance of dialogue and discussion method (commands) which plays role in enriching aspects of learning outcomes.

- Taking into account the choice of the optimal method of teaching that is appropriate for the target and the characteristics of the learner and the conditions of the educational environment as well as the nature of the subject to be taught since each method has advantages and disadvantages.

- The need for taking into account that the tutorial program permeates the diverse and changing situations that help the learner to realize his abilities and become acquainted with his potentials that increase the capacity to control the internal factors and always look to the surrounding circumstances in a realistic way.

- We can focus on the style of guided discovery if the first goal is the enrichment of cognitive aspect.

- We can focus on the interactive method if the first target is the enrichment for the skillful aspect, the problem solve of increasing the number of learners in addition to enriching the social aspect.

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