The effectiveness of using infographic technology to learn some basic skills for The Epee junior

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Introduction and research problem

Countries pay great attention to young people in all sports, as special schools have opened in which they meet alongside the regular part, and so-called sports academies have appeared, which use modern technology in education and training, and where we live in the era of the information revolution and technological progress، With the technological development, the use of technological innovations has become an important matter for employment in the field of education and training, and among these recent phenomena is the infographic as an advanced technological technology in the era of digital applications to properly disseminate scientific contents

The infographic has spread during the recent period, in conjunction with the development and rapid spread of social networks such as Facebook, Twitter and YouTube among Internet users, as it was used as one of the important and effective means of presenting information that is easy, fast and entertaining in presenting information and communicating it to the recipient or the learner.

Infographic technology, with its various designs, works to change the way of thinking towards complex data and information, and adds a new visual form for collecting and displaying information or transferring data in an attractive way to the learner, and infographic increases the individual's ability to perceive by using visual shapes and graphics; To stimulate the individual to understand by means of observation; Therefore, it is necessary to employ infographics in the educational process, for its role in simplifying information, reading huge amounts of informational data, making it more fluid and attracting the attention of individuals to it.

Country is interested in the youth sectors because they are the cornerstone of sports, and Country exerts its utmost efforts in establishing clubs, squares and covered halls to provide them with all means of the sports training process in all sports and sports training has two sides that

are linked together by a close bond forming one unit, , so the educational aspect of the training process The athlete aims at imparting and developing general and special physical characteristics, teaching and mastering sports motor skills and planning abilities for the type of specialized sports activity, in addition to imparting theoretical knowledge and information related to sport.

since fencing is one of the sports that need to build a broad base of young people because they are the basis of the future and the champions of tomorrow and motivate them to reach the best performance and a high level of acquiring basic skills in the sport of fencing, this research was an attempt to experiment and to know the

impact of modern technology such as infographic technology.

And by looking at previous studies that used the infographic technique, such as the study of **Al-Juwayri Siham** (2014) (7), **Abu Asbah Shaima** (2015) (3),**Mansour, Marian Milad** (2015) (23), **Al-Dakhni, Amani and Darwish, Amr** (2015) (6), **Ismail, Abd al-Raouf Muhammad** (2016) (15), **Farouk, Hassan and Al-Sayyad, Walid** (2016) (9), **Khalil, Amal Shaaban Ahmad** (2016) (20),**Shibl, Essam Shawky and Mahmoud, Yasser Saad** (2016) (30),**Hassan, Amal** (2016) (10),**Omar .Asim Muhammad Ibrahim** (2016) (25),**Abu Zeid, Salah Muhammad** (2016) (4), **Ibrahim, Reda Ibrahim Abdel Maqsoud** (2017)(12), **Abu Arabian, Abeer Abed Salma** (2017) (2),**Salem, Nahla Al-Mitwali Ibrahim** (2017) (28),**Jaber ,Sharif Adel** (2017) (18) , **Lang and Steely's**, (2003) (22), **Albers, M.** (2014) (5) **Troutner J.,** (2010) (34), **Krauss J.** (2012) (21), **Smiciklas , M.** (2015) (31), which confirm that the use of infographic technology had a great impact on improving students' level of knowledge and skills as well as developing their attitudes and motivation towards learning.

The researcher noticed that a large numbers of fencing beginners preferred to practice The epee due to its being the least expensive weapon and increasing the legal goal with it and easy to analyzed the performance. It also enters into the sport of modern pentathlon and consequently, many sports academies have spread that are interested in teaching and training the sport of fencing especially the epee. Through the survey study conducted by the researcher, she noticed a decrease in the level of match results, and the researcher saw alternative ways to raise the attention and focus of the emerging epee junior and by linking education with training and trying to discover the effect of using infographic on basic skills in fencing ,From the above, the researcher believes that the use of modern technology, such as the application of the use of infographic technology, is an appropriate way to teach the beginners of The Epee junior and to shorten the time and effort to train in fencing skills and communicate information and skills accurately, easily and easily.

Research Goal

The research aims to identify the effectiveness of using the infographic technique on learning some basic skills: "Position de le gard - Marche - Rombre - Development – Positions de ecscrime –Qoup Droite – Le Degegment " for the beginners of The Epee junior.

Research hypotheses

1- There are statistically significant differences between the mean of the pre and post measures of the control groups and the first and second experiments in the level of performance of some basic skills in the sport of fencing "under research" in favor of the post measurement.

2- There are statistically significant differences between the results of the post measurements of the control group and the first and second experimental group in the level of performance of some basic skills in the

sport of fencing " under research " in favor of the post measurement of the second experimental group.

Terms used in the search

Infographics

Issa, Moataz, (2014) defines it as: a technical term that tends to convert complex information and data into pictorial drawings that are easy for those who see them to understand without having to read a lot of texts. It combines ease, speed, and entertainment in presenting information and communicating it to the recipient. (16)

Rezaei & Sayadian (2015) also defines infographics: as a graphic representation of information designed to make data easier to understand at first glance, and infographics can then be viewed as one of the types of data visualizations designed to present information to readers. (27)

Static Infografic

It is a graphic illustration that constantly explains a certain thing without the need for any interaction with the reader and includes visual materials such as newspapers, magazines, propaganda images, and educational and awareness-raising flyers. Charts, graphs, helpful handouts, description of big numbers, timelines, and comparison drawings. (8:21)

Moving Infographics

It is an animation that the reader interacts with, and this depends on part of the concept of animation, and we may see it in some websites that tend to this science using different web technologies such as HTML5 and CSS3; To explain something, some of which appear in the form of video that uses infographics to represent information (24), (33)

Epee Junior

They are the players who practice **Epee** and are registered with one of the clubs registered for the Egyptian Federation of Fencing, whose age is under 11 years.

Research Procedures

Research Methodology

The researcher used the experimental method for its suitability to the nature of the research. She depended on the experimental design for the pre and post measurement of three control groups, the first experimental and the second experimental.

Research Community

The research community was chosen by the deliberate method for the juniors of the Epee, the fencing club in the "alnogom club" in Sadat city under the age of 11, whose number is (30) Junior.

The Research Sample

The research sample was selected from the research community and they numbered 24 junior, and the survey sample (6) junior and table (1) illustrates this.

Table (1)
classification of the research sample

Sample	groups	No.	Per.
Main	Control Group	8	80%
	First experimental group "static infographic"	8	
	The second experimental group "moving Infographic"	8	
Survey sample		6	20%
Total		30	100%

Homogeneity of the research sample

The researcher found the homogeneity of the research sample of (30) junior to make sure that it falls under the moderate curve in the following variables: -

Table (2)
Variables (age - height - weight - intelligence) of the research sample N = 30

R	Var.	Unit	M.	St.	Mediator	skewness
Growth var.	Age	year	10.65	1.25	10.55	-0.24
	Height	Cm	131.34	2.55	130.56	-0.92
	Weight	Kg	31.33	5.67	30.65	-0.36
	Intelligence	Degree	60.54	2.35	60.20	0.43
Physical tests	Precision	Degree	7.48	1.68	7.50	0.04
	Reaction speed	Degree	0.64	2.46	0.65	-0.09
	Flexibility	Cm	27.2	2.08	26.50	-1.00
	Agility	Sec	17.35	1.16	17.50	0.38
	Legs capacity	M	1.17	1.38	1.15	-0.04
	Arms capacity	M	3.40	1.67	3.50	0.18
	Muscular Endurance	Rep.	12.65	1.65	12.50	-0.27
	Compatibility	Degree	14.70	1.55	14.50	-0.38
Basic skills "under discussion	Position de le gard	Degree	2.05	2.06	1.85	-0.39
	Marche	Degree	1.75	1.54	1.70	-0.09
	Rombre	Degree	1.45	3.54	1.50	0.04
	Development	Degree	1.20	1.64	1.15	-0.09
	Positions de ecscrime	Degree	1.35	1.50	1.38	-0.14
	Qoup Droite	Degree	0	0	0	0
	Le Degegment	Degree	0	0	0	0

Table (2) shows the homogeneity of the members of the research sample in the variables (age - height - weight - intelligence), physical tests, basic skills "under research" as the value of the torsion coefficient for these variables ranges between (-1.00, 0.43), meaning between (± 3) This indicates that the research sample represents a moderate society.

Equivalence of the research sample

The researcher found Equivalence between the research groups for the junior in the growth variables - physical tests - basic skills in fencing "under research" and this is shown from the following table:

Table (3)
Analysis of variance for growth variables, physical tests, and basic skills "under Research"

R	Var.	source variance	F.dg.	Total Score	Total Av..Score	"F" calcuated
Growth var.	Age	Between	2	3.84	1.92	2.71
		Inside groups	21	109.2	5.20	
	Height	Between	2	4008.4	2004.2	0.03
		Inside groups	21	1299913	6186.35	
	Weight	Between	2	19544.9	977.43	0.03
		Inside groups	21	5694.5	271.17	
	Intelligence	Between	2	525243	12621.48	0.09
		Inside groups	21	24910.4	1186.20	
Physical tests	Precision	Between	2	899.5	449.52	0.03
		Inside groups	21	260.4	12.40	
	Reaction speed	Between	2	20.7	10.35	1.00
		Inside groups	21	217.88	10.37	
	Flexibility	Between	2	16843.5	8421.75	0.03
		Inside groups	21	4567.5	217.50	
	Agility	Between	2	6028.24	3014.12	0.03
		Inside groups	21	2027.6	96.55	
	Legs capacity	Between	2	20.54	10.27	0.05
		Inside groups	21	11.20	0.53	
	Arms capacity	Between	2	170.40	85.20	0.05
		Inside groups	21	89.54	4.26	
	Muscular Endurance	Between	2	2756.24	1378.12	0.09
		Inside groups	21	2604.6	124.03	
	Compatibility	Between	2	198111	99055.65	0.07
		Inside groups	21	145612	6933.89	

Continued Table (3)

R	Var.	Source variance	Freedom dgree	Total Score	Total Av..Score	"F" calcuated
Basic skills "under research"	Position de le gard	Between	2	9.63	8.82	0.83
		Inside groups	21	84.29	4.01	
	Marche	Between	2	0.52	0.26	0.97
		Inside groups	21	5.25	0.25	
	Rombre	Between	2	0.78	0.39	1.20
		Inside groups	21	9.82	0.46	
	Development	Between	2	0. 64	0.33	0.83
		Inside groups	21	5.51	0.26	
	Positions de ecscrime	Between	2	0.98	0.49	1.04
		Inside groups	21	10.71	0.51	
	Qoup Droite	Between	2	0.00	0.00	0.00
		Inside groups	21	0.00	0.00	
	Le Degegment	Between	2	0.00	0.00	0.00
		Inside groups	21	0.00	0.00	

It is shown from Table (3) that there are no statistically significant differences between the research groups, which indicates their equivalence in these variables.

Data collection methods and tools

In collecting information and data related to this research, the researcher relied on methods and tools in which she took into account the following conditions: - That they meet the scientific criteria (validity and consistency). - That they be easy to implement and that they have measuring devices. - That they be effective in diagnosing the specific aspects of the research.

A- **Devices to indicate growth rates, represented in the following measurements**: -

- Chronological age: by referring to the date of birth (to the nearest year), height: by using the Rasterometer (to the nearest centimeter), weight: by the medical scale (to the nearest kilogram). Attachment (2)

B- **I.Q test**: -

The researcher used I.Q test. Attachment (3)

C- Reference survey, expert opinion survey and personal interview.

1- Reference survey to determine the physical elements of a fencing.

Through a comprehensive survey of scientific references and related studies that dealt with some of the physical characteristics of fencing, the researcher identified the physical elements of fencing and their relative importance based on their frequency in the scientific references.

The researcher also polled experts and specialists in the field of fencing on identifying the physical elements of the

basic skills of fencing "under research." Attachment (4)

2- A survey of experts 'opinion to determine the most important physical tests that measure those physical elements of fencing. Attachment (4)

The researcher surveyed the opinion of experts to determine the most important physical and skill tests that measure those physical and skill elements of fencing in order to put it in an expert survey questionnaire to determine the most appropriate of these tests to be implemented to measure the equivalence and homogeneity of the research sample, and the researcher has used several references to determine these tests.

Table (4) below shows the percentages of physical element tests for the basic skills under investigation, according to the opinions of experts.

Table (4)
The percentage of physical element tests of the basic skills under research
According to expert opinions, N = 10

M	Physical elements	Physical Tests	Experts opions Total	Per.
1	Precision	Running in the place 15 sec	6	60%
2	Reaction speed	Amining by hand on overlapping circles	10	100
3	Flexibility	Nelson test using a ruler	10	100
4	Agility	Bend the torso forward from standing	9	90%
5	Legs capacity	Throwing test and receiving balls	9	90%
6	Arms capacity	The broad jump from stability	10	100
7	Muscular Endurance	Pushing medicine ball by hands its weight 3	10	100
8	Compatibility	Returning running 10*14	10	100

It is shown from Table (4) that 8 tests were extracted to measure the physical fitness elements of the individuals of the research sample according to the opinion of the experts, where the tests that achieved a percentage were selected 90%. And more.

The tools used in the research

24 Epee, 24 mask. - laptop, Computer CDs. - Headrests .- Digital Camera.

Data registration form

The researcher designed forms to record the measurements of the research, so that the simplicity, ease, accuracy and speed of registration are available in order to collect data and schedule it in preparation for its statistical treatment, which are as follows: - A form for recording students 'measurements in the variables (age - height - weight - intelligence) - Physical tests.

D- Tests.

1- Physical tests:

The researcher used physical tests to measure some elements of physical fitness in order to find homogeneity and parity among the subjects of the research sample. Attachment (5)

Scientific treatments of the tests used in the research

A- Validate the physical tests

The physical tests were presented to some experts to inform, guide, and choose the tests that match the basic skills of the fencing "under discussion." Attachment (5)

B- The validity of the distinction

The validation of the distinction was made between two groups, one of them consisted of (6) Epee Junior, survey sample (Unfeatured group) and another sample (6) Epee Junior (Featured group) under 15 years old and a table (5) showing the validity of the differentiation in physical tests at 20/6/2018.

Table (5)
Differentiation Validation for Physical Tests.   N 1 = N 2 = (6)

The variables	Unit	Featured group		Unfeatured group		"T" value
		M	ST.	M	ST.	
Precision	degree	10.5	1.54	6.1	1.65	4.31*
Reaction speed	degree	0.24	0.63	0.85	0.78	3.03*
Flexibility	cm	29.5	1.72	24.5	1.68	4.32*
Agility	sec	18.9	1.85	15.4	1.98	2.38*
Legs capacity	m	0.95	0.65	1.35	0.95	2.45*
Arms capacity	m	3.95	0.75	3.42	0.87	2.39*
Muscular endurance	repeat	17.2	1.5	13.5	1.45	4.25*
Compatibility	degree	18.4	1.6	14	1.8	3.79*

* The tabular "T" value at 0.05 = 2.015

It is shown from Table (5) that there are statistically significant differences between the two groups Featured group and Unfeatured group in favor of the Featured group, which indicates the validity of the tests for what they were designed for.

stability of Physical tests

The researcher found the stability of the tests by applying the test on Saturday corresponding to 23 /6 /2018 and re-applying it to survey sample selected from the research sample and their number (6) players from the beginners of the Epee junior on Saturday corresponding to 30 /6 /2018 with an interval of (7) days from the first application Table (6) shows the stability of the physical tests.

Table (6)
Correlation Coefficient between The First and Second Applications in Physical Tests

The variables	Unit	The First Application		The Second Application		"R" value
		M	ST.	M	ST.	
Precision	degree	6.5	1.65	6.6	1.32	0.982*
Reaction speed	degree	0.65	0.44	0.64	0.56	0.951*
Flexibility	cm	27	2.7	27.5	2.35	0.885*
Agility	sec	17.85	1.65	18.08	1.74	0.878*

Follow Table (6)
Correlation Coefficient between The First and Second Applications in Physical Tests

The variables	Unit	The First Application		The Second Application		"R" value
		M	ST.	M	ST.	
Legs capacity	M	1.5	0.22	1.45	0.35	0.921*
Arms capacity	m	3.4	0.36	3.42	0.28	0.865*
Muscular Endurance	repeat	14.35	1.24	14.5	1.12	0.789*
Compatibility	degree	16.45	1.32	16.52	1.51	0.822*

* Tabular "R" value at significance level (0.05) = 0.497

Table (6) shows that there is a statistically significant correlation between the first and second applications in the tests under investigation, which indicates the stability of the tests.

2- A form for assessing the level of skill performance of basic skills for fencing "under research"

The researcher designed a form for assessing the level of skill performance of the basic skills of fencing "under research" attached (7) to estimate the skill performance scores of the basic skills of fencing.

Practical Transactions A form to assess the level of skill performance of basic skills "under discussion"

- Validation of the form for assessing the skill level of basic skills for fencing "under research"

The skill performance was applied to a sample of (6) Epee junior from the research community "survey sample" , and it was applied to (6) Epee junior from outside the research sample under 15 years old on Monday 25/6/2018.

Table (6)
Validated The Form of Evaluating The Skill Level of some Skills of
The Fencing "under search"

The variables	Unit	Featured group		Unfeatured group		"T" value
		M	ST.	M	ST.	
Position de le gard	degree	7.60	1.24	1.45	1.55	7.80*
Marche	degree	5.60	1.10	1.88	2.1	3.31*
Rombre	degree	4.80	1.20	1.65	2.28	2.37*
Development	degree	4.55	1.18	1.54	1.95	2.89*
Positions de ecscrime	degree	7.60	1.72	1.44	1.85	4.83*
Qoup Droite	degree	3.56	1.34	1.00	1.44	3.31*
Le Degegment	degree	3.20	1.12	1.10	1.22	3.82*

Tabular "T" value at significance level (0.05) = 2.015

Table (7) shows that there are statistically significant differences between the two Featured and Unfeatured groups, which indicates the validity of the form in what it was designed for.

- The stability of the form for assessing the skill level of basic skills in fencing.

The researcher found the consistency of the form by applying the test on Wednesday corresponding to 27 /6/2018 and re-applying it to the survey sample on Tuesday corresponding to 4/7/2018 and the number of 6 Epee Junior, with an interval of (7) days from the first application, and table (8) showing the stability of the form.

Table (8)

Correlation Coefficient between The first and second applications in the level of skill performance Basic Skills of Fencing "In Research"

The variables	Unit	The First Application		The Second Application		"R" value
		M	ST.	M	ST.	
Position de le gard	degree	3.28	1.12	3.5	1.2	0.882*
Marche	degree	2.5	1.5	2.55	1.65	0.875*
Rombre	degree	2.3	1.23	2.35	1.54	0.764*
Development	degree	2.5	1.54	2.62	1.62	0.832*
Positions de ecscrime	degree	2.4	1.65	2.44	1.72	0.815*
Qoup Droite	degree	1.9	1.82	1.95	1.95	0.754*
Le Degegment	degree	1.5	1.89	1.55	1.9	0.785*

*Tabular "T"at Dgree of freedom: n -2 and the significant level (0.05) = 0.497

It is shown from Table (8) that the calculated value of "R" is greater than the tabular "R" value, which indicates the existence of a correlation between the first and second application, and consequently the reliability of a form assessing the skill level of skill performance of the basic skills of the Fencing "under research"

Steps to prepare the educational program using infographics.

After reviewing several models of instructional design models, such as the general ADDIE model, Nabil Gad Azmi's multimedia educational design model (2001), and the butcher model (2013), the researcher made a proposed model for static and mobile

infographic design that includes the following steps: -

1- Determine the general goal: -

It is the provision of educational content for the basic skills in fencing by using infographics to contribute to helping the epee junior to develop their skills and create an atmosphere of enthusiasm, excitement and interaction between the players. The educational content is provided for the first experimental group using "static infographics".

2- Defining the characteristics of learners: -

The researcher reviewed the special characteristics and abilities that characterize the stage, where the players were chosen from the same

community and have the same characteristics in terms of (height, age, weight and intelligence), as well as the level of skillful performance.

3- Designing and organizing content and continuing its presentation in light of the goal of the program: -

After reviewing the scientific references and studies related to the research topic, the researcher presented the content and skills to a group of experts in physical education to identify the suitability of the basic skills required in fencing for this age group to achieve its goal and be free from errors Attachment (6), and the experts agreed On the content and ready with the infographic technology.

Table (9)

Timing peroid	Experts opinion	The percentage
Number of weeks	8	90%
Number of unit in week	3	100%
Training unit time	90 minute	90%

Table (10)

Unit parts	Time (min)	Control group	First Experimental group	Second Experimental group
Administ. works	5	Adminis. affairs	Administrative affairs	Administrative affairs
Warm up	20	Exercises for all parts of the body	Exercises for all parts of the body	Exercises for all parts of the body
Main part	60	Learn basic skills	Learn basic skills using static infographic	Learn basic skills using moving infographic
Fin	5	Relaxation exercises	Relaxation exercises	Relaxation exercises

4- Production stage

It is the stage in which the educational content and required skills are transferred to static and mobile infographic designs.

Determine the hardware and software used.

When designing, a high-quality laptop and a set of programs were chosen to design the static and moving infographic technology, which are as follows: -

1- Adobe IIIustrator cc program, which is a program produced by Adobe to prepare designs from the type of vector graphics, and the researcher used it in static infographic designs.

2- Adobe After Effects, a program to create 2D and 3D animation with various merging tools and additional functions, as well as individual interest in variables such as parallax and angle that are adjustable by the user and the

researcher used it in the designs of the Motion Graphics.

3- Adobe Fhotoshop, a program to create and modify images.

4- Shutter Stock website to download images and icons used in the designs.

Multimedia collection and production:

The researcher collected multimedia from texts, pictures, drawings, audio files, video clips, or musical backgrounds, then designed and produced texts and used them in designing static and moving infographics. .

Produce the initial design for the infographic

After producing all the required multimedia, the static and moving infographic was designed in its initial form. This stage is considered an actual translation of what was done in the previous stages, and it was completed in two stages:

* The static infographic design stage: It is a static image and is prepared according to the basic principles of visual design (simplicity of design - choosing the appropriate colors for the design - checking the spelling of information and being free from spelling and linguistic errors).

* Moving infographic design stage: It is about designing data, information and explanations in a fully animated manner, and this requires a lot of creativity and the selection of expressive movements that help to bring it out in an interesting and fun way, and it must be available when designing accuracy, choosing shapes well, convergence, symmetry and continuity..

The constructive evaluation stage

After completing the design of the program using the infographic technology, its validity was verified and presented to two arbitrators specializing in education technology attached (1) to express their opinion and to ensure that the objectives, images, drawings, colors, written texts, the presentation sequence and interconnections between the elements, integration and ease of use were met. Opinions were analyzed and changes were taken into account. On the initial version.

Final output stage

After completing the formative evaluation process and making the required adjustments, the program was prepared in its final form and ready for use.

The Survey study:

The researcher conducted a survey study on a sample of (6) epee junior from outside the basic research sample, on Wednesday and Saturday corresponding to 7/7/2018,11/7/2018 with the aim of identifying the //validity of the tools and the validity of the place, identifying potential errors and experimenting with some fixed and moving infographic units in order to identify The extent of the appropriateness of the educational units in terms of the clarity of the fixed and moving infographics and the extent of their suitability for the players and the extent of their response and interaction with the educational program.

Steps to apply the research

A) Pre-measurements:

The researcher made pre-measurements for the research groups,

the control group, the first experimental group, "static infographic" and the second experimental group, "moving infographic" in the basic skills of fencing "under discussion" by the jury panel attached (2), during Monday 9/7/2018..

B) Implementation of the basic experiment

The researcher applied the "educational program based on the static infographic on the first experimental group, the educational program based on the animated infographic on the second experimental group from Wednesday 11/7/2018 to Saturday 8/9/2018 with a total number of 24 units, by three units per week for a period two months, within rest two units a day of Monday 20/8/2018 ,Wednesday22/8/2018 for Eladah day.

C- Post Measurements

After the end of the specified period for the implementation of the basic

experiment, the researcher conducted the telemetry of the research groups, the control group and the experimental group, the first and the second, on Monday 10 /9/ 2018. The post measurements were made through the form of evaluating the level of skill performance in the sport of fencing "under research" attachement (7).

Statistical Treatment:

The Researcher records The Obtained Data and then statistically processed it by: - The Arithmetic Mean - The Standard Deviation - The skewness Factor - The Median - The Correlation Coefficient - The "T" Test - The Percentages of Improvement Rates ,The "F" Test

Presentation and discussion of results

1- Presenting and discussing the results of measurements (pre and post) for the three groups in the level of performance of basic skills for Fencing "under Research".

Table (11)
The Significance of The Differences between the Mean of The Pre and Post Measurements for The Control group in the Level of Performance of basic skills for Fencing "under Research" N =(8)

The variables	Unit	Post Measurme		Pre Measurment		"T" value	Improvement percentage %
		M	ST.	M	ST.		
Position de le gard	degre	5.40	1.32	1.3	2.50	3.59	315.38
Marche	degre	4.35	1.15	1.25	2.30	3.28	248.00
Rombre	degre	4.40	1.30	1.22	2.42	2.95	260.65
Development	degre	3.70	1.10	1.66	2.15	2.45	122.89
Positions de ecscrime	degre	6.50	1.20	1.80	2.25	5.06	261.11
Qoup Droite	degre	3.40	1.15	1.20	2.40	2.17	183.33
Le Degegment	degre	2.65	1.20	1.00	1.60	2.88	165.00

The tabular "T" is 0.05 = 1.895*

It is shown from Table (11) that the calculated value of "T" is greater than the value of the tabular "T", indicating the existence of statistically significant differences between the pre and post measurement of the control group in the level of performance of the basic skills of the fencing "under research" and in favor of the post measurement. Between the two measures between (122.89 and 315.38%), the researcher attributes this result to the fact that using the model and explanation method effectively performed the basic skills the fencing "under research", which had positive results on the performance of the junior

level after the end of the training period. That agree with studies of **Hassan, Amal** (2016) (10),**Omar .Asim Muhammad Ibrahim** (2016) (25),**Abu Zeid, Salah Muhammad** (2016) (4), **Ibrahim, Reda Ibrahim Abdel Maqsoud** (2017)(12), **Abu Arabian, Abeer Abed Salma** (2017) (2),**Salem, Nahla Al-Mitwali Ibrahim** (2017) (28),**Jaber ,Sharif Adel** (2017) (18) And those who contributed to the traditional teaching by the method of explanation and the performance of the model has a great influence in achieving education in the traditional way.

Table (12)
The Significance of The Differences between the Mean of The Pre and Post Measurements for The one experimental group in the Level of Performance of basic skills for Fencing "under Research".   N =(8)

The variables	Unit	Post Measurme		Pre Measurment		"T" value	Improvement percentage %
		M	ST.	M	ST.		
Position de le gard	degre	6.40	1.32	1.32	2.42	4.68*	384.84
Marche	degre	4.40	1.15	1.28	2.28	3.35*	243.75
Rombre	degre	4.50	1.30	1.2	2.35	3.20*	275.00
Development	degre	3.80	1.10	1.54	2.16	2.69*	146.75
Positions de ecscrime	degre	7.50	1.20	1.72	2.18	6.53*	336.04
Qoup Droite	degre	3.50	1.65	1.20	2.20	2.12*	191.66
Le Degegment	degre	3.20	1.10	1.00	2.35	2.28*	220.00

The tabular "T" is 0.05 = 1.895*

It is shown from Table (12) that the calculated value of "T" is greater than the tabular "T" value, indicating that there are statistically significant differences between the pre and post measurement of the first experimental group, "constant infographic" in the

level of performance of basic skills of the fencing "under research"and in favor of the post measurement The improvement rate between the two measures reached between (146.75 and 384.84%). The researcher attributes this result to the fact that the use of

static infographics as an educational tool characterized by attractive and informative graphics, and the innovative design of the idea of the infographic helped attract students' attention and focus on skill performance, effective communication and defining how With it, a message is conveyed visually and exposes students to unfamiliar educational experiences

This is what **Zhang & Zhou (2016)** (36) indicated and this is also confirmed by the study of **Islamoglu et al. (2015**(14) that the majority of people are visual by nature and that 70% of the human sensory receptors are eyes and that people consume visuals more. Of texts.

This is consistent with what **Pinar & Buket** (2016)(26) pointed out that the static infographic explains lessons and information in the field of education because it is an image that provides writing and transforms it into symbols, expressive images and simple connotations, and is a strong base for recreation in the educational field.

This is in agreement with the study **Al-Juwayri Siham** (2014) (7) which proved the effectiveness of infographics in developing the skills of designing mental maps.

In agreement with the study of **Al-Dakhni, Amani and Darwish, Amr** (2015) (6), which demonstrated the effectiveness of static infographics in developing visual thinking compared to the traditional method, and the attitudes of autistic children towards learning through infographic.

This is in line with **Vanichvasin,P. (2013) (35),** which confirms that eye contact is the main factor in solving complex problems and motivating learners.

This is what was confirmed by the study **(Ivan Sudakov et al.) (2016)** (17) that the static infographic carries both the image and the verbal code for the double coding of the information contained in it and it is designed to present complex information more clearly than the text alone so that it is easy to understand on the part of the learner. Communicating the message to the reader, which in turn facilitates the delivery of information, especially for the hearing impaired, and the implementation of skills performance in a good and accurate manner.

It also agrees with the study of **Hassan, Amal** (2016) (10) that the language of the picture is a comprehensive language, as the arrangement of information and its presentation in the form of a picture helps understanding and remembering for a longer period and the effect of learning remains for a long time, which confirms that the constant infographic helps the development of knowledge, skills and speed of information acquisition .

Table (13)
The Significance of The Differences between the Mean of The Pre and Post Measurements for The Second experimental group in the Level of Performance of basic skills for Fencing "under Research" N =(8)

The variables	Unit	Post Meas.		Pre Meas.		"T" value	Improvement percentage %
		M	ST.	M	ST.		
Position de le gard	degre	7.2	1.3	1.35	2.83	4.22*	433.33
Marche	degre	4.6	1.08	1.3	2.25	3.71*	253.85
Rombre	degre	4.7	1.2	1.22	2.58	3.01*	285.24
Development	degre	4.5	1.05	1.48	2.23	3.48*	204.05
Positions de ecscrime	degre	7.8	1.1	1.75	2.95	4.27*	345.71
Qoup Droite	degre	3.6	1.65	1.15	2.27	2.17*	213.04
Le Degegment	degre	3.5	1.02	1.05	1.81	3.97*	233.33

The tabular "T" is 0.05 = 1.895*

It is shown from Table (13) that the calculated "T" value is greater than the tabular "T" value, indicating that there are statistically significant differences between the pre and post measurement of the second experimental group, "moving infographics," in the level of performance of basic skills of the fencing "under research" and in favor of the post-measurement. The percentage of improvement between the two measures was between (204.05,433.33%).

The researcher attributes this result to the fact that the use of animated infographics made it easier for young people to assimilate skills and educational content, and it led to the consolidation of skill in the minds of players and helped to communicate information easily and easily, and it also provided a strong learning environment through the combination of animated graphics and active motion text, and watching typical educational videos Help raise the level of skills.

This is agree with the study of Farouk, Hassan and Al-Sayyad, Walid (2016) (9), where they found that there are statistically significant differences between the mean ranks of the scores of the experimental group that studied the moving infographics and the grades of the control group that are taught by the traditional method of post-measurement of mathematics achievement. In favor of the second experimental group.

This confirms that the animated infograph helps to increase the level of learning, improve memory, increase depth of information and attract attention greatly.

This is in agreement with the study of "Ivan Sudakov et al." (2016) (17),

Rezaei, & Sayadian) (2015 AD) (27), which confirmed that the effect of animated infographics has an effective role in the educational process.

And from discussing the results of measurements (pre and post) of the three control and experimental groups, the first and second, in the level of performance of basic skills of the duel "under discussion." It is evident that the first hypothesis is correct, which states "There are statistically significant differences between the mean of the pre and post measures of the control groups and the first and second experiments in the level of performance of some basic skills of the fencing "under research" in favor of the post measurement."

Second: Presenting and discussing the results of the post measurements of the three groups, the control group and the first and second experimental group in the level of performance of some basic skills in the sport of fencing " under research "

Table (14)
Analysis of the variance between the post measurements of the three groups,
the control group, and the first and second experimental groups
In the level of performance of some basic skills in the sport of fencing " under research " n = 8

R	Var.	source variance	F.dg.	Total Score	Total Av..Score	"F" calcuated
Basic skills "under research"	Position de le gard	Between	2	14.63	7.32	45.04
		Inside groups	21	6829.76	325.23	
	Marche	Between	2	28.00	14.00	11.32
		Inside groups	21	3328.78	158.51	
	Rombre	Between	2	3.21	1.6.00	16.87
		Inside groups	21	53.98	27.00	
	Development	Between	2	3.00	1.50	86.00
		Inside groups	21	2709.28	129.00	
	Positions de ecscrime	Between	2	6.69	3.34	91.19
		Inside groups	21	6395.84	304.56	
	Qoup Droite	Between	2	43.36	21.68	5.85
		Inside groups	21	2664.8	126.89	
	Le Degegment	Between	2	2.97	1.48	38.27
		Inside groups	21	1189.42	56.64	

* The tabular "F" value of D,F, (2,23) at the level of significance 0.05 = 3.42

Table (15)
Differences between the averages post measurements of the three groups,
the control group, and the first and second experimental groups In the level of
performance of some basic skills in the sport of fencing "under research" n = 8

Var.	Groups	Mean	Difference of means		
			Control	One experimenta	Second experimental
Position de le gard	control	5.4	-	1	1.8
	One experimental	6.4		-	0.8
	second	7.2			-
Marche	control	4.35	-	0.05	0.25
	One experimental	4.4		-	0.2
	second	4.6			-
Rombre	control	3.7	-	0.8	1
	One experimental	4.5		-	0.2
	second	4.7			-
Development	control	3.7	-	0.1	1.8
	One experimental	3.8		-	0.7
	second	4.5			-
Positions de ecscrime	control	6.5	-	1	1.3
	One experimental	7.5		-	0.3
	second	7.8			-
Qoup Droite	control	3.4	-	0.1	0.2
	One experimental	3.5		-	0.1
	second	3.6			-
Le Degegment	control	2.65	-	0.55	0.95
	One experimental	3.2		1	0.3
	second	3.5		-	1.8

It is shown from Table (14) that the calculated value of " F" is greater than the tabular "F" indicating the existence of statistically significant differences between the post measurements between groups, the control group, the first experimental group, "static infographics," and the second experimental group, "moving infographics," in the level of basic skill performance of the fencing "under research"

Table (15) shows the differences between the averages of the post measurements for the three groups, the control and experimental group, the

first and the second, in the level of basic skill performance of the fencing "under research"

The researcher attributes that there is a big difference between the control group and the first and second experimental group in the two infographic patterns, both of which have an effect on the performance of the basic skills in the duel "in question" and that there is a difference between the averages of the two dimensional measures in favor of the second group "moving infographic" because the videos give a greater impact. From pictures only, and both of them have an effect on skill performance.

Consequently, the second hypothesis is fulfilled, which states that "there are statistically significant differences between the results of the dimensional measurements of the control group and the first and second experimental group in the level of performance of some basic skills in the sport of fencing" under discussion "in favor of the post measurement of the second experimental group."

Conclusions and recommendations
First: Conclusions:

It is in light of the objectives and assumptions of the research and based on what the research results have shown, and within the limits of the characteristics of the sample, the measurements that were carried out and the statistical treatment that was used, the following conclusions could be reached:

• There are statistically significant differences between the dimensional measurements of the control group and

the first experimental "fixed infographics" and the experimental group two "moving infographics" in the level of performance of the basic skills of the contest "under investigation" in favor of the second experimental group. From the above, the researcher concluded:

- The educational program prepared with the infographic technology, with its fixed and mobile modes, has achieved effectiveness in improving the performance of basic skills for the competition "under discussion".

Recommendations

Based on what was reviewed of results related to the importance of infographic as a new technique for visual stimuli and the extent to which infographic and its use in the educational process relate to cognitive and skill aspects, the researcher recommends the following: -

- Increasing interest in employing and using visual stimuli in the educational and training process, especially with regard to learning skills.

- Optimizing the use of infographic technology as a new technology because of its clear impact on learning skills and their ability to influence the recipient.

- Dependence on infographics in building scientific content in all stages of education to develop various thinking skills.

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