The Effectiveness of Using Educational Scaffolding on Learning the Skill of the Chest Pass for the Preparatory Stage

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Research introduction

The age of cognitive explosion imposes new requirements aimed at enabling learners to absorb, utilize and employ knowledge elements, skills, mediators and users. and give them greater responsibility in acquiring knowledge and self-learning, With this rapid change and dramatic evolution of knowledge in the age of science and technology of the information revolution, the electronics revolution and the evolution of teaching and learning theories s active role in teaching and learning processes, Perhaps one of the most prominent rules aimed at such trends in education s ability to practise their own learning skills in order to access and build knowledge and provide learners with a variety of learning and thinking patterns to counter and accept this change.

2. Mention "Muntasser Osman Sadik Hilal" (2005). Contemporary educational trends emphasize the need for educational systems to keep pace with the requirements and needs of today as well as the requirements of the expected future, modern methods of education are concerned with preparing people for coexistence in this world. Therefore, it has become necessary to bring appropriate change to the curricula and methods of education because traditional methods have become ineffective in this era, and it has become imperative that education be transformed from mere preservation, indoctrination and passive receipt from learner to a totally different kind, It is positive education, where the learner's active participation in order to integrate the educational process through prevailing teaching technology methods. (p.18, Abdul Wahid)

According to Mustafa al-Jilani (2000m): This has helped the emergence of new systems and methods in education such as individual education Individualized learning and interactive video-assisted teaching Interactive video learning, Personalized system interaction and computer-assisted instruction and Hyper video. (62 : 44)

Research Problem

The lack of space and playgrounds, the large number of students in the classrooms and the lack of sufficient time do not allow learners to watch the explanation and train to perform mathematical skills, so the teacher is forced to repeat the explanation more than once to the groups that were unable to watch due to the large number. The researcher noted that there is a problem in some mathematical skills due to the lack of sufficient time to repeat the performance of the skill, and therefore the educational outputs are not achieved with the required specifications, as the learner at the end of the course is unable to master these skills, and the problem lies in the inability of students to apply what he learned at the time of presenting the educational model due to the lack of time and the difficulty of watching the explanation due to the large number of learners, which prolongs the time spent in the explanation and reduces the time required for application and practice, so the problem of the current research is In an attempt to design an e-learning environment based on computer simulation to learn some mathematical skills through the use of virtual reality software, to improve the degree and level of learning outcomes of middle school students.

Research Aims

Designing a computer simulation program using virtual reality to teach some mathematical skills to students of the second stage of preparatory education and identify:

A– Identify the impact of the proposed program on teaching some mathematical skills to students of the second stage of basic education.

B – Identify the impact of the proposed program on the level of knowledge of students of the second stage of basic education.

C – Identify the impact of the proposed program on the emotional aspect of students of the second stage of education.

Research hypotheses

1. There are statistically significant differences in dimensional measurement between both the experimental group and the control group in the level of mathematical skills under consideration for the experimental group.

2. There are statistically significant differences in dimensional measurement between both the experimental group and the control group on the knowledge side in favour of the experimental group.

3. There are statistically significant differences in dimensional measurement between both the experimental group and the control group on the emotional side in favour of the experimental group.

search Terms:

1. Imagined, latent or virtual reality (VR)

on computer simulation of environments that can be physically simulated in some places in the real world, in fantasy worlds.

The latest VR environments are primarily visual experiments, either displayed on a computer screen or through a special stereotype display, but some simulations include additional sensory information such as audio through speakers or headphones. Some advanced tactile systems, include tactile information, commonly known as feedback force, in medical applications and electronic games.

2- Educational program

Knowledge, facts, concepts, scientific laws and skills related to the topic (content of the educational program) are prepared in the programmatic way of the programmer's specialized education. (p.132: Salem)

3. Integrated learning concept

Integrated learning has been termed integrative learning and defined as a complementarity formula that combines traditional education with e-learning. E-learning sources are used in traditional lectures and lessons in an integrated structure with them. It is one of the best and most successful forms of ICT use that can replace all traditional methods in all circumstances while using a technology-based learning entrance. (79: Attiya)

Research Procedures:

Research Methodology

The researcher used the experimental curriculum with the experimental design of two sets, one experimental and the other a female officer following the tribal and postgraduate measurement of both groups.

Research community

The researcher used the experimental curriculum with the experimental design of two sets, one experimental and the other a female officer following the tribal and postgraduate measurement of both groups.

The Research Sample:

The researcher selected a deliberate sample of 60 students from the research community, representing a percentage of 16.96% of the research community and divided into:

1. Pilot group (20 students) with a percentage (35.71%) of the search sample, applied to them using virtual reality.

2. A control group (20 students) with a percentage (35.71%) of the research sample and apply to them the traditional method (explanation and indoctrination).

3. Reconnaissance group (12 students) with a percentage (28.75%) of the research sample, from outside the original sample and from within the research community to conduct surveys.

Table (1)

Description of the community and research sample

Experimental group	Control group	Pilot group	Excluded	Research Community
20	20	12	8	60

Moderation of the distribution of the research sample

The researcher calculated the moderation of the frequency distribution and found equivalence between the experimental and control groups in the variables of age intelligence, cognitive achievement, and some physical abilities (leg muscle strength, arm muscle strength, compatibility, accuracy), and (thoracic pass) skills under study, Tables No. (2), (3) Shows the moderation of the frequency distribution and equivalence between the two groups in the light of the research variables.

Table (2)

Arithmetic mean, standard deviation, and torsion coefficient of the research population in Anthropometric variables "age - height - weight - intelligence"

n = 60

Variants	Measurement Unit	Arithmetic mean	Medium	Standard deviation	Torsion coefficient	Flattening
Age	year	12.885	13.000	0.878	-.492-	-.314-
Height	cm	150.904	150.500	5.679	0.286	-.655-
Weight	kg	45.923	41.000	14.004	2.453	7.110
Wits	degree	23.827	29.000	14.962	-907-	-977-

It is clear from the previous table (2):

It is clear from Table (2) that the torsion coefficients of the research community in the variables under research have been limited between (+, -3), which indicates that the research population is normal moderate in variables (age, weight, and height).

Table (3)
Arithmetic mean, standard deviation, and torsion coefficient of the research community in physical and skill variables

n = 52

Variations	Test	Measurement Unit	Arithmetic mean	Medium	Standard deviation	Torsion coefficient	Flattening
Physical	Muscular capacity of the legs	degree	41.96	50.00	39.36	0.01	-1.909
	Muscular capacity of the arms	meter	4.13	4.20	1.25	0.52	-.221
	Accuracy	degree	1.90	2.00	1.01	-.504-	-.852
	Compatibility	degree	5.35	4.00	4.64	0.49	-1.096
	Agility	second	10.2144	10.06	1.59	1.087	1.834
	Kinetic speed	second	7.55	8.11	1.16	-1.065	-.097
Skill	Pectoral pass	degree pass	1.981	2.000	0.804	-.670	0.381

It is clear from the previous table (3)

It is clear from Table (3) that the torsion coefficients of the research community in the variables under research have been limited between (+, -3), which indicates that the research community is normal moderate in the variables (physical and skill).

Table (4)
The significance of the differences between the two groups (experimental - control) in the anthropometric variables "Age – Height – Weight – Intelligence"

n = 40

Variants	Measurement Unit	Experimental Group		Control group		Difference between the two averages	Value of T	Sig
		before	after	before	after			
Age	year	12.950	.8256	12.850	.9333	.1000	.359	.722
Height	cm	150.800	5.908	151.1000	6.069	-.300-	-.158-	.875
Weight	kg	46.450	15.568	46.900	15.348	-.450-	-.092-	.927
Wits	degree	32.150	3.660	33.850	4.032	-1.700	1.336	-189

It is clear from Table (4) that there are no statistically significant differences between the experimental group and the control group in the pre-measurement, which indicates the conscientiousness of the two groups in the anthropometric scales.

Table (5)

The significance of the differences between the premeasurements of the experimental and control groups in physical skill tests

n = 40

Variants	Test	Measurement Unit	Experimental Group		Control group		Difference between the two averages	Value of T	Sig
			before	after	before	after			
Physical	Muscular capacity of the legs	degree	42.5250	39.90307	39.36	40.06399	-.50000	.040	.969
	Muscular capacity of the arms	meter	4.0800	1.21465	1.25	1.23305	.02000	.052	.959
	Accuracy	degree	1.9000	1.07115	1.01	1.08942	.05000	.146	.884
	Compatibility	degree	5.3500	4.67102	4.64	4.67102	.00000	.000	1.000
	Agility	second	10.2120	1.75524	1.59	1.69408	-.09250	.170-	.866
	Kinetic speed	second	7.4830	1.23826	1.16	1.22484	.02900	.074	.941
Skill	Pectoral pass	degree	1.950	.826	0.804	.788	-.150	.588	.560

Table 5 shows no statistically significant discrepancies between the experimental group and the control group in tribal measurements indicating the two groups' reversibility in skilled physical tests.

The researcher used the physical and skill test prepared by Samia Lutfi Al Ansari (2008) (52). This test was selected by the researcher for several reasons:

1. Suitable for the dental phase of the search sample.
2. It can be applied to many female learners simultaneously.
3. It has been used in many studies and distinguished by a high degree of scientific transactions (honesty - stability).
4. It is also provided with a statement setting the level of learning for peers depending on their age.
5. Extracts the individual's IQ or percentage degree.

The researcher calculated the scientific transactions (sincerity-stability coefficient) for the test, where the researcher calculated the validity of the differentiation on a sample of its strength (40) Female Secondary Students Outside Basic Search Sample (20) Student with cumulative recognition (privilege) (distinguished group) Other group (20) students from the same

group with a GPA (accepted) (Group Gubert distinct) in the period of one day (Sunday) (12/3/2023 to Tuesday) (28/3/2023) as follows:

A. Verification of physical and skill tests:

The verification of the test was calculated by certifying the peripheral comparison on a survey sample similar to the research community and from outside the basic research sample of 12 pupils. Their grades were graded upward to determine the top quarters (3) children and the lowest quarters (3) children. The indication of differences was calculated in those tests and the table (6) shows the result.

Table (6)
Indication of differences between higher and lower quarters in skilled physical variables

n1 = n2 = 3

Test	Variants	Measurement Unit	Highest Quarter		Lowest Quarter		Difference between the two averages	Value of T	Sig
			before	after	before	after			
Physical	Muscular capacity of the legs	degree	1.267	0.058	69.667	9.074	-68.400	*13.056	.000
	Muscular capacity of the arms	meter	6.000	1.000	2.333	0.577	3.667	*5.500	.005
	Accuracy	degree	2.667	0.577	1.333	0.577	1.333	*2.828	.047
	Compatibility	degree	11.667	0.577	1.000	1.732	10.666	*10.119	.001
	Agility	second	11.533	0.681	8.667	0.436	2.867	*6.142	.004
	Kinetic speed	second	8.497	0.436	6.560	0.987	1.937	*3.108	.036
Skill	Pectoral pass	degree	2.667	.577	.667	.577	2.000	*4.243	.013

The value of the tabular "V" at a morale level of 0.05 and a degree of freedom of 4 = 2.78

Table 6 shows significant differences between higher and lower quarters. Physical and skill tests for higher quarters.

B. Persistence of physical and skill tests:

Table (7)
Correlation transactions between the first and second application of skilled physical tests

n = 12

Variants	Test	Measurement Unit	First Application		Second Application		correlation coefficient	Sig
			before	after	before	after		
Physical	Muscular capacity of the legs	degree	39.242	40.597	39.492	40.745	*1.000	.000
	Muscular capacity of the arms	meter	4.333	1.435	4.342	1.424	*1.000	.000
	Accuracy	degree	2.000	0.853	1.917	0.793	*.941	.000
	Compatibility	degree	5.333	4.942	5.417	4.889	*.998	.000
	Agility	second	10.068	1.193	10.077	1.193	*1.000	.000
	Kinetic speed	second	7.812	0.930	7.803	0.925	*1.000	.000
Skill	Pectoral pass	degree	1.833	.835	1.750	.866	*.943	.000

The tabular value of (t) of 0.05 and degree of freedom of 10 = 0.576

It is clear from table (7) that the values of correlation transactions between the first and second application of the tests have been limited between (921. 1.00), which is greater than the value (t) of the table indicating the stability of the tests in question used.

Presenting results

Table (8)
Indication of Differences between pre-and post- Measurements of Experimental Group in Skill Performance Level

n = 50

Variants	Test	Measurement Unit	Pre measurement		Post measurement		Difference between the two averages	Value of T	sig .level
			Before	After	Before	After			
Skill	Pectoral pass	Second	1.950	.826	3.400	.6806	1.45000-	*4.781	.000

Table 8 shows statistically significant differences between tribal and remote measurements of the experimental group for the benefit of the dimension in skilled physical tests.

Table (9)

Indicative of differences between the dimensional measurements of the experimental group and the control group in the skill variables

n = 40

Variants	Test	Measurement Unit	Experimental Group		Control Group		Difference between the two averages	Value of T	sig .level
			Before	After	Before	After			
Skill	Pectoral pass	Second	3.400	.6806	2.750	.786	.650	*2.795	008

Table 9 shows statistically significant differences between the experimental group and the control group in remote measurements in skilled tests for the experimental group.

Table (10)

Rate of change between dimensional measurements of pre-experimental group and control in skill variables

Variants	Test	Measurement Unit	Experimental Group			Control Group		
			Before	After	change rate %	Before	After	change rate %
Skill	Pectoral pass	Second	1.950	3.400	74.36%	2.1000	2.750	30.95%

Table 10 shows that the change rates of the experimental group are better than the change rates of the control group, whereby the change rate of the experimental group ranged from 64.86% to 74.36%, and the control group ranged from 18.92% to 30.95%.

Steps to implement the proposed study plan

I. specify the conditions for selecting and characterizing the sample:

A. Skill tests

B. Anthropometric measurements

II: Sample parity:

The researcher performed parity between the two experimental and control research groups in variables that may affect the accuracy of the required results (age, height, weight, IQ, fitness components, skill performance of the skills in question).

This calculates the significance of the differences between the two groups (control and experimental) in the previous variables, as shown in table, (5), (6) and (7).

III: Data collection tools:

Data collection tools vary depending on the type of data to be obtained and the researcher has relied on three main sources:

1. Scientific references on this subject.

2 - previous and related research and studies.

3 - Personal interviews with basketball, gymnastics and learning technology experts have used the researcher.

The following tools are suitable for the purposes and assumptions of research: -

A. Questionnaire

B. Anthropometric measurements

1. Age
2. Length
3. Weight

C. Tests

1. Test basketball and gymnastics fitness components.
2. Skills performance tests for the skills under consideration.
3. Intelligence Test

a. Questionnaire:

Questionnaire to determine the physical fitness components of basketball and gymnastics. The researcher scanned and inventoried references and previous studies to arrive at the physical fitness components of basketball and gymnastics (55) (58), (38), (27), (65), (48) - (61) and subsequently enumerated a form containing those ingredients and presented to the experts an annex (1) to extract the physical ingredients of the basketball

and gymnastics attachment (2), From 5/2/2018 to 10/2/2018, the following is an order of those components according to the percentage agreed by the experts, shown in table (8)

IV: Virtual Reality Program Working Mechanism:

The idea of this technique is to produce virtual elements using computer such as illustrative video, real images, audio, or 3D stereotypes, or information. Stored in the database of a VR production application and linked to special markers that exist in real reality, and when the hacker directs the tablet camera, or mobile phone towards real reality the camera captures these markers, and then opens these elements on the tablet screen, or mobile phone and there are two ways to produce VR:

1 - The first method is by using Markers

So that the camera can capture and distinguish it to display the information associated with it

2. The second method uses the geographical location of the camera through the service (GPS) or with image highlighting software

(Image Recognition) to present information. (Al-Hussein Obari, 2015)

Virtual Reality Design and Production Phases

The technical work is in its brief stages (Ali Abdul Wahid, 2016. 287) as follows:

1. Selection:

It is intended to identify the objectives to be achieved by applying this technique as well as the subjects and elements to be applied to it.

This was part of the preparatory stage's curriculum and, accordingly, the construction phase is completed.

2. Creation:

That is, create photos, videos, audio clips and everything that will integrate into the virtual reality to be enhanced.

3 - Linkage:

That is, the connection between the viewer and the virtual elements and the real elements is synchronized until the virtual elements appear as part of the real scene.

4. Exploration:

This is the case with directing the camera of a device used in the technology application to eat smartphones or tablets towards the scene or the virtual element before with virtual elements added to the database associated with the application. When the item is discovered and identified, it displays the virtual landscape.

5. Integration: -

It is where what will appear in the real scene is combined with the pre-prepared elements to enhance this real scene and the result will be one scene where the added elements appear to be part of the real scene that appears in front of the camera lens. (41: 25)

V. Research materials and tools:

The researcher prepared the following materials and tools:

1) Educational program for the use of virtual reality techniques in the design and production of electronic lessons and for the preparation of the program. The following steps were followed:

1. Virtual reality (concept. The characteristics of his work - his uses).
2 - phases of VR technology work.
3. Virtual reality applications in education.
4. Software used in the design and production of virtual reality,
5. Virtual reality design and production skills,

VI. General Objectives of the Program:

Procedural objectives aim to provide the teacher with a set of knowledge and skills necessary to use virtual reality techniques in the design and production of electronic lessons.

Procedural objectives of the educational program: After studying this program, the student will be able to:

1. Virtual reality defines the multiplicity of stages of virtual reality production.
2. Demonstrates the characteristics of virtual reality.
3. Multiple ways to use virtual reality.
4. Explains how virtual reality works.

5. Identify the different uses of virtual reality.
6. Some of the applications used in the production of electronic lessons remind us of virtual reality.
7. Conclude the role of virtual reality in education.
8. Mastered virtual reality design skills.
9. Distinguish between the applications used in the production of virtual reality.
10. The modules you need to acquire the skill of designing electronic lessons in virtual reality.
11. Determine the period for which the future will return from the use of virtual reality in education.
12. Mastered the work of its own channel that includes electronic lessons duration using virtual reality. **(22 : 36)**

VII. CONTENT OF THE EDUCATIONAL PROGRAMME

The researcher designed e-lessons using VR techniques and relied on multimedia to teach the program, including (videos, audio clips, Port Point shows, some websites. working papers)

The arbitrators were then surveyed about the program, which was prepared in its preliminary form, and then presented to a group of arbitrators specializing in curricula, teaching methods and teaching technology, with a view to identifying the following aspects:

1 - The appropriateness of the behavioral objectives of each of the subjects of the program.

2 - Compatibility of scientific content for behavioral goals.

3. Appropriate the scientific content of the student and the teacher.

4. Appropriate educational activities for the theme of the program.

5 - The accuracy of the scientific subject of the study subjects in the program.

6. Any other opinions or suggestions which the arbitrators wish to make.

VIII. Collection of scientific material

Emphasis must be placed on the accuracy of the scientific material contained in the program and on the suitability of the program's scientific content and the appropriateness of educational activities according to the curriculum planned for the preparatory phase.

IX. Research tools that are divided into:

First data collection tools:

Data collection tools vary depending on the type of data to be obtained and the researcher has relied on three main sources: -

1. Scientific references on this subject.

2 - Research and previous and associated studies.

3 - Personal interviews with basketball, gymnastics and learning technology experts have used the researcher. (26 : 30, 31)

Second Pre-trial procedures:

1. First Pilot study:

The first survey of research tools was conducted on Sunday, 11/2/2023, with the aim of:

• Check the convenience of the place, tools, devices, and their selection.

• Training of basements and clarification of test specifications and measurement methods.

2. Second Pilot study:

The second survey of research tools was conducted on Monday 12/2/2023 to 19/2/2023 with the aim of conducting scientific transactions for the tests under consideration.

3. Third Pilot study:

Skills have been taught using the VR program and consensus has been on the program's integrity in terms of form and content.

4. Implementation of the basic research experience:

1. Pre-measurements:

The pre-measurements were conducted for both experimental and control research groups in variables that may affect the accuracy of the desired results are (age, length and weight - IQ - fitness components - skill performance of skills under study). This took place from Tuesday 12/2/2023 to 13/2/2018 and the two groups were equal in the tests under consideration.

2. Application of pilot program

The basic research experiment was carried out in the period from Sunday 18/2/2023 to Sunday 15/4/2023 by two portions per week their time (90) minutes for 8 weeks each of the two groups according to the time allotted for teaching the skills in question (interlocutor, peaceful correction, chest pass, jump opening, jumping inside)

3. Control Group Program:

Training was done for the control group in traditional style (giving form - explanation - correction of errors)

4. Pilot Group Program:

Skills have been explained using VR (presentation of skill using software - explanation - correction of errors). Students have been provided with images of skills, computer, iPad or mobile that have been prepared in advance and the equipment is provided with the scientific material conforming to the curriculum.

- Provide basic tools for warm-ups and practice skills

5. Post measurements:

The researcher measured the post measurements of both the experimental and control research groups in both the layup - the chest pass)

The researcher measured the post measurements of all female students after the end of the study conducted between 16/4/2023 and 17/4/2023

The researcher has committed to teaching for the two groups to ensure:

- Adjusting the variables while conducting the experiment.
- Organizing the workflow.

6. Statistical Treatment:

After completing the tribal and remote measurements of the experimental and control groups, the researcher collected the data and compiled it in the statements to complete the statistical processors of this data. The researcher used the six statistical methods to verify the validity of the assumptions:

1. Arithmetic average.
2. Standard deviation.
3. Torsion coefficient
4. Binding coefficient.
5. Difficulty and excellence coefficient to ensure the validity of cognitive testing.
6. Select T-test to calculate differences between averages
7. T =

Table(11)

Indication of differences between the averages of the pilot group's tribal and postgraduate measurements in the level of some learning products (cognitive attainment level) under study

N = 50

Variants	Measurement Unit	Pre-measurement Average	Post-measurement Average	Difference between the two means	Standard deviation of the difference	Value of (T)	Percentage of improvement
Impact of using VR	Degree	**3.57**	17.00	13.43	3.76	22.65	**%**79.00

Value (v) Scheduling at a degree of freedom (49) and a level of moral significance (0.05) = 1.69

Table 14 shows that there are statistically significant differences between the two measurement averages. Pre and Post the experimental group in (cognitive attainment level) at a level (0.05), indicating that the

experimental group improved in cognitive attainment with a moral significance, and that the rate of improvement between the average of pre and post measurement of the experimental group in cognitive attainment ranges from 79.00 as the largest value to 57.27 as the smallest value.

Discussion of the results:

It is clear from the results of Table (14) that there are statistically significant differences between the average of the pre- and post-measurements of the experimental group students in the level of cognitive achievement of the educational technology course in physical education in favor of the post-measurement, as the calculated value of (T) is greater than the tabular value of (T) at the level of (0.05) and this indicates the positive impact of using virtual reality under research.

The researcher attributes the positive effect of the experimental group in some (cognitive achievement) that through virtual reality during the study, the results confirmed that the application of the use of virtual reality has a positive impact on some (cognitive achievement and educational communication) among second-grade students at Emas International School in Malaysia, where the proposed educational system had a significant impact on the students' acquisition of information, knowledge and skills for the application of the use of virtual reality as one of the most important learning systems, as well as information and knowledge associated with the educational technology course in Physical education, and the good employment of students' efforts and helping them to exert more effort within a framework of freedom and education, which in turn led to the positive participation of students and motivate them more effectively to acquire information and knowledge related to the educational technology course.

Bashir (2009: 334) explained that the use of virtual environments in the educational process has an effective impact, as it gives the learner a diverse ground education process that allows him to think and visualize abstract concepts such as the concepts of space, planets and the movement of the Earth.

Abdul Jalil (2011-263) shows that computer simulation works to develop visual thinking such as terrestrial reality and artificial intelligence, because it works to imitate a behavior, situation or system by using a similar model.

Al-Qabbani (2007: 80). The sense of sight is the basic sense used in building virtual reality environments, and it is the sense responsible for exciting the rest of the senses to build the virtual environment, interact with it and immerse itself in it.

Conclusions and recommendations

1. The education system using virtual reality has a positive impact on improving the level of cognitive achievement and increasing educational communication on the students of the experimental group.
2. The program contains three-dimensional presentations and two-dimensional multimedia that helped develop the visual thinking of students
3. The traditional method of explanation and indoctrination (lecture) followed contributed in a positive way to improving the level of cognitive achievement in the educational technology course in physical education for the control group.

The education system using virtual reality as one of the education systems and has a better impact than the traditional method of explanation and indoctrination (lecture) used to improve the level of cognitive achievement and educational communication for the educational technology course in physical education.

Research recommendations

In light of the results and conclusions reached by the researcher in this research, she recommends several recommendations:

Attention to employing virtual reality in teaching physical education due to the advantages of this strategy proven by the current study and previous studies, and because of its positive impact on the development of physical education skills, and work to include this strategy in the educational curricula to become an essential part of the educational process.

Training physical education teachers on how to employ virtual reality so that it is implemented and mastered well.

Work on including specialized courses for the preparation of virtual reality teachers and how to employ them and prepare them in a way that qualifies them to practice and apply them during the teaching of physical education.

Encouraging the use of virtual reality in all subjects and directing educational supervisors to the importance of following up teachers on the use of virtual reality in school curricula.

The need for teachers to pay attention to modern teaching strategies while teaching physical education.

Attention to preparing training programs to develop the educational communication skills of the student teacher.

References:

1. Aggarwal ،J.C.: Essentials of Educational Technology Teaching Learning Innovations in Education ،New Delhi Vikas Publishing 1995.
2. Ahmed Abdel Fattah Hussein (2001): The effectiveness of some methods of using computers in learning the competition 110 m hurdles" Message MA, Faculty of Physical Education for Boys, Zagazig University.
3. Ahmed Mamdouh Zaki (2003). The effect of systems style on learning some basic skills for young women's football, Journal Physical Education Research, Faculty of Physical Education, Zagazig University, Volume Twenty-Six, Issue 64 December.
4. Ahmed Mohamed Abdel Khaleq (1991). : Foundations of Psychology, University Knowledge House, Alexandria.
5. Al-Gharib Zaher and Iqbal Behbehani: Educational Technology: A Future View, 2nd Edition, Dar Al-Kitab Al-Hadith, Cairo, 1999.
6. Al-Jawhara Al-Dahassi (2017): The use of augmented reality technology in the development of mathematical thinking skills. Master's Thesis, Faculty Postgraduate Studies in Education, Cairo University.
7. Amani Refaat Basiony (2002): The effect of smart learning using the computer on some fencing skills The physically disabled, unpublished PhD thesis, Faculty of Physical Education, Minia University.
8. Atly J.L. & M.J. Cooml Dispen Za ،A.: Expert system concepts and examples ،ICC Publications1994 ،.
9. Barba Sales, Rita Ricci (1998): Educational Technology - Definition and Components of the Field, translated by Badr bin Abdullah Al-Saleh, First Edition, Al-Shafri Library, Riyadh.
10. Bucher ،C.A. ،Foundation of Physical Education and sports 9 the editon ،the C.V. Mosby Company ،Stlouis1983 .

11. Gaber Abdel Hamid (1998): Education and Educational Technology, Dar Al-Nahda Al-Arabiya, Cairo.

12. Glyde K ،& Patricialt L : Teaching Pysical Education in Secondary Schools ،new york ،Grow Hill 81،

13. Hossam Mazen (2004): Our educational curricula and e-learning and network technology to build the Arab information society, The Sixth Scientific Conference, Volume (1), Ain Shams University.

14. Ihab Fathi Zaki Ghorab (2001). The use of a multimedia system and its impact on learning some basic skills for beginners in boxing, PhD thesis, Faculty of Physical Education, Tanta University.

15. Islam Ali (2016): The effectiveness of a program based on augmented reality technology in developing visual thinking skills in a topic Science among ninth grade students in Gaza. Master Thesis: Al-Azhar University in Gaza.