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The effect of applying the E-learning approach on cognitive and skill success in acquiring the basketball scoring skill for Faculty of Physical Education students

Assist. Lect. Wael Sabah Musa[*,1]

[1] College of Physical Education and Sports Sciences, Al-Qasim Green University, Iraq.
* Corresponding author, Email: wsabahwael@gmail.com

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Abstract

In order to adapt to the development taking place in the twenty-first century, the aim is to move away from traditional methods of teaching and learning, including the method of commands "explanation," as well as the performance of a model "by applying that method." The method of e-learning and its impact on learning some types of scoring in basketball, which are "scoring from steadfastness - scoring from jumping - the peaceful (triple) scoring – free. It is a fundamental ability and an essential skill in the game of basketball. Concerning the research topic, the researcher discovered a lack of diversity in teaching approaches when teaching basketball. There is also a lack of use of technology tools in the educational process, as many teachers are still taught in the traditional manner. The purpose of this study is to determine the impact of the e-learning approach on cognitive and skilful success in basketball for students at Al-Qasim University's College of Education and Sports Sciences. In light of the foregoing, the researcher believes that using the students of the control group for the educational program using the traditional method (explanation and performance of the model) has resulted in an increase in the skill performance of the skills under consideration in basketball. In addition, using the e-learning method of the experimental group has resulted in an increase in the skill performance of the skills under consideration in basketball. The researcher concluded that the conventional technique (model explanation and performance) had a beneficial effect on increasing the competent performance of the abilities under discussion in basketball among students in the control group. Mainly on the recommendations, the researcher concluded that the e-learning method is one of the modern teaching methods and strategies for students of other teams at the Faculty of Physical Education to learn and master the various skills in basketball because of its positive impact on skilful performance. E-learning is used to educate sports shows and basketball using tools because it offers students with knowledge and information on competent performance.

Keywords: Triple, E-learning, basketball, educational.

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Research problem

The researcher chose this issue since it is one of the most recent developments in education. We also wish to improve our teaching methods to remain with the technological advancements of the twenty-first century. This is in contrast to traditional ways of teaching and learning, such as the command method, which is centred on explanations and models. By using that strategy, "the method of e-learning and its influence on learning several forms of scoring in basketball, which is "scoring from stability - scoring from jumping - peaceful (triple) scoring - free throw. It is one of the most important fundamental abilities and aspects in basketball. The researcher discovered, when teaching basketball, that there is a lack of diversity in teaching approaches. In addition, there is a lack of widespread use of digital tools in the educational process. A substantial proportion of teachers continue to use the traditional teaching style. Further, the impact of the e-learning technique on the achievement of the physical education curriculum will be assessed by studying, reviewing, and extrapolating existing studies. Furthermore, in the case of basketball, it was discovered that these studies had not previously addressed the usage of this strategy. This gave me the impression that research is needed.

As a result, learners can be more effective in the educational process, and their role in it should be more positive in order to achieve the desired educational outcome. This method may lead to developing a positive attitude toward learning and improving basketball skills. Some previous studies and access to the international information network, in addition to the researcher's teaching experience as a faculty member, have recommended investigating the impact of E-learning. The study by Ayman Youssef Alyan 2017 AD and the study by Hanan Bint Asaad Al-Zain 2015 AD and Stayer, J.F. 2008 recommended investigating the impact of E-learning on academic achievement in different age groups.

Research importance

1 - The use of modern educational methods and strategies that arouse learners' interest and provide them with the opportunity to play a positive role in the education process. This is done by interacting with educational situations and linking their previous information.

2 - The use of modern technology in teaching basketball in the classroom in a way that enriches the teaching and learning process. 3 - Meeting the needs of the educational field in the Arab world in general by adopting an entirely different type of education at the various educational stages and for the various disciplines in a way that suits the students of the digital generation. This helps transform education into learning.

Research aims

The purpose of this study is to determine the influence of the e-learning approach on cognitive and skilful success in basketball for students at Al-Qasim University's Faculty of Education and Sports Sciences.

Research hypotheses

- There are statistically significant variations in the degree of cognitive accomplishment and skill performance under examination between pre and post-measurement, favoring the experimental group's post-measurement.
- There are statistically significant variations in the degree of cognitive attainment and skill performance under examination between pre and post-measurement, favoring the post-measurement of the control group.
- There are statistically significant variations in the degree of cognitive attainment and skill performance under examination between the two post-measurements of both the control and experimental groups, favoring the experimental group.

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Search terms

E-learning

Atef Abu Humaid Al-Sharman (2015 AD) defined it as "that type of learning in which the usual class or lecture is transformed through available and appropriate technology into recorded lessons that are placed on the Internet so that students can access them outside the classroom in order to make room for diverse activities, active learning, and exploitation." The ideal learning time in the classroom and under the supervision of the instructor, such as problem-solving, role-playing, scientific project execution, and other activities to increase student learning. (10:11).

Procedural definition: It is an educational model that aims to use modern technologies and the Internet in a way that allows the teacher to prepare the lesson through video clips, audio files, or other media. This is so that students can see them in their homes or anywhere else using their computers, smartphones, or tablets before attending. Share your lesson with students on a website or social networking site.

First: Arabic reference studies

- "Tajlaa Youssef Hawass" (2015 AD) 21) conducted a study titled the effectiveness of Using the electronic classroom strategy in developing classroom interaction skills to teach grammar to second-grade intermediate students with the goal of revealing the effectiveness of using the electronic classroom strategy in developing classroom interaction skills in teaching grammar to second-grade intermediate students. In addition, using the semi-experimental approach, the presence of statistically significant differences at the level of significance (0.05) between the mean scores of the experimental and control groups in the verbal classroom interaction skills in teaching grammar for the second intermediate grade using the electronic classroom strategy in favor of the experimental sample was found.

Second: Foreign reference studies

An experimental study (Stayer, J.F.2008) titled "The Effects of Electronic Classrooms on the Learning Environment" was conducted to identify the effects of electronic classes on the learning environment and to compare learning activities in traditional and smart classrooms. One thousand students were subjected to the experimental approach. Main Results Students' preference for a classroom environment.

Search procedures

Research Methodology

The researchers utilized the experimental approach on two groups, one control and one experimental.

Research community

For the academic year (2021/2022), the research community represents first-year students at Al-Qasim University's Faculty of Education and Mathematical Sciences.

The research sample

The research sample was chosen by the intentional random method from the students of the first stage. It amounted to (60) students, and they were divided into two groups, each consisting of (20) students. One group was experimental, and the other was controlled. The experimental group will be subject to the e-learning method, while the control group will be subject to the traditional method, which is a verbal explanation and performance of the model. (20) Students were chosen for an exploratory group.

Experimental processing of materials: These include:

-Tools and means of data collection.

- The proposed educational program uses e-learning.

- Building e-learning via the Internet.

- Tools and means of data collection

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Applications and a personal interview: -
Data collection form for the research sample.
- An expert opinion questionnaire to determine the most critical scoring skills appropriate to the nature of the research and the appropriate tests to measure these elements.
- The skill performance evaluation form for both groups' skills under study is "experimental control".
Cognitive test "prepared by the researcher".
Scientific transactions for physical abilities tests for the basketball skills under study:
Calculation of scientific coefficients (honesty - reliability) for tests for measuring the variables under study as follows: Calculation of the stability coefficient and the stability coefficient was calculated using the test application and reapplication method. The first application of the tests was conducted on (2/16/2022 AD) and the second application two days later (2/19/2022 AD). The results of calculating the stability coefficient for physical variables tests were retrieved from Table No. (1)

Table (1) The arithmetic mean, standard deviation, correlation coefficient, and (t) value to calculate the stability of physical abilities measurements n = 20

Physical Aptitude Test		Unit Scaling	First application		Second application		Value (t	value (v)
			medium	deviation	Medium	deviatio		
The muscular ability of the vertical jump leg from stability		cm	23‹00	1‹439	22,40	259.1	0‹624	606‹1
Flexibility	Arching the trunk behind	cm	50‹30	2‹000	51‹30	2.108	0.783	-2.07
	Side leg hole	cm	19,70	1,676	19,80	1.276	0,6 07	SR 0.254
Muscular strength modified prone		Num/s	29,20	2‹000	29‹10	1,676	0‹604	0.208
Fixed balance stand on the crossbar		Num/s	3,840	0‹903	3‹412	0.632	-0.615	,‹970
Jump in the Ring compatibility		Num/s	13‹50	,‹833	14‹09	0.727	0‹605	-2‹20

Tabular t value at a significant level of 0.05 = 549.0 * = D
It is clear from Table (1) that all the correlation coefficients calculated for the tests (physical characteristics) and cognitive test in question ranged between (0.783: -0.615). It indicates the stability of the tests used in the measurements of physical traits and the cognitive test under study.

Table (2) the arithmetic mean, standard deviation, and (t) value for calculating the physical abilities coefficient

Physical Aptitude Test		Unit Scaling	First application		Second application		Value (t)	Value (v)
			medium	deviation	medium	deviation		
The muscular ability of the vertical jump legs from stability."		Cm	29‹50	1‹887	23‹20	2‹700	6‹3	6‹011
Flexibility	Arching the trunk bel	Cm	57‹10	53‹80	2‹173	3‹3	3‹113	
	Side leg hole	Cm	16	19	1‹390	3-	4‹20	
Muscular strength modified prone		Num/s	34‹30	1‹339	28‹60	1‹327	5‹7	6‹475
Fixed balance stand on the crossbar		Num/s	9‹567	1‹982	3‹730	0‹731	5‹837	8‹672
Jump in the Ring compatibility		Num/s	17‹50	2	13	1‹01	4‹5	6‹200

The tabular value of "t" at 0.05 significance level = 262.2, and degrees of freedom (9) * = D
As shown in Table (2), all of the computed "T" values for the (physical ability) tests under consideration ranged between (8,672 and 3,113). These results are statistically more significant than the tabular "T" value of 2.262 at the significance level. 0.05, indicating that there are statistically significant disparities

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between pupils in the privileged and less distinguished groups. This demonstrates the validity of the tests under consideration in measuring what they were supposed to measure.

Third: Measuring skilful performance level:

The researcher recorded a video of the students' skilful performance in the skills (scoring from jumping, scoring peacefully (the triple), scoring from steadfastness, and free throws), and it was shown to a committee of three basketball arbitrators and the level of performance for the skill was determined. (5 degrees). The arbitrators recorded ratings for the abilities under study on the skill performance evaluation form. The researcher created this form.

Fourth: Equipment and tools:

- A video camera to film students' performances (pre and post).
- Mobile phone with an Android system.
- A basketball channel on the Telegram program, which was used during the implementation of the basic experiment for the experimental group. Attachment (7)
- A laptop computer with CDs containing photos and videos of the skills under study.

The cognitive test prepared by the researcher is attached (6)

Following a review of scientific references and reference studies such as Laila Abdel Aziz Zahran (1997 AD) (15), Inayat Ali Labib, and Ber Yakman Ali (15), the researcher developed a test to evaluate students' cognitive abilities related to basketball in the College of Physical Education, Al-Qasim Green University. (2001 AD) (13), Inayat Muhammad Farag and Faten Taha Al-Batal (2004 AD) (14), Yasmin Al-Bahar and Suzan Tantawi (2004 AD) (23), Jehan Abdel Moneim Al-Sayed (2007 AD) (H).

Determine the purpose of the test:

The researcher recorded a video of the students' skilful performance in the skills (scoring from jumping, scoring peacefully (the triple), scoring from steadfastness, and free throws), and it was shown to a committee of three basketball arbitrators and the level of performance for the skill was determined. (5 degrees). The arbitrators recorded ratings for the abilities under study on the skill performance evaluation form. The researcher created this form.

Determining the main axes of the cognitive achievement test and their relative importance:

The researcher identified the main themes of the test, which included:

* Historical development of the game of basketball.

* The nature and importance of basketball scoring.

* Basic skills in basketball.

* The skilful performance of some shooting in basketball under discussion: jump shooting - peaceful (triple) shooting - free throw shooting.

* Part of the basketball law.

Determine the relative importance of each of the test axes:

The researcher prepared a form to determine the relative importance of the axes of the cognitive test. It was presented to (9) experts in basketball and teaching methods.

Table (3) axes of the cognitive test and the relative importance of each axis N-9

No.	Axes of the cognitive achievement test	Materiality
1	Historical development of basketball.	20%
2	The nature and importance of basketball and its divisions.	10%
3	Basic basketball skills.	10%

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4	Skill Performance	50%
5	Part of the Basketball Law	10%

Determine the scientific material for the test:

The researcher developed the cognitive test in its first version in light of the key axis "The historical development of basketball" in light of the behavioral goals to be measured and the material contained in the proposed program. Basketball's significance and fundamental skill categories are the deft touch and Jumping scoring - the tranquil (triple) scoring from standing free throws is allowed under basketball rules.

Formulation of test vocabulary

The researcher first created (67) test items separated over five test axes. When developing the vocabulary, it is assumed that each phrase has just one meaning and that difficult terminology is avoided. It should be distinguished by clarity, simplicity, ease of use, and scientific correctness.

Test instructions

One of the most important components of its use is clearly describing the aim of the exam in a simple, clear, and succinct manner in the test instructions. So that it is free of prolixity and ambiguous language implications so as not to impact students' responses while still clarifying how to answer the exam items. Furthermore, each student adds his information on each form, such as his name, stage, etc."

Determine the type of questions

The researcher chose the type of inquiries and considered their variety as they arrived at their fullness of the type of right and wrong. He gathered the proper response. This is to assess the cognitive achievement of first-year students in the Faculty of Physical Education.

Initial test image

The preliminary image for the exam, which comprises (67) objects, was created. The researcher presented the original picture to 9 basketball and teaching techniques specialists, who were asked to comment on:

* The scientific and linguistic correctness of the test language.
* The comprehensiveness of the exam for the knowledge provided in the e-learning educational program.
* The applicability of the test. Please leave any comments or recommendations.

The final picture of the knowledge achievement test for basketball

A review of expert opinions resulted in the removal of 17 items from the total vocabulary of the cognitive achievement test. Thus, the number of items in the cognitive test in its final form reached (50) applicable items.

Grading estimates and method of correction

During the process of correcting the test, one mark was given for each correct response and zero for each incorrect response. As a result, the total score for the cognitive achievement test in basketball was 50 points, and a correction key was prepared to assist in the correction process.

Scientific Transactions for Cognitive Achievement Test

The exam was performed on a group of (20) students from the research community and from outside the basic sample "exploratory sample," prior to the start of the original investigation. The answers were corrected, and the scores were recorded in order to compute the test's scientific coefficients.

The ease and difficulty coefficient and the discrimination coefficient for the test items

The ease coefficient of the test items was calculated using the following equation:

$$\text{The number of individuals who answered correctly on each item} = \frac{\text{Ease factor}}{\text{Total number of individuals}}$$

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The relationship between ease and difficulty is directly inverse, meaning that their sum equals one.
Ease coefficient = 1 - Difficulty coefficient.
Difficulty coefficient = 1 - Ease coefficient.
As for the discrimination coefficient, the researcher calculated it using the variance equation as follows:
Variance = ease coefficient x difficulty coefficient.

Table No. (5) Shows the coefficient of ease, difficulty, and discrimination for the items of the cognitive achievement test in basketball under study. Table (5) the rates of ease, difficulty, and discrimination for the questions of the cognitive achievement test for basketball in question

The cognitive exam is clearly defined by the easy coefficients, which vary between 0.30 and 0.70, and the difficulty coefficients, as shown in Table No. (5).

number Phrase	coefficient Ease	coefficient Difficulty	coefficient Discrimination	number Phrase	coefficient Ease	coefficient Difficulty	coefficient Discrimination
1	**0،64**	**0،34**	**0،22**	**26**	**0،64**	**0،34**	**0،22**
2	**0،44**	**0،54**	**0،24**	**27**	**0،30**	**0،70**	**0،20**
3	**0،54**	**0،44**	**0،24**	**28**	**0،50**	**0،50**	**0،24**
4	**0،34**	**0،64**	**0،22**	**29**	**0،64**	**0،34**	**0،24**
5	**0،60**	**0،40**	**0،23**	**30**	**0،40**	**0،60**	**0،23**
6	**0،50**	**0،50**	**0،24**	**31**	**0،64**	**0،34**	**0،22**
7	**0،44**	**0،54**	**0،24**	**32**	**0،54**	**0،44**	**0،24**
8	**0،50**	**0،50**	**0،24**	**33**	**0،34**	**0،64**	**0،22**
9	**0،40**	**0،60**	**0،23**	**34**	**0،64**	**0،34**	**0،22**
10	**0،44**	**0،54**	**0،24**	**35**	**0،54**	**0،44**	**0،24**
11	**0،64**	**0،34**	**0،22**	**36**	**0،45**	**0،54**	**0،24**
12	**0،50**	**0،50**	**0،24**	**37**	**0،34**	**0،64**	**0،22**
13	**0،70**	**0،30**	**0،22**	**38**	**0،64**	**0،34**	**0،22**
14	**0،64**	**0،34**	**0،20**	**39**	**0،44**	**0،54**	**0،24**
15	**0،44**	**0،54**	**0،24**	**40**	**0،50**	**0،50**	**0،24**
16	**0،70**	**0،30**	**0،20**	**41**	**0،60**	**0،40**	**0،23**
17	**0،44**	**0،54**	**0،24**	**42**	**0،50**	**0،50**	**0،24**
18	**0،34**	**0،64**	**0،22**	**43**	**0،44**	**0،54**	**0،24**
19	**0،60**	**0،40**	**0،24**	**44**	**0،44**	**0،54**	**0،24**
20	**0،54**	**0،44**	**0،24**	**45**	**0،54**	**0،44**	**0،24**
21	**0،44**	**0،54**	**0،24**	**46**	**0،34**	**0،64**	**0،22**
22	**0،34**	**0،64**	**0،22**	**47**	**0،64**	**0،34**	**0،22**
23	**0،60**	**0،40**	**0،23**	**48**	**0،54**	**0،44**	**0،24**
24	**0،34**	**0،64**	**0،22**	**49**	**0،34**	**0،64**	**0،23**
25	**0،50**	**0،50**	**0،24**	**50**	**0،64**	**0،34**	**0،22**

Because the difficulty coefficient spans between 0.30: and 0.70, and the excellence coefficients for the cognitive achievement exam have an appropriate discriminating power ranging between 0.24: 0.20. As a result, it may be used to assess cognitive success connected to the basketball skills in issue. Its ultimate image is appropriate.

Determine the test time

- In light of the results of the exploratory experiment of the cognitive test, the test time was determined through the following equation:

The arithmetic mean of the test time

$$= \frac{\text{the time taken by the first student + the time taken by the last student}}{2}$$

Thus, it was possible to determine the test time, and it was 30 minutes, and thus the total score for the test became (50) degrees.

Scientific transactions to control and standardize the cognitive test related to basketball in question:

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Validity of the cognitive test

A peripheral comparison was performed on a sample of (20) students from the research community and outside the main sample to determine the validity of the test. The following are shown in Table No. (6):

Table (6) Significance of differences between the averages of the upper and lower quartiles in the cognitive achievement test for basketball n = 20

No.	Variable	unit scalin	Top quartile		Lower quartile		Differences Averages	T value
			arithmeti mean	**deviation**	arithmeti mean	**deviation**		
1	**Cognitive test**	**degree**	**28‹60**	**1.38**	**18.80**	**1‹42**	**9,80**	**9,89**

The tabular t-value is significant at 0.50 = 30.2.

Table (6) shows that there are statistically significant differences between the top and lower quartiles in the cognitive exam at a significant level of 0.50, indicating the test's validity.

Cognitive test stability

The researcher conducted the cognitive exam to assess the stability of the test. After (7) days, it was re-applied to a sample of 20 students from the research community who were not part of the main sample under the identical conditions as the initial application. The first application was on Sunday, January 17, 2022, AD, and the second application was on Sunday, January 24, 2022, AD. The correlation coefficients are shown in Table No. (7):

Table (7) Correlation coefficient between the first application and the second application in the cognitive achievement test related to the basketball skills under discussion to show the stability coefficient n = 20

No.	Variable	unit scaling	First application		Second application		coefficient Link
			Arithmetic mean	deviation	Arithmetic mean	deviation	
1	**Cognitive test**	**degree**	**22**	**1.8** 2	**22.70**	**2‹15**	**0‹93**

The tabular t value is at a significant level of 0.50 = 0.44

It is clear from Table (7) that there is a statistically significant correlation at the level of 0.50 between the initial applications of the cognitive achievement test. The correlation coefficient was 0.93, which indicates the test's stability.

Building the electronic class through the educational channel on Telegram

- For the academic year (2021-2022 AD), the percentage of students who own Android phones at Al-Qasim Green University's College of Physical Education was assessed to be 89.6%. In comparison, 10.4% of students do not own an Android phone.
- An educational basketball channel was created on Telegram on 10/23/2021 AD.
- It was confirmed that the sample was present as members of the educational channel established on the Telegram program and that educational material could be sent and received through the channel.
- A group was created on Whatsapp for the conversation, in addition to the educational channel created on the Telegram program, as it is for broadcast only.
- The scientific material on teaching some basic basketball skills was identified and selected by the online class via Telegram to provide students with knowledge, experience, and skills related to the educational content.

The educational text for the electronic class has been identified and written.

- Theoretical information related to the technical aspects of the skill was broadcast through educational videos and pictures of the skills under discussion on the educational channel on Telegram.

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- An error in performance will be addressed within the lecture. Through the lecturer's mobile phone, other videos are broadcast, so the student can see him and re-perform the skill. Also, feedback is based on the cognitive information about the unit being learned. This is in the form of evaluation questions at the end of each unit to emphasize the cognitive aspect. During the lecture, students were asked to send what they learned from their knowledge to a Whatsapp group.

The proposed educational program using e-learning

First: the general objective of the program

Identifying the impact of e-learning on students' cognitive and skilful success in basketball at the Faculty of Physical Education.

Second: Fundamentals of developing the program

The topic's purpose should be compatible with the program content. The program promotes student interaction.

-The program should be distinguished by its simplicity, diversity, adaptability, and application.

-Appropriate program material for pupils' level and skills, considering individual variances.

-Following the general principles of instructional approaches (gradient from easy to difficult, from simple to complex, and from the known to the unknown).

- Consider providing the necessary tools and capacities to accomplish the program.
- Consider security and safety issues when implementing the program. Take note of students' input since it serves as their information return.
- At the conclusion of each lesson, the researcher created a cognitive exam to measure students' levels.

Third: The content of the educational program using e-learning

- The historical development of basketball.
- The nature and importance of shooting basketball.
- Basic basketball skills.
- Skill performance.
- Part of the basketball law.
- The researcher put the above content in the form of texts, pictures, and videos that show the form of performance related to the skills in question. These videos were broadcast on Telegram.

Table (8) content of the educational program

Educational Unit	Main part
Unit One	Provide an overview of the historical development of basketball application on The scoring of jumping.
Unit Two	Provide an overview of the nature and importance of basketball and its divisions – application to peaceful scoring (triple)
Unit Three	About the basic skills in basketball - the application to scoring from stability
Unit Four	Teaching peaceful scoring (triple) and identifying the cognitive aspects related to scoring - the stage of upgrading Flight Phase - Landing Phase", educational steps and training to improve scoring
Unit Five	Teaching scoring from stability and identifying the cognitive aspects related to scoring “and educational steps and exercises to improve scoring”
Unit Six	Teaching scoring from jumping and identifying the cognitive aspects related to scoring "the stage of upgrading - the stage of elevation" Flying - Landing Stage", educational steps and exercises to improve scoring.
Unit Seven	hing free throw and identifying the cognitive aspects related to scoring and educational st And training to improve the scoring.
Unit Eight	Part of the basketball law - application to the free throw

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The program's instructional content was designed to contain educational steps and training for technical skills and knowledge. In addition, the instructional tools utilized in this will be specified in contrast to the cognitive aspects.

Fourth: Determine the capabilities necessary to implement the program

In light of the program's substance and instructional material in each unit, the following will be aired on Telegram:

- Contains the technical points for each recognized fundamental skill.
- Developing the skills discussed in the educational unit using e-learning approaches.
- The item provides several images and movies that are simple to use.
- The unit includes a segmentation of the taught skill in numbers as well as how to combine it for students to understand the technical aspects and information associated with the abilities in question.

Fifth: The teaching method used in the program implementation

-The educational unit was taught utilizing the e-learning technique, which involved transmitting the educational portion to the educational channel via the basketball channel on Telegram, as well as videos and an illustrated guide to skills (which is still under investigation).

- Ensure the reliability of the research gear and tools.
- The applicability of the e-learning approach for the study sample, as well as their thoughts and suggestions for changes.
- Identifying and training helpers to collect measurements.
- Determine the time necessary for the testing measurement procedure.
- Recognizing the challenges that the researcher has while applying.
- Determine the length of the program application, the number of weekly units, and the educational unit time.

Procedure for conducting an experiment

-Tribal dimensions: The researcher took tribal measures on members of the two groups from Monday, 5/1/2022 AD to Thursday, 5/2/2022 AD in the variables of growth, physical ability, cognitive assessment, and performance. In basketball, it was made up of three arbitrators.

The following is a statistical breakdown of the research sample

Moderation of the distribution of study samples

Leaping, shooting quietly (the triple), finding steadiness, and hitting free throws are all basketball talents. The researcher confirmed that the students in the whole research sample fit the moderating curve in terms of development, physical ability, cognitive tests, and skill performance. Tables (9), (10), and (11) demonstrate this. (11).

Table (9) The moderation of the distribution of the research sample in growth variables, n = 60

Variables	Unit of measurement	Average	Mediator	Deviation Normative	Torsion coefficient
Chronological age	year	19,147	19,100	0‹616	0‹123
Length	Cm	163.433	164	5,259	0‹251
Weight	Kg	64,619	64	7,543	0‹507

Table (9) shows that all torsion coefficient values are limited to +3. 3, which indicates that the total research sample falls under the mediocre curve in all growth variables.

Table (10) Moderation of the distribution of the research sample in physical abilities

Physical abilities		unit scaling	Average	Mediator	Deviation Normative	coefficient Convolution
The muscular ability of the vertical jump legs from stability		Cm	23‹224	23	2‹00	0.458
Flexibility	Arching the trunk behind	Cm	52‹824	53	2,766	0,081-
	Side leg hole	Cm	19‹6	19,3	1,316	0.628
Muscular strength modified prone		Num/s	29,021	29	1,764	0‹031

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Fixed balance stand on the crossbar	Num/s	3‹422	3,185	0‹655	,‹835
Jump in the Ring compatibility	Num/s	14‹120	14	1‹032	0.336

Table (10) shows that all the torsion coefficient values are between +3 and -3. This indicates that the total research sample falls under the mediocre curve in all physical abilities.

Table (11) The moderation of the distribution of the research sample in the test of knowledge and skill performance, n = 60

Cognitive Testing and skill performance		**unit scaling**	**Average**	**Mediator**	**Deviation Normative**	**rsion coefficie**
Cognitive test		**degree**	**21‹84**	**21**	**2‹12**	**1.22**
	Scoring from jumping	**degree**	**0‹330**	**0‹315**	**0.018**	**,‹109**
Skill Performance	**Peaceful scoring (triple)**	**degree**	**0‹419**	**0‹414**	**0‹01**	**1.461**
	Scoring from stability	**degree**	**0‹324**	**0‹315**	**0‹015**	**,‹775**
	Free Throw	**degree**	**0‹323**	**,‹314**	**0‹020**	**0‹857-**

Table (11) shows that all the torsion coefficient values are confined to between +3 and 3. This indicates that the total research sample falls under the moderating curve in the test of knowledge and skill performance.

Equivalence of the two search groups

As demonstrated in Tables (12), (13), and (14), the researcher employed the "T" equation to express differences in order to prove the equivalence of the two study groups (experimental-control) in the variables of growth, physical abilities, cognitive tests, and skilled performance.

Table (12) Equivalence between the two research groups (experimental - control) in growth variables N1 = N2 = 20

Variables	Unit of measurement	Experimental Group		Control Group		**T**
		medium	**deviation**	**medium**	**deviation**	
Chronological age	year	19.128	0.669	19,176	547‹0	0.375
Length	Cm	219,163	5‹435	163.647	6.645	0.328
Weight	kg	64,517	8,428	65	5,146	0‹408

The t-value in the Table is significant at level 5... = 2,025

Table (12) clearly shows that the differences between the experimental and control groups are not statistically significant because all of the computed "t" values are smaller than the tabular "t" value, indicating that the two study groups are equal in those characteristics.

Table (13) Physical ability equivalence between the two research groups (experimental-control). N1 = N2 = 20

Physical abilities		**unit scaling**	**Experimental Group**		**Control Group**		**T**
			medium	**deviation**	**medium**	**deviation**	
Muscular ability of the vertical jump legs from stability"		Cm	23‹50	1,857	23.02	2‹153	,‹833
Flexibility	Arching the trunk behind	Cm	53,50	3,057	52‹15	20562	0.824
	Side leg hole	Cm	19‹60	1‹549	19,80	1.283	0‹431
Muscular strength "modified prone."		lumber/s	29‹02	2,028	28,99	1.737	0,072

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Fixed balance "Stand on the crossbar."	umber/s	3٫30	0٫803	3.46	0.703	0٫225-
"Jump in the Ring" compatibility	umber/s	14٫10	1٫100	14	1.737	0٫440

The discrepancies between the experimental and control groups are not statistically significant since all of the computed "T" values are smaller than the tabular "T" value, indicating that the two study groups are equivalent in those skills.

Table (14) Comparison of the cognitive test and skill performance of the two study groups (experimental vs. control) N1 = 20 = 20

Cognitive Testing and skill performance		unit scaling	Control Group		Experimental Group		t
			medium	**deviation**	**medium**	**deviation**	
Cognitive test		degree	22.19	1.88	SR 21.47	2٫32	1.19-
	Scoring from jumping	degree	0.334	0٫050	0.325	0٫016	0٫756
Skill Performance	Peaceful scoring (triple)	degree	0٫419	0٫014	0.409	0٫014	0٫062
	Scoring from stability	degree	0.322	0٫015	0٫326	0٫016	0٫517
	Free Throw	degree	0٫325	0٫016	0٫322	0٫023	0.482

The significance limit for the tabular t-value is 5.,. = 2,020.

Table (14) clearly shows that the differences between the experimental and control groups are not statistically significant because all of the calculated "T" values are less than the tabular "T" value, indicating that the two research groups performed equally in the cognitive test and skill performance.

Experiment application

The researcher applied the research experiment for (8) consecutive weeks, from Sunday, 3/3/2022 AD to Thursday, 4/18/2022 AD, with weekly lectures for both groups as follows:

- The control group used the traditional method (explanation and performance of the model).
- The experimental group used e-learning.

Dimensional measurements

Post-measurements were made for the control and experimental groups in physical variables, cognitive Testing, and skill performance for basketball skills (shooting from jumping, peaceful (three-pointed), shooting from stability, and free throw) in the period from Sunday, 4/21/2022 to Monday 4/22/2022 AD.

Statistical treatment

Data were analyzed using the following statistical methods: arithmetic mean - standard deviation, significance tests - correlation coefficients - ease and difficulty coefficients.

Showing results

Table (15): Significance of variations in the means of the control group's pre and post-measurement in the cognitive test and skill performance n = 20

Cognitive Testing and skill performance		Pre-measurement		Telemetry		T
		Arithmetic mean	deviation	arithmetic mean	deviation	
Cognitive test		22٫19	1.88	35,75	3٫32	11.47
	Scoring from jumping	0٫334	0٫050	2٫10	0٫560	12.912
Skill Performance	Peaceful scoring (triple)	0.419	0٫014	2.62	0٫540	14,079
	Scoring from stability	0٫323	0٫015	2,151	0.490	14٫010
	Free Throw	0,325	0٫016	1,990	0٫530	10٫550

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* Tabular "t" value = 2,093 at (0.05)
Table (15) shows that there are statistically significant variations in skill performance and the computed "T" value as a function of the means of the control group's pre and post-measurements.

Table (16): Significance of variations in the means of the experimental group's pre and post-measurement in the cognitive test and skill performance n = 20

Cognitive test and skill performance		unit scaling	Pre-measurement		Telemetry		T
			Marithmetic mean	deviatic	arithmetic mean	deviation	
Cognitive test		degree	21‹47	2‹32	44‹71	2084	18,33
	Scoring from jumping	degree	0‹334	0‹016	3,770	0‹454	23‹940
Skill Performance	Peaceful Scoring (Trio)	degree	0‹409	0‹014	4‹320	0‹340	36,66
	Scoring from stability	degree	0‹323	0‹016	3.940	0‹580	24‹314
	Free Throw	degree	0‹325	0‹023	3.870	0‹580	21,790

* Tabular "t" value at (0.05) = 2.093
Table (16) shows that there are statistically significant differences between the means of the pre and post-measurements of the experimental group in the cognitive test and skill performance. The calculated "T" value is a function.

Table (17) Significance of differences between the averages of the two post-measurements of the control group and the experimental group in the cognitive and skill performance test. N1 = 20 = 20

Cognitive test and skill performance		Control Group		Experimental Group		T
		Arithmetic mean	deviation	Arithmetic mean	deviation	
Cognitive test		35‹77	3‹32	44‹71	2‹84	10‹00
	Scoring from jumping	2‹10	0‹560	3‹770	0‹454	10‹00
Skill Performance	Peaceful Scoring (Trio)	2‹62	0‹540	4‹320	0‹340	8‹25
	Scoring from stability	2‹151	0‹490	3‹940	0‹580	8‹82
	Free Throw	1‹990	0‹530	3‹870	0‹580	8‹86

* Tabular "t" value at (0.05) = 2.093
Table (17) shows that there are statistically significant differences between the averages of the two post-measurements of the control and experimental groups in the cognitive test and skill performance in favor of the experimental group.

Discuss the results

Discuss the first hypothesis results

The importance of the differences between the means of the control group's pre-measurement and post-measurement in the cognitive test is obvious from Table (15). Therefore the computed "T" value in basketball is a result of the skilled performance of the abilities under consideration. The researcher attributes these substantial differences in the control group to the fact that the usual teaching technique (verbal explanation and model performance) of the core basketball abilities to be mastered. This is due to the teacher's ability to provide a full and clear understanding of the educational procedures and technical aspects. The model's performance is useful for demonstrating how to perform, instruct, and supervise. Students in the control group were evaluated from easy to challenging. Furthermore, the teacher rectified the students' fundamental errors as soon as they emerged throughout their performance. This had an advantageous effect since it offered the opportunity to learn properly. Furthermore, the group learning of this strategy increases student motivation. As a result, it has a positive impact

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on the competent performance of the basketball abilities under investigation. This outcome is consistent with what Harrison-Joyce predicted. (1996 AD).

According to Samia Farghali and Nadia Abdel Qader (2002 AD), and Mahmoud Abdel Halim (2006 AD), the teacher gives logical explanation and model behavior. This enables learners to remember and quickly apply them by simulating what they have seen. In it, a large amount of the course can be completed in a short time. It achieves a minimum level of scientific material for the learners so that each learner can add to it according to his efforts, capabilities, and energies. After that, the learners are evaluated, and errors are found and modified so that the teacher becomes the setter of the content of the educational units, the decision-maker, and the main controller of the educational process, and determines his course during the educational process, which increases the chances of its success. (27: 217) (8: 163) (20: 248).

Considering the above, the researcher suggests that the control group pupils learn in a typical manner. Teaching (explaining and executing the model) had a beneficial influence on the competent performance of the basketball skills under examination. As a result, the first hypothesis's validity has been established. Because of this, "there are statistically significant differences between the control group's pre- and post-measurements of the cognitive test and the skill performance of the skills under study in basketball."

Discuss the Second hypothesis results

Table (16) demonstrates the significance of the changes between the experimental group's pre-measurement and post-measurement averages in the cognitive test and the skill performance of the skills under study in basketball. The estimated value of "T" is a function. The researcher attributes these considerable changes in the experimental group to the success of the planned teaching program. Using e-learning, a Telegram channel was built that used more than one media "written text - pictures - video." As a result, there was excitement and tension, as well as information presented in a cohesive and appealing manner, which piqued pupils' interest in dealing with current technologies. This gives them the freedom to explore and experiment with current technical tools as they progress through the educational process, which provides them with the freedom to learn and mix with modern technological means and proceed in the educational process according to their speed and abilities.

According to Atef Abu Humaid Al-Sharman (2015), e-learning is crucial since it individualizes the learning process and activates the student's involvement. Students are in charge of their own education, and everybody learns at his or her own speed. And all students ought to participate part in the learning. When you're looking for a unique gift, this is it. (10:24).

Considering the preceding, the researcher argues that the experimental group should be applied to the suggested e-learning educational program. It improved skill performance and cognitive success in basketball. As a result, the second hypothesis has been confirmed. According to the study, "there are statistically significant differences between the experimental group's pre-measurement and post-measurement in the cognitive test and the skilful performance of the skills under study in basketball."

Discuss the Third hypothesis results

The importance of the differences between the two post-measurements of the research group and control groups in favor of the experimental group in the cognitive test and skill performance of the abilities under discussion in basketball appears in Table (17). The estimated "t" value is a function, and the researcher returns to the suggested educational program utilizing e-learning to demonstrate the superiority of the experimental group over the control group in the outcomes of skill performance measures for the abilities under investigation in basketball. Because it grabbed students' attention, the educational process became more appealing, interesting, and thrilling for them. This was attributed to improving their thoughts. Furthermore, as a consequence of channel interaction, the way of showing "educational video - pictures - written text" assisted students in swiftly learning and mastering the skills under discussion. Furthermore, as the learner's involvement rose, correspondingly increased their defensiveness. There was a thrill, suspense, and a greater chance of comprehending the action. This, in turn, impacted the level of competent performance in the basic basketball skills under consideration.

According to Afaf Abdel-Karim (1994), no one teaching method can contribute to the comprehensive development of the learner. As a result, the competent teacher must know and

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continuously introduce new teaching methods that make the learner's attitude positive rather than receptive to achieving specific objectives. (197:12)

In this regard, Jaber Abdel Hamid (2000 AD) points out that following the traditional method of teaching does not guarantee success in teaching skills that require long training and time. Despite how efficient the teacher is, he cannot guarantee success in completing the learning process because he is satisfied with providing a model. It does not specify educational means in the lesson, so it attracts the learner's interest and does not push him to think and discover. This contradicts modern education concepts. As a result, each learner's personality must be respected and corrected, and he should have the opportunity to showcase his personality. (4: 213).

Miller Goodwin (2013 AD) confirms that the student has become a positive element instead of sitting and enjoying the explanations of the teacher with all the negativity in it. The electronic classroom activates the student's role and makes learning more fun and interesting. The electronic class is related to the educational process methodology, in which the roles of both the teacher and the student change to reach better learning accordingly. Therefore, roles are redistributed in the educational process, and emphasis is placed on the student's role in assuming responsibility. This result is also consistent with the results of Ayman Youssef Alyan's study (2002 AD) (3). Hanan Bint Asaad Al-Zein (2013 AD) (6), and Naglaa Yousef Hawass (2015 AD) (21), show the positive impact of the electronic classroom on learning different skills.

Accordingly, the researcher believes that the control group of students uses the traditional method of instruction (explanation and performance). It led to an increase in the skilful performance of the skills studied in basketball. In addition, the use of the e-learning method of the experimental group had a positive effect on improving the skilful performance of the skills under study in basketball. By comparing the results of the measurements of each of the two groups, it became clear that the differences were significant in favor of the experimental group. This is due to the proposed educational program using the e-learning method for this group, as it indicated the superiority of the students of the experimental group over the students of the control group in the results of the dimensional measurements and in the skilful performance of the skills under discussion in basketball. A significant part of these processes was to refine, improve, and develop the skills they learned and to increase their comprehension of them. Thus, the third hypothesis is achieved. This states that there are statistically significant differences between the two-dimensional measurements of the control and experimental groups in favor of the experimental group in the skills under study in basketball.

Conclusions

1 - The use of the traditional method (explanation and performance of the model) had a positive effect on raising the skilful performance of the skills under study in basketball among the control group students.

2- Using the e-learning method contributes to improving and raising the skill performance of the skills under study in basketball among the experimental group students.

3- The students of the experimental group, which was subjected to the electronic learning method, excelled over the students of the control group, which was subjected to the traditional method, in the skilful performance of the skills under study in basketball.

Recommendations

In light of the research results, the researcher recommends the following:

1- Using the e-learning method as one of the modern teaching methods and strategies to learn and master the different skills in basketball for students of other teams at the Faculty of Physical Education because of its positive impact on raising skilful performance.

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2- E-learning is an effective way to provide students with information and knowledge about skilful performance when it comes to sports shows and basketball.
3- The importance of encouraging those in charge of the educational process, including the faculty members and their assistants, to adopt teaching methods and strategies. This will give learners a significant role during the educational process. This is in line with education modernization and development, including e-learning.
4 - The actual use of the results of these researches and studies to raise the level of students in various sports in general and basketball in particular.
5 - Conducting more studies and scientific research on students of the Faculty of Physical Education in various other scientific courses using e-learning.

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