

Building a proposed model for measuring skill performance for some skills in karate.

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Abstract

The development in kinesthetic learning prompted an attempt to explore alternative models for the art of teaching and learning. The study aims to build a proposed model for the skillful performance of some karate skills using the law of kinetic energy and reaction speed. Study procedures ,Study Methodology: The researcher used the descriptive method for its relevance to the nature of this study ,Study Population: The study population is the students who obtained a black belt in karate ,Study sample: The study sample was deliberately selected from karate players To be a participant in the sectoral and republican championships ,conclusions - Making a proposed model to measure the skill performance of some karate skills according to the arithmetic standards and rates - Create standard levels of skill measurement- Arithmetic equation based on the electronic device and standard levels ,Recommendations - Activating the model in other skills in karate - Measuring the model in other games such as swimming and strength games.

Keywords (Law of Kinetic, Energy, Reaction, speed)

Introduction:

The development in kinetic learning prompted an attempt to explore alternative models for the art of teaching and learning and the methods that are followed, so that this fine art can be advanced under the laws and conditions that may often be contrary to the current curriculum, which is characterized by maintaining the usual curricula despite its inadequacy. To the age in both content and style, with the participation of all curricula in the goal from the point of view of learning, which is to obtain good learning and determine how to improve the learning process. It takes into account the individual in the quality of his learning and reaches a high degree of efficiency and effectiveness. Therefore, many educators have tended to reconsider the approach to providing learners with the necessary knowledge and skills that need a successful teacher who is proficient in his scientific material and modern teaching methods and is familiar with their use and how to build and design educational situations in a manner consistent with the learner's different needs and characteristics (Ahmed, 2010, p. 1)

The study Problem:

The problem of the study is evident from the researcher's point of view in the lack of understanding of some physical education and sports teachers and coaches about how to use evaluation models for some skills in Karate, and the development in the laws is an attempt to explore. Alternative models for the art of teaching and learning and the methods used so that evaluation can develop in light of laws and conditions that may often conflict with the current curriculum, in the context of technological development and the rapid pace of technological progress and different training strategies, the researcher believes that there must be innovations and methods To assess skills in a manner

consistent with the development and change of this research, which is characterized by maintaining the usual curriculum. This is what made most countries of the world subject curricula and teaching methods to modification and development processes that emphasize the need to use modern methods and techniques in teaching and learning that take into account the individual in the quality of his learning and reach a high level. The degree of efficiency and effectiveness. Learners and trainers possess the necessary knowledge and skills that need a successful teacher who is proficient in his scientific subject and modern teaching methods and is familiar with their use and how to build and design educational situations in a way that is in line with the learner's diverse needs. Features.

Objectives of the study :

The study aims to build a proposed model for the skillful performance of some skills in karate using the law of kinetic energy and reaction speed through:

- Identifying the specific technical characteristics of the specific technical performance of some skills in karate (Oi Zuki).
- Identify the specific laws of the proposed model to measure my skill (Oi Zuki).

Study questions:

- What are the specific technical characteristics of the technical performance of some skills in karate (Oi Zuki)?
- What is the proposed model for evaluating some skills in karate (Oi Zuki)?

Terminology of study:

- Law of Kinetic Energy: The amount of work done on a body by affecting it with an amount of force, leads

to an increase in the body's velocity, which leads to the body gaining kinetic energy. (energy, 2020)

- Reaction speed: It is the time between the appearance of a particular stimulus and the motor response to that stimulus (Hussain, 2018, p. 138).

Study procedures:

Study Methodology:

The researcher used the descriptive method for its relevance to the nature of this study

Study Population:

The study population is the students who obtained a black belt in karate

Study sample:

The study sample was deliberately selected from karate players To be a participant in the sectoral and republican championships.

experimental sample:

A number of (5) students were deliberately selected from the West Tirah School of the Hamoul Educational Administration, who are enrolled in the Egyptian Karate Federation and have the degree of brown belt (1), in order to apply some skills in karate (Oi Zuki and Mawash grei). To extract the (stability) coefficient of the evaluation form

Devices and tools used in the research:

The researcher used the following research methods, devices and tools:

- Innovative Electronic Device



Data collection tools:

The researcher used several tools to collect data for this research, and they were as follows:

A- Nor content analysis of some skills in karate (Oi Zuki).

Kazami Zuki's skill:

the student stands in front of the electronic device. Turning on the electronic device when the green light is lit. Performs a blow by Kazami Zuki on the position of sensor No. (4), taking into account the correct posture of the skill, and this appears later in the process of kinetic analysis and time analysis of the skill through the electronic program (KarateDo) standing in the position of (Zenkotsu Dachi)Putting hands and feet.

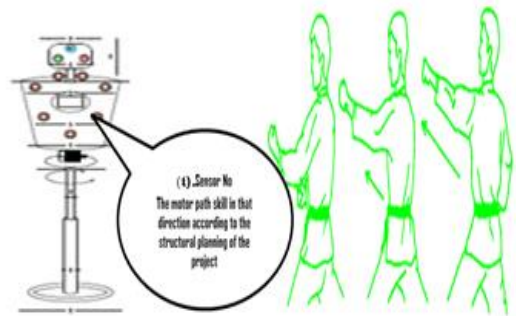
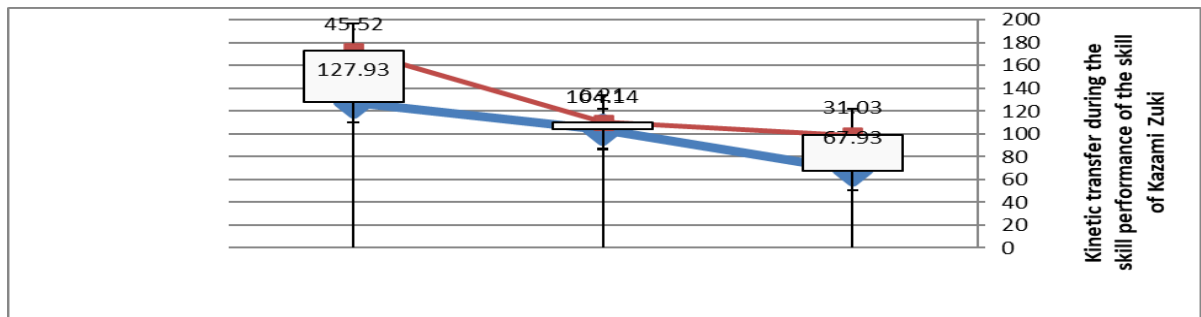


Figure No. (1) The motor transfer during the skill performance of the Kazame Zuki skill shows the following figure



In its various forms (twisting and flattening) in the graph also indicates the kinetic transfer of skill in its sequential form, and agrees with Nahid Muhammad Ali (2008): that kinetic flow represents one of the important manifestations of kinetic compatibility during the kinetic learning process and its impact on reaction speed during performance, which It leads to the improvement of skill (Mohamed, 2008, p. 14)

Through the use of kinetic energy law and through quantitative and qualitative analysis of skill:

Law of kinetic energy = $1/2 \times \text{mass} \times \text{velocity squared}$

Kinetic energy of an object is the energy that it possesses due to its motion.

After gaining this energy during its acceleration, the body conserves this kinetic energy unless its speed changes.

- Mass in physics is a property of a material body that determines the strength of its mutual gravitational attraction with other bodies, its resistance to strong acceleration, and in the theory of relativity it gives the total energy content of the system.

“Mass is not the same as weight, although we often calculate the mass of an object by measuring its weight on a pulsating scale rather than by comparing it.

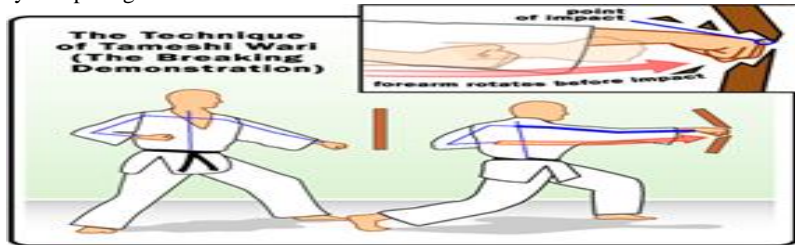


Table (1)
Correlation ships between mass and velocity through the following analysis

Statistical variables	Mass	squared velocity	Kinetic energy
hand positions	50.1	1.954	97.985 j(KG2.M2/S2)
move		2.313	115.88 j(KG2.M2/S2)
Harmony and timing		1.060	53.160 j(KG2.M2/S2)
correct breathing		0.852	42.184 j(KG2.M2/S2)
quantitative		1.890	94.689 j(KG2.M2/S2)
Compatibility		1.790	89.964 j(KG2.M2/S2)

Reaction speed: According to Magill (2005): measuring and evaluating reaction time (kinetic reactions) consists of:

- 1- Reaction time "RT"
- 2- Motion time "MT" In this type of measurement, it is important for the students to evaluate the optical situation from the specific technical situation, as well as the times of the time intervals between showing the slides of the first technical situation, showing those related to the second technical situation, and then displaying Those slides related to the technical situation (Magill.R, 2005, p. 6) are the results obtained from the measurement, and the results obtained from such a last operation will be:Response time "RT"
- 3- The accuracy of the decision taken to solve (as a model of accuracy in such cases, and what matches the experts' opinion on the necessity of actions and performance in this manner in the relevant technical situation) is taken.
- 4- Probabilities of the response obtained It is possible for the responses to take the reactions of four possibilities:
- 5- 1- Speed and accuracy 2- Speed and inaccuracy 3- Slowness and accuracy 4- Slow and inaccurate
- 6- When measuring the response time "RT", and the accuracy of making the solution decision at the same time, this requires that the tactical positions chosen be different in terms of content, but equal in terms of ease (Al-Din N., 2015, pg. 52)

Arithmetic equations for scale:

- 1- Reaction time = (distance) / (speed)
 - 2- Arithmetic mean = (distance from the electronic device of the test pupil)/(2)
- (2) **Average = (Distance)**

Note :

(Why did the distance division work by /2) during a student's performance in Karate for measurement varies from distance to distance to the students' proximity and distance according to the skill performance during the measurement according to the structural structure of the map and the path of the student's movement when implementing the skill and physical content, both skill abilities Physical or the use of skill performance tests to assess the physical and skill abilities of the skills under study, bearing in mind that they have been selected for their enjoyment of transactions with a high degree of sincerity through previous studies on Karate students. These tests are a means of measurement.

Table (2)
The relationship between distance and speed to calculate response speed

<i>Skill Kazami Zuki</i>	<i>Distance</i>	<i>Speed</i>	<i>Response Speed</i>
<i>Hand positions</i>	<i>80.cm</i>	<i>1.398</i>	<i>111.84 m/s</i>
<i>move</i>		<i>1.521</i>	<i>121.68 m/s</i>
<i>Harmony and timing</i>		<i>1.030</i>	<i>82.04 m/s</i>
<i>Correct breathing</i>		<i>0.918</i>	<i>73.44 m/s</i>
<i>Quantitative</i>		<i>1.375</i>	<i>110.2 m/s</i>
<i>Compatibility</i>		<i>1.338</i>	<i>107.04 m/s</i>

Through Table No. (1,2) and through the application of the laws of (kinetic energy = $1/2 \text{ mass} \times \text{speed squared}$) and the unit of measurement in a mobile phone. And it is about 1 mobile = equal to 0.001 / s, and also applying the law (movement = mass x speed) unit of measurement kg / s, and also applying the law (reaction speed = distance x time) the unit of measurement m / s after that was collected For all the variables used during the skill performance (body mass, response speed, distance, and movement amount to accomplish the skill and perform the skill.

Therefore, the researcher suggests making a model for a law to measure skill performance in karate sports

$$\text{A model for measuring skill performance} \\ \text{Kinetic energy} / 0.001 + \text{Movement quantity} + \text{reaction speed} \times 100$$

Example of a karate player performing the OI Zuki skill during training. The body mass is 50 kg. The kinetic energy was calculated on the database as 97.895 mobiles / 0.001 and the distance between it and the electronic electronic device to measure the reaction speed was 80 cm. The speed was measured using the electronic device (111.84 m). / s) and the amount of movement during performance was 99.19 kg / s

Solution: Skill performance measure = $97.895/0.001 + 111.84 \text{ m/s} + 99.19 \text{ kg/s} \times 100 = 98.10\%$

With the following result, the player or student gets an excellent grade (+) and gets a count of (4) points that also puts him in the skill assessment at the governorate or republic level what is known as (Egyptian renminbi),

Solution: Skill performance measure = $97.895/0.001 + 111.84 \text{ m/s} + 99.19 \text{ kg/s} \times 100 = 98.10\%$

With the following result, the player or student gets an excellent grade (+) and gets a count of (4) points that also puts him in the skill assessment at the governorate or republic level what is known as (Egyptian renminbi), and this is consistent with (Suwarganda, 2015) Hassanein, 2021) (Ghazi M., 2019) (Al-Din, 2015) through the use of skill techniques and times through the electronic device, and these times are standardized at an estimated level through Table No. (4) due to the reasons being able to use the kinetic law - The ability to apply technological techniques - the pursuit of innovation in the laws of skill measurement

conclusions

- Making a proposed model to measure the skill performance of some karate skills according to the arithmetic standards and rates
- Create standard levels of skill measurement
- Arithmetic equation based on the electronic device and standard levels

Recommendations

- Activating the model in other skills in karate
- Measuring the model in other games such as swimming and strength games

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