



# THE EFFECTIVENESS OF USING KEELER'S STRATEGY IN SINGLING OUT EDUCATION ON THE LEVEL OF PERFORMANCE OF SOME BASIC SKILLS IN BELLY CRAWL SWIMMING FOR BEGINNERS

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Article history:	Abstract:
<p><b>Received:</b> 11<sup>th</sup> April 2022 <b>Accepted:</b> 11<sup>th</sup> May 2022 <b>Published:</b> 26<sup>th</sup> June 2022</p>	<p>This research aims to identify the effectiveness of the use of Keeler's strategy in singling out education at the level of performance of some basic skills in swimming crawling on the abdomen for beginners, the researcher used the experimental approach due to its appropriateness to the nature of the current research. Post-pre-measurement for both groups, how much the research community included all children of the age group of (8-11) years (males) in swimming education classes at the Wafer Academy for swimming education during the summer semester 2019/2020, and the most important conclusions exceeded the experimental group that used the educational program Prepared with Keeler's strategy to individualize learning on the control group that used the traditional method (verbal explanation and practical model), which indicates the effectiveness of the educational program and its impact on learning to crawl on the belly for beginners children. Researching and having a positive impact on the level of physical and skill performance of children.</p>

**Keywords:** Keeler's strategy, performance, belly crawl swimming.

## INTRODUCTION:

In view of the great changes that the global community is witnessing with the advent of the information age and the communications revolution, the need is necessary at this particular time to develop educational institutions' programs to keep pace with those changes. Therefore, there have been shouts here and there to reconsider the content, objectives and means of the educational process, in order to allow learners at all levels of education to make the most of contemporary teaching methods and means in academic achievement and to acquire knowledge and skills that are consistent with the nature of the era in which we live.

The last decades of the twentieth century witnessed rapid developments. It directly affected the education system in terms of its role, philosophy, policy, curricula and methods. Among the most prominent of these developments is the amazing progress in all fields of science and technology. The emergence of the information age and globalization. This made it imperative for those working in the field of education to renew the educational system and work on developing it to keep pace with recent developments and developments and invest them as much as possible (5: 66).

Many educators believe that specialized knowledge will not become as important for the future generation as it is to employ this knowledge and treat it mentally through the development of thinking skills. Therefore, what we need is for each teacher to reconsider his method, and his treatment of his students, and not be satisfied with repeating what is known to him and them. Rather, he constantly urges them to think that helps them to improve their mental abilities, and increases the degree of their intelligence (8:15).

Many educational studies indicate that academic achievement is still and will remain the focus of attention of educators and specialists, as it is the most prominent outcome of the educational process. The basis for judging the quantitative and qualitative results of this process. Determining the students' academic levels. Thus, they aim to improve and increase the level of achievement and its development through studying the cognitive and non-cognitive variables affecting it. This includes learning strategies (9:8).

The Keeler strategy is one method of individualizing education. It is based on the learner's study of the educational unit according to her abilities. In which the prescribed scientific material is divided into a series of small units that are dealt with separately. Each unit



includes specific learning objectives. The learner must achieve a specific level of proficiency. She gets self-reinforcement and the learner does not face a penalty when she fails a unit test. It is allowed to re-enter the test again (9: 17).

It is also an educational system direction. It takes care of clarity of objectives and focuses on feedback and self-regulation of the steps of educational progress and sequential evaluation of each educational unit. Each learner must demonstrate his comprehension and good mastery of all the concepts and skills of the educational unit before moving on to the next unit. The use of software in education has an important role in addressing individual differences to suit the learner's abilities.

Individual learning is a way of managing the learning process. So that the learners are integrated into educational tasks that suit their needs and levels. It may be a method that provides the opportunity for them to study the educational material according to their abilities and the speed of their learning. And under the supervision of the teacher, who helps them in solving the problems they face during their studies to achieve the educational goals (7:21).

#### **RESEARCH PROBLEM :**

Swimming is one of the fields of water sports, but its main nerve. It represents the self-abstract ability of the human being to deal with the watery medium that is different from the medium in which he was created. In addition to changing the position of the body from the vertical position to the horizontal position. Hence, swimming is characterized by the different nature of its performance. It also requires the use of the mind to enter into this new medium and adapt to it. It requires the presence of the mind in varying degrees in order to fully understand each movement, assimilate it and be able to perform it. Thus, it requires complete coordination between the muscular and nervous systems. As well as using some mental abilities and psychological preparation so that the important parts of the skill are felt and focus on them, raise the efficiency of motor performance and develop the performance time (22:10).

Abdominal crawl swimming is one of the swimming skills that require knowledge, understanding and careful analysis of the educational and technical stages, and the correct link between the information obtained by the learner and directing him to carry out the motor duty with the least effort and in the shortest possible time. From this point of view, and with the clear difference between the methods used in teaching

swimming, there has become a necessity to use modern means and technology that can contribute to helping the teacher provide knowledge of technical performance and educational exercises for belly crawl swimming. And help learners to understand the correct and accurate visualization of the kinetic sequence of performance and how to perform the exercises in a correct manner to achieve better learning (16:7).

The results of many studies that dealt with traditional education and learning using Keeler's strategy of individualizing learning indicate the lack of effectiveness of traditional education in front of learning using Keeler's strategy of individualizing learning. Among these studies is the study conducted by Nevin Hatifi Abdel-Khaleq (2005) (13) and Mervat Samir Hussein Sayed (2003) (12) and Muhammad Abdo Muhammad Khader (2010) (11). The results of the studies showed that the use of Keeler's strategy to individualize learning leads to a significant progress in learning to perform skills over the traditional method.

The individual education strategy is one of the strategies that develop thinking and take into account the individual differences among learners. It also provides the opportunity for self-learning through activities that suit the learners and their special circumstances. And learners in the field of physical education differ in their abilities to perform motor skills, which makes them need individual assistance to progress in any skill. The need to adopt modern educational strategies and methods that raise and improve the level and effectiveness of learning has emerged. And that the teacher adopts a scientific plan in the teaching process. In addition to benefiting from scientific progress in the field of educational technology in the educational process (14: 60).

Based on the foregoing, the researcher tried to use some of the individual education strategy in the current study by using the Keeler strategy to single out learning to avoid the previous problems, the avoidance of which may lead to the effectiveness of teaching belly crawling swimming among novice children in swimming schools at Weaver Academy to teach swimming and thus improve the performance level of novice swimmers. .

#### **RESEARCH IMPORTANCE:**

The importance of this research lies in the nature of the modern topic that it addressed and the groups that can benefit from it.



### **RESEARCH OBJECTIVE:**

This research aims to identify the effectiveness of using Keeler's strategy to individualize learning on the performance level of some basic skills in belly crawl swimming for beginners.

### **STUDY HYPOTHESES:**

- 1- There are statistically significant differences between the mean of the pre and post measurements of the control group "the followed educational program" in the performance level of some swimming skills on belly crawl for beginners in favor of the post measurement.
- 2- There are statistically significant differences between the pre and post measurements of the experimental group "the proposed educational program" in the performance level of some swimming skills on belly crawl for beginners in favor of the post measurement.
- 3- There are statistically significant differences between the post measurements of the control and experimental group in the performance level of some swimming skills on belly crawl for beginners in favor of the post measurements of the experimental group.

### **RESEARCH TERMS:**

**Educational program:** It is a visualization or plan prepared by the teacher. It includes procedures and educational materials needed to be presented through an educational communication channel (9:1).

**Keeler's strategy (PSI):** The education system: It is one of the contemporary individualized learning strategies. It provides the opportunity for each learner to proceed in learning at his or her own pace. It gives him the opportunity of sufficient time to master learning and make the process of learning easy and possible for the learner, regardless of his preparations, abilities, or his own rate of speed (13:327).

**Education Individualize:** An educational system that has been designed in a systematic way that allows taking into account the individual differences among learners within the framework of the collective education. This is in order for a large percentage of learners to reach the level of proficiency (90% or

more). Each according to his rate that suits his abilities and preparations (6: 12) (16: 55).

### **RESEARCH PROCEDURES:**

#### **Research Methodology:**

The researcher used the experimental method due to its relevance to the nature of the current research. The researcher used one of the experimental designs, which is the experimental design for two groups, one experimental and the other control, using the pre and post measurements for both groups.

#### **Research community and sample:**

The research community included all children of the age group (8-11) years (males) in swimming classes at Weaver Academy for swimming education during the summer semester 2021/2022 AD. The body is 65 children. (5) children were excluded for not attending the educational program, bringing the total number of the community to (60) children. The researcher has chosen a random exploratory sample from within the research community and outside the basic research sample, which numbered (10) children, to conduct scientific transactions for the tests "under research", "undistinguished group". The basic research sample included (50) children. The sample was divided into two groups, one of which is experimental, consisting of (25) children. The researcher followed with them the proposed educational program using the Klar strategy "individualizing learning". The other is a female officer, consisting of (25) children. He followed the teaching methods followed (explanation and practical model). The researcher also selected another sample from the research community from the advanced stage in swimming crawling on the abdomen (8-11) years, and their number was (10) children. In order to conduct scientific transactions "distinguished group".

#### **Sample homogeneity:**

The researcher verified the moderation of the distribution of the research sample members in terms of growth rates (age, height, weight), (physical and skill variables) under study due to the importance of these variables and their impact on learning. As can be seen from Table (1).



**Table (1) Statistical description of the research sample and the averageness of the sample in the variables under investigation (n = 60)**

variables		unit of measure	Arithmeti c mean	standa rd deviati on	skew coefficie nt
Age		year	9.0800	.77828	.399
height		kg	130.6200	1.72485	.447
weight		cm	30.5600	.73290	-.378
physical variables	<b>speed power</b>	Long jump stability test.	cm	61.4200	1.08965
	<b>speed</b>	A sprint (20m) test from a high start.	second	10.2900	.52576
	<b>flexibility</b>	Trunk flexion test, forward, down from standing.	cm	2.7900	.22520
	<b>agility</b>	Shuttle runs of various dimensions.	second	14.8600	-.157
	<b>Compatibility</b>	numbered circuit test	second	12.6700	-.691
	<b>balance</b>	Metatarsal stand test	second	3.1180	.26084
skill variables	The ability to float horizontally on the abdomen	Degree	2.8680	.12848	-.749
	The ability to glide on the abdomen	meter	2.8480	.15016	-.619
	Inhale and take it out into the water	Number	3.5182	.13183	.598
	Two legs hits for the longest distance	meter	3.8120	.18805	-.545
	Arm movements for the longest distance	meter	5.6680	.39561	-.720
	Swimming (20) meters	meter	12.5946	.36949	-.451
	jump start distance	meter	1.8500	.17757	-.945

It is clear from Table (1) that the skew coefficients of the research community in the variables under investigation were limited to ( $\pm 3$ ). This indicates that the research community is a normal moderator in the anthropometric scales (age, height, and weight). And tests (physical and skill) "under discussion".

**The equivalence of the two search groups:**

After the researcher made sure that the research sample is drawn from a homogeneous population and lies under the moderation curve. The sample was divided into two groups, one of them experimental, with (25) children. The other was controlled by (25) children. Al-Bahat verified equivalence by finding (equivalence) between the two research groups. This is done by using the T-test, as shown in Table (2).

**Table (2) The significance of the differences between the two research groups (control - experimental) in the pre measurements of the variables under study (n = 60)**

variables	unit of measure	control group		experimental group		"T" value
		M	H	M	H	
Age	year	9.1600	.80000	9.0000	.76376	0.723
height	kg	130.3600	1.91224	130.8800	1.50886	1.067
weight	cm	30.7200	.67823	30.4000	.76376	1.566



<b>physical variables</b>	<b>speed power</b>	Long jump stability test.	cm	61.400 0	1.118 03	61.4400	1.083 21	0.12 8
	<b>speed</b>	A sprint (20m) test from a high start.	second	10.320 0	.4761 0	10.2600	.5795 1	0.40 0
	<b>flexibility</b>	Trunk flexion test, forward, down from standing.	cm	2.7600	.2309 4	2.8200	.2198 5	0.94 1
	<b>agility</b>	Shuttle runs of various dimensions.	second	14.840 0	.7029 7	14.8800	.9712 5	0.16 7
	<b>Compatibility</b>	numbered circuit test	second	12.500 0	.7359 8	12.8400	.6245 0	1.76 1
	<b>balance</b>	Metatarsal stand test	second	3.0800	.2236 1	3.1560	.2930 9	1.03 1
<b>skill variables</b>	The ability to float horizontally on the abdomen		Degree	2.8480	.1388 0	2.8880	.1166 2	1.10 3
	The ability to glide on the abdomen		meter	2.8160	.1572 7	2.8800	.1384 4	1.52 7
	Inhale and take it out into the water		Number	3.5280	.1369 9	3.5084	.1285 1	0.52 2
	Two legs hits for the longest distance		meter	3.8000	.1957 9	3.8240	.1832 1	0.44 8
	Arm movements for the longest distance		meter	5.6440	.4213 9	5.6920	.3751 9	0.42 5
	Swimming (20) meters		meter	12.529 2	.4131 0	12.6600	.3149 1	1.25 9
	jump start distance		meter	1.8840	.1650 3	1.8160	.1863 7	1.36 6

It is evident from Table (2) that there are no statistically significant differences at the significance level of 0.05 between the two experimental and control groups on all measurements of height - weight - physical tests in the pre measurements. Which indicates the equivalence of the two groups in these measurements.

#### **Data collection methods and tools:**

The researcher reviewed the previous similar references and studies in order to benefit from them in designing the survey form for the opinions of the experts. As well as identifying and conducting skill tests.

#### **A/ Expert Opinion Survey Form:**

1- The data registration form for the tests "under research". "Preparation of the researcher" attached (2)  
2- A questionnaire form for the opinions of experts on the most important physical tests "under discussion". Attachment (4)

3- A questionnaire form for the opinions of the experts on the most important skill tests "under discussion". Annex (5)

4- A form to determine the basic aspects on which the proposed educational program is based during the preparation period. Attachment (7)

#### **B/ Tools and devices used in the research:**

##### **1- Devices used in the research:**

The ristometer for measuring length in centimeters - a flexible tape measure (in centimeters).

Medical scale for measuring weight (in kilograms). - Stopwatch for calculating time.

- Medical balls - a dynamometer. - Pretensioners of the palms.

- Fins. Floatation plates.

- The data show device.

The validity of these devices has been confirmed through the pilot study. Some of them were also calibrated by taking measurements on similar scientific devices and comparing the results obtained from them to exclude any device that gives readings that do not match the calibration.

##### **2- Tests and Standards Used:**

The researcher conducted a survey of many references, studies and previous scientific research



that are related to the topic of research to identify the physical and skill variables. In addition to identifying the appropriate measurements and tests to measure those variables, in preparation for the design of a questionnaire form to be presented to experts to determine the most important variables related to the topic of research. And what can be measured by tests, where a number of physical and skill variables related to tummy crawl swimming were found. These variables were also presented through the expert opinion poll. In order to determine the most important physical and skill variables "under research".

### **3- Survey studies:**

From Monday 3/6/2021 to Monday 10/6/2021, the researcher conducted exploratory studies with the aim of the following:

- Calculating scientific coefficients (honesty - reliability) for the tests used in the study.
- Preparing the tools and devices used in the tests and ensuring their suitability for conducting the tests.
- Ensure that the educational program is appropriate for the age group.
- Identifying the difficulties that the researcher may face when applying to the basic sample and the extent to which these difficulties can be overcome.

The exploratory study was conducted on a sample of (10) children. They were selected from outside the research sample, but similar to them. Where all tests and measurements were carried out on them.

### **Scientific Transactions for Data Collection Tools:** **First: The physical tests "under research":**

Then, identify the most important capabilities associated with the skills "under research" through the following steps:

The researcher conducted a survey of previous studies and specialized scientific references that dealt with the

physical fitness elements of abdominal crawling swimming and the tests that measure them to determine the homogeneity of the research community. The addition and deletion were taken into account as appropriate to the expert's opinion. And presented to experts in the field of swimming and methods of teaching physical education (5) experts annex (1). The items and tests that got 75% were selected according to the significance of ratios test. Attachment (4).

### **Scientific Transactions for Physical Tests:**

Validity of the tests:-

The researcher used two types to calculate the validity as follows:-

#### **A/ The veracity of the arbitrators (content):**

The researcher verified the validity of the tests used by:

Presenting an opinion poll form containing all the previous tests before using it in this research to the experts to determine the extent of its validity in measuring what it was developed for Annex (1). They agreed that it is suitable by (90%) for the physical tests "under consideration".

#### **B/ the validity of the distinction:**

The researcher verified the validity of the physical tests "under research" by using experimental validity (discrimination). This is done by applying the tests "under research" to two groups of equal numbers, each of them (10) children. One of them represents the exploratory research sample (undistinguished group). The other group has a high level in those variables (the privileged group). The significance of the differences between the two groups was calculated by the "Mann-Whitney" test, as shown in Table (3).

**Table (3) The significance of the differences between the two groups (distinguished - undistinguished) in the physical tests under study by "Mann - Whitney" method n = n 2 = (10)**

variables		unit of measure	groups	average rank	total ranks	U	Z	probability of error (P)
speed power	Long jump stability test.	cm	not featured	5.50	55.00	0.00	3.833	0.00
			featured	15.50	155.00			
speed	A sprint (20m) test from a high start.	second	not featured	10.70	107.00	20.00	2.690	0.00
			featured	10.30	103.0			



					0			
flexibility	Trunk flexion test, forward, down from standing.	cm	not featured	5.50	55.00	0.00	4.05 8	0.00
			featured	15.50	155.00			
agility	Shuttle runs of various dimensions.	second	not featured	13.15	131.50	23.50 0	2.26 0	0.024
			featured	7.85	78.50			
Compatibility	numbered circuit test	second	not featured	14.45	144.50	10.50 0	3.15 5	0.002
			featured	6.55	65.50			
balance	Metatarsal stand test	second	not featured	5.50	55.50	0.00	4.06 5	0.00
			featured	15.50	155.00			

It is clear from Table (3) that there is a statistical function at the level of significance (0.05). Which indicates that there are statistically significant differences between the privileged group and the undistinguished group on the physical tests "under research". This indicates that the tests have an acceptable degree of validity.

#### C/ Stability coefficient:-

The reliability coefficient was calculated by the method of applying tests and re-applying it, Test, Retest, on

the exploratory research sample drawn from within the research community and outside the main sample. The number of (10) children in swimming schools at Weaver Academy to teach swimming. The tests were re-applied at an interval of (7) days on the same distinguished sample. The correlation coefficient between the two applications was calculated as a function of the stability coefficient using the simple (Spearman's) law of correlation. As can be seen from Table (4).

**Table (4) the values of correlation coefficients between application and re-application in the physical tests tests "under research" n = (10)**

variables		unit of measure	first application		second app		R value
			M	H	M	H	
speed power	<b>Long jump stability test.</b>	cm	74.30 00	1.059 35	74.5000	.9718 3	0.809
speed	<b>A sprint (20m) test from a high start.</b>	second	10.50 00	.5270 5	10.4000	.5164 0	0.816
flexibility	<b>Trunk flexion test, forward, down from standing.</b>	cm	4.000 0	.0000 0	4.4000	.5164 0	0.854
agility	<b>Shuttle runs of various dimensions.</b>	second	13.30 00	.4830 5	12.8000	.6324 6	0.845
Compatibility	<b>numbered circuit test</b>	second	11.25 00	.4249 2	11.0500	.1581 1	0.870
balance	<b>Metatarsal stand test</b>	second	5.300 0	.4830 5	5.1500	.4743 4	0.907

(t) tabular value at the level of significance (0.05) = 0.632

It is clear from Table (4) that the calculated "t" value is greater than the tabulated "t" value at the level of

significance (0.05) between the first and second applications on all physical variables. Which indicates that there is a statistically significant relationship between the application (first - second) on physical



tests. Which indicates the stability of these tests when they are re-applied to the exploratory research sample.

**Third: The skill tests "under research":**

By informing the researcher of the scientific sources and references that dealt with the basic skills of swimming. Which aims to measure the level of learning the basic skills of swimming. The researcher chose (6) tests in the form of a test battery to measure the level of learning the basic skills of belly crawl swimming for beginners "the research sample". Attachment (6)

**Scientific transactions for skill tests "under research":**

Validity of the tests:-

The researcher used two types to calculate the validity as follows:-

**A/ The veracity of the arbitrators (content):**

**The researcher verified the validity of the tests used by:**

Presenting an opinion poll form containing all the previous tests before using it in this research to the experts to determine the extent of its validity in measuring what it was developed for Annex (1). They agreed that it is suitable by (90%) for the skill tests "under consideration".

**B/ the validity of the distinction:**

The researcher verified the validity of the physical tests "under research" by using experimental validity (discrimination). This is done by applying the tests "under research" to two groups of equal numbers, each of them (10) children in swimming schools at Weaver Academy for swimming education. One of them represents the exploratory research sample (undistinguished group). The other group has a high level in those variables (the privileged group). The significance of the differences between the two groups was calculated. This was done by the Mann-Whitney test. As can be seen from Table (5).

**Table (5) The significance of the differences between the two groups (distinguished - undistinguished) in the physical tests under study by the "Mann - Whitney" method, n = n 2 = (10)**

No.	variables	unit of measure	groups	average rank	total ranks	U	Z	probability of error (P)
.1	The ability to float horizontally on the abdomen	Degree	Not featured	5.50	55.00	0.00	3.853	0.00
			featured	15.50	155.00			
.2	The ability to glide on the abdomen	meter	Not featured	5.50	55.00	0.00	3.851	0.00
			featured	15.50	155.00			
.3	Inhale and take it out into the water	number	Not featured	5.50	55.00	0.00	3.866	0.00
			featured	15.50	155.00			
.4	Two legs hits for the longest distance	meter	Not featured	5.50	55.00	0.00	4.091	0.00
			featured	15.50	155.00			
.5	Arm movements for the longest distance	meter	Not featured	5.50	55.00	0.00	3.891	0.00
			featured	15.50	155.00			
.6	Swimming (20) meters	meter	Not featured	5.50	55.00	0.00	3.891	0.00
			featured	15.50	155.00			
.7	jump start distance	mete	Not	5.50	55.00	0.00	3.83	0.00



		r	featured				8	
			featured	15.5 0	155.00			

It is evident from Table (5) that there is a statistical significance at the level of significance (0.05), which indicates that there are statistically significant differences between the privileged group and the undistinguished group on intelligence tests. Which indicates that the tests have an acceptable degree of validity.

#### **Persistence:**

To calculate the stability of the intelligence test, the researcher used the re-application method. And that is by applying the test to a sample of (10) ten children in swimming schools at Weaver Academy to teach swimming from the research community and from outside the basic sample. Then the application was repeated again with an interval of (7) seven days from the first application. The correlation coefficient was found between the first and second applications, as shown in Table (6).

**Table (6) values of correlation coefficients between application and re-application in the physical tests "under research" n = (10)**

No.	variables	unit of measure	first application		second app		R value
			M	H	M	H	
.1	The ability to float horizontally on the abdomen	degree	3.8700 8	.2002 0	3.920 0	.1549 2	0.830
.2	The ability to glide on the abdomen	cm	4.8400 1	.2221 0	4.890 0	.1912 0	0.817
.3	Inhale and take it out into the water	meter	5.4000 0	.5164 0	5.500 0	.5270 5	0.854
.4	Two legs hits for the longest distance	number	6.0000 0	.0000 0	6.300 0	.4830 5	0.902
.5	Arm movements for the longest distance	number	9.3000 5	.4830 5	9.400 0	.5164 0	0.894
.6	Swimming (20) meters	secon	19.300 0	.4830 5	19.40 00	.5164 0	0.905
.7	jump start distance	meter	2.7700 8	.2451 8	2.820 0	.3326 7	0.922

#### **(R) tabular value at the level of significance (0.05) = 0.632**

It is clear from Table (6) that the calculated "R" value is greater than the tabulated "R" value at the level of significance (0.05) between the first and second applications. Which indicates that there is a statistically significant relationship between the application (first - second). Which indicates the stability of that test when it is re-applied to the exploratory research sample.

#### **Suggested educational program: Attachment (7)**

With reference to the scientific references, the researcher prepared the educational curriculum, attached (6). It was presented to the previously mentioned specialists in the field of swimming, kinesthetic learning and teaching methods, annex (1).

The following principles were taken into account when developing the educational program:

- The educational curriculum should be commensurate with the mental and chronological age of the sample members.
- That the educational curriculum works as much as possible to achieve the goals for which it was set. Observing the principle of gradation from easy to difficult in teaching skills.

Observing the principle of repetition in the explanation during the learning process, with frequent revision of previous skills.

The educational program included (12) educational units. By (2) two educational units per week for (8) weeks. The time for one unit was (90) minutes, and each unit included the following sections:



- The preparatory section includes (attendance, warm-up, general exercises and small games, taking a shower).
- The main section includes (educational activity, applied activity).
- The closing section includes (small games, relaxation, getting out of the pool and taking a shower).

Accordingly, the implementation of the experiment took (8) eight weeks.

#### **Pre measurements:**

The researcher made pre measurements for the experimental and control groups in the skill tests "under research". And that is in the period from Monday, corresponding to June 17, 2021 AD to Thursday, corresponding to June 20, 2021 AD, according to the research sample.

#### **Implementation of the proposed educational program:**

The researcher applied the proposed educational program using Keeler's strategy to individualize the learning (the suggested educational program) to teach belly crawl swimming to the experimental group. While the control group followed the traditional method (explanation and model performance) in education, following the pre measurement, and in the period from Monday, 06/24/2021 CE, to Monday, 19/8/2021 CE. Two units per week. And a time of (90) minutes for

each educational unit. Accordingly, the implementation of the experiment took (8) eight weeks.

#### **Post measurements:**

The researcher made post measurements for the experimental and control groups in the skill tests "under research". From Tuesday, 20/8/2021AD to Thursday, 22/8/2021AD, according to the research sample.

#### **Statistical manipulations:**

The researcher used statistical treatments for the basic data within this research using the Statistical Package for Social Science (SPSS).

- 1- Arithmetic mean
- 2- The mediator
- 3- Standard Deviation
- 4- Skewness coefficient
- 5- T test.

#### **Presentation and discussion of the results:**

##### **First, show the results:**

Presenting the results of the first hypothesis of the research, which states that there are statistically significant differences between the pre and post measurements of the control group in the level of performance of some swimming skills on belly crawl for beginners in favor of the post measurement.

**Table (7) The significance of the differences between the pre and post measurements of the control group in the skill tests (under research) n = 25**

No .	variables	unit of measure	pre measurement		Post measurement		T value
			M	H	M	H	
.1	The ability to float horizontally on the abdomen	degree	2.8480	.13880	2.9888	0.116	2.449
.2	The ability to glide on the abdomen	meter	2.8160	.15727	3.016	0.237	2.357
.3	Inhale and take it out into the water	number	3.5280	.13699	3.764	0.241	4.548
.4	Two legs hits for the longest distance	degree	3.8000	.19579	3.972	0.133	3.040
.5	Arm movements for the longest distance	degree	5.6440	.42139	5.928	0.364	2.744
.6	Swimming (20) meters	meter	12.5292	.41310	13.280	0.678	4.741
.7	jump start distance	meter	1.8840	.16503	1.804	0.154	3.116



**Tabular (T) value at significance level (0.05) = 2.064.**

It is evident from Table (7) that there are statistically significant differences at the level of significance (0.05) between the pre and post measurements of the control group on the tests under discussion and in the direction of the post measurements.

Presenting the results of the second hypothesis of the research, which states that there are statistically significant differences between the pre and post measurements of the experimental group in the level of performance of some swimming skills on belly crawl for beginners in favor of the post measurement.

**Table (8) The significance of the differences between the pre and post measurements of the experimental group in the skill tests (under research) n = 25.**

No .	variables	unit of measure	pre measurement		Post measurement		T value
			M	H	M	H	
.1	The ability to float horizontally on the abdomen	degree	2.8880	.11662	3.600	0.279	13.587
.2	The ability to glide on the abdomen	degree	2.8800	.13844	4.356	0.460	18.451
.3	Inhale and take it out into the water	degree	3.5084	.12851	4.960	0.611	11.722
.4	Two legs hits for the longest distance	degree	3.8240	.18321	5.400	0.645	11.258
.5	Arm movements for the longest distance	degree	5.6920	.37519	8.460	0.840	16.426
.6	Swimming (20) meters	second	12.6600	.31491	18.000	18.581	17.918
.7	jump start distance	degree	1.8160	.18637	2.540	0.276	10.159

**Tabular (T) value at significance level (0.05) = 2.064**

It is evident from Table (8) that there are statistically significant differences at the level of significance (0.05) between the pre and post measurements of the experimental group on the tests under discussion and in the direction of the dimensional measurements.

Presentation of the results of the third hypothesis of the research hypotheses. Which states that there are statistically significant differences between the post measurements of the two experimental and control groups in the level of performance of some abdominal crawling swimming skills for beginners in favor of the experimental group.

**Table (9) the significance of the differences between the post measurements of the control and experimental groups in the skill tests (under research) n 1 = n 2 = 25.**

No .	variables	unit of measure	control group		experimental group		T value
			M	H	M	H	
1 .1	The ability to float horizontally on the abdomen	degree	2.9888	0.116	3.600	0.279	11.331
.2	The ability to glide on the abdomen	meter	3.016	0.237	4.356	0.460	15.291
.3	Inhale and take it out into the water	number	3.764	0.241	4.960	0.611	9.103
.4	Two legs hits for the longest distance	meter	3.972	0.133	5.400	0.645	10.831
.5	Arm movements for the longest distance	meter	5.928	0.364	8.460	0.840	13.816
.6	Swimming (20) meters	meter	13.280	0.678	18.000	18.581	13.717
.7	jump start distance	meter	1.804	0.154	2.540	0.276	11.614



**Tabular (T) value at significance level (0.05) = 2.064**

It is evident from Table (9) that there are statistically significant differences at the level of significance

**Second - Discussion And Interpretation Of The Results:**

Discussion and interpretation of the results of the first hypothesis of the research hypotheses. Which states that there are statistically significant differences between the pre and post measurements of the control group in the performance level of some abdominal crawling swimming skills for beginners, in favor of the post measurement.

It is clear from Table (7) that there are statistically significant differences between the pre and post measurements of the control group in the level of performance of some swimming skills on belly crawling for beginners, in favor of the post measurement.

The researcher returns this result to the fact that the traditional method cannot be overlooked, which depends on verbal explanation and the performance of the practical model of the basic skills to be learned. Then provide a group of graduated exercises from easy to difficult and from simple to complex and practice and repeat the performance of the skill by the students. Correcting errors and directing them by the teacher during that. Which leads to learning in a proper manner matching the technical performance of the skill and thus positively affects the efficiency of the skill performance.

The researcher believes that the traditional method is using the verbal explanation method. And the performance of the practical model that the children of the control group underwent. He must accept all that is offered to him by the teacher without any positive participation in the process of obtaining knowledge and information. In addition, there are those who cannot see the skill model properly. Which affects the teaching of this skill correctly. And that the reason for the progress of the members of the control group in the level of skill performance of the skills in question may be due to the provision of knowledge and information related to the skills in question. Where this helped to form a clear kinetic perception of the skill to be performed, and this represents the basis before practice, as knowledge comes before practice. And Fatima Muhammad Muhammad (2003 AD) (9) indicates that acquiring theoretical knowledge contributes to increasing the effectiveness of learning. And that the learner's performance of the skill depends on the teacher's ability to provide the learner with a

(0.05) between the post measurements of the control and experimental groups on the tests under discussion and in the direction of post measurements.

good cognitive outcome, so that he can learn it easily and quickly.

This indicates that the traditional method (explanation and model) has a positive effect on learning the motor skills under study. This is due to the presence of the learner, his explanation, the performance of the model, the making of all decisions, and the follow-up of the learners during the performance. And giving feedback to all of them at the same time, which had a positive impact on the learning process.

The results of this study are in agreement with the results of the study of Jamal Al-Raba`a (2011) (4). And the study of Maysa Muhammad Afifi Al-Sayed, (2006 AD) (10). and Muhammad Abdo Muhammad Khader, (2010 AD) (11). and Mervat Samir Hussein, (2003) (12). and Jordan Lois-E, 2000 (17)). In that the traditional method used in the two studies led to positive youngsters learning to crawl on the stomach, in addition to learning the cognitive aspect of swimmers.

**Thus, the second hypothesis is fulfilled, which states:**

There are statistically significant differences between the mean of the pre and post measurements of the control group in the performance level of some abdominal crawling swimming skills for beginners, in favor of the post measurement.

**Discussion and interpretation of the results of the second hypothesis of the research hypotheses.** Which states that there are statistically significant differences between the pre and post measurements of the experimental group in the level of performance of some swimming skills on belly crawl for beginners, in favor of the post measurement.

It is clear from Table (8) that there are statistically significant differences between the pre and post measurements of the experimental group in the performance level of some swimming skills on belly crawl for beginners, in favor of the post measurement. The researcher attributes these results to the effectiveness of the Keeler strategy program for the individualization of learning. which was applied to the experimental group. It provided the learner with new entrances to acquire information in an individual manner in an appropriate sequence. With the return and retrieval of this information commensurate with



his personal capabilities. The presentation of the scientific material within the program and its gradual presentation is simplified by displaying high-quality drawings linked with super links to illustrate the way each part of the body performs the skill and supporting it with verbal explanation. Make the learner wish to become close to this image. Linking this to the practical performance of what was previously witnessed. And correct performance errors by being able to return to the program again to provide immediate reinforcement when he is unable to perform the skill or part of it, which leads to improvement and development of skill performance. This is consistent with what Wafiqa Mustafa Salem (2007) indicated that the use of the computer helps to stimulate the learner's senses greatly. It depends on the sensory inputs of the learner. It addresses the sense of hearing, sight, and touch, in addition to the element of movement. Thus, it helps to improve the efficiency of these senses for the learner. (15: 270). In this regard, Tawfiq Marei and Muhammad Al-Heila (2002) and Jaber Abdul Hamid (2008) mention that the learning process takes place to the fullest if the teacher is keen to use the various educational media that are related to providing the exact stimulus that achieves the required answer that reinforces the required behavior. (2:52) (3:28)

The results of this study agree with the results of Sally Mohamed Abdel Latif (2005). (6), and the study of Hisham Muhammad Anwar. (2008 AD). (14), and Jordan Lois-E, 2000 study (17), that Keeler's strategy for individualizing learning is of great importance. It helped the children to quickly understand and realize what he wanted to learn. As well as improving the level of skill and cognitive performance.

**Thus, the first hypothesis is fulfilled, which states:**

"There are statistically significant differences between the mean of the pre and post measurements of the experimental group in the performance level of some abdominal crawling swimming skills for beginners, in favor of the post measurement."

**Discussion and interpretation of the results of the third hypothesis of the research hypotheses.**

Which states that there are statistically significant differences between the post measurements of the control and experimental groups on the skill performance variables "under research" in favor of the experimental group.

It is evident from Table (9) that there are statistically significant differences between the two post measurements of the experimental and control group in the level of performance of some swimming skills on belly crawling for beginners, in favor of the experimental group.

The researcher attributes that this progress may be due to the positive impact of educational software. Using Keeler's strategy to individualize education. Because it contains the content of an educational program organized in a way that helps children remember the correct skill performance. The children's dependence on themselves in mastering any part of the skill education and the freedom to repeat and repeat according to the individual differences of each child. This helped increase the motivation towards learning and achieve high performance rates. The use of more than one sense of learning helps to deepen the information. Also, the use of the elements of suspense and excitement provides positive interaction and the freedom available to use information and determine the methods that children follow in order to match the speed of their learning in the direction of the ultimate goal of learning. And give an opportunity for feedback and try again until you reach the required skill performance. In addition to the impact of learning on children, their retention of information and knowledge and their recall when needed. As the computer helped to acquire the form of performance and the correct movement sequence and remember the details of the skill. Which helps to retain knowledge and information and increases their motivation to learn.

Wafiqa Mustafa Salem (2001) and Lou Yiping (2004) indicate that the use of immediate reinforcement for the learner leads to better learning and enables him to stabilize his responses. Where learning takes place through his immediate knowledge of the correctness of his response to each educational stimulus of the sequence of stimuli in the software. It also indicates that the use of computers in education works to deliver information to the learner in an interesting and more in depth manner without getting bored (212: 15). (18: 235).

The results of this study are in agreement with the results of the study of Sally Mohamed Abdel Latif (2005). (6), and Ahmed Bahaa El-Din Abdel-Latif, (2001) (1), and Fatima Muhammad Muhammad Fleifel (2003) (9), which concluded that the use of the Keeler strategy to individualize education had a positive impact on the level of skill performance compared to the control group. Used verbal explanation method



and the performance of the practical model. As we have already explained.

**Thus, the third hypothesis is fulfilled, which states:**

There are statistically significant differences between the two post measures of the experimental and control groups in the performance level of some abdominal crawling swimming skills for beginners, in favor of the experimental group.

**CONCLUSIONS AND RECOMMENDATIONS:**

**First, the conclusions:**

Based on the objectives of the research and within the limits of the sample and in light of the statistical results. The researcher reached the following conclusions:

1. The traditional method (verbal explanation, and practical model) contributed in a positive way to learning to crawl on the belly for the children of the control group.
2. Keeler's strategy for individualization of learning is more effective than the usual educational method (explanation and model performance) in improving the performance level of some belly crawling swimming skills for beginners.
3. The experimental group that used the educational program prepared using the Keeler strategy for individualizing learning was superior to the control group that used the traditional method (verbal explanation and practical model). Which indicates the effectiveness of the educational program and its impact on learning to crawl on the tummy for beginners.

**Second: Recommendations:**

Based on what the research results indicated, the researcher recommends the following:

1. Holding training courses for swimming teachers to learn about a mechanism that used the Keeler strategy to individualize learning and how to apply it in the field of swimming education.
2. The importance of taking into account the differences in physical characteristics between children when teaching different motor skills.
3. The necessity of using Keeler's strategy to single out learning, as the results of this research have proven that there is a positive effect on the level of children's physical and skill performance.
4. The importance of providing swimming teachers with a guide to explain how to use modern strategies in learning. And how to use it in teaching swimming skills.

5. Conducting more studies and empirical research on the use of Keeler's strategy to single out learning in the field of learning at the level of colleges of physical education and swimming units. To fully improve the educational and training processes. Keeping abreast of developments in developed countries.

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