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Enrich the Physics Curriculum Scheduled for Students of Intermediate School E-Learning and Its Effectiveness in Scientific Thinking and Their Attitude Towards the Development of Physics

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Abstract
The current research aims know the Effectiveness of enriching the physics curriculum for students in middle school electronic learning in the development of their thinking and scientific their direction towards physics, sample formed from second grade students in Sinae intermediate school (64 students). (32) student as experimental group & (32) student as control group. to achieve the goal of research that requires preparation tools, first test of scientific thinking which consisted of (7) skills which are: (a sense of the problem, identify the problem, the imposition of hypotheses, selecting hypotheses, the conclusion, application, and holds tremendous) that distributed to (3) positions The first (the job) and the second (static objects) and third (reflectance total) Each position on the (7) questions and four alternatives, second tool was a measure of the trend towards physics, which consisted of (22) paragraph and followed by (5) alternatives by Likert scale, with a degree (very large, large, medium, and few, very few). the researchers used statistical analysis t- test for two independent samples &t-test for interrelated samples also Pearson correlation coefficient with (spss) statistical program . the equation of alpha - Cronbach (α-cronbach) also used, the researchers found:
1 .No statistically significant difference between the mean scores of the two tests dimensional search for members of the two groups (experimental and control) the experimental group better than control one, which was enriched with e-learning teaching method.
2 .No statistically significant difference between the mean scores of the trend dimensional scale for members of the two groups of research (experimental and control) the experimental group better than control one, which was enriched with e-learning teaching method.
The researchers applied conclusions & number of recommendations including:
Work on the provision of computers and the device (data show) in the classroom. so as to allow sufficient time to use for teachers and students.
As well as the proposal of some proposals, including:
Enrich the physics curriculum for intermediate school with computer and its effectiveness in the development of deductive thinking and orientation towards physics.
Keywords: Enrichment, physics, e-learning, scientific thinking

Introduction :

The importance of physics and its role in changing scientific development has attracted the attention of educators in the regeneration and development in terms of content and teaching methods, especially after World War II because, the content of physics books was not fit with the modern scientific trends, there are also a focus on traditional methods and the shortcomings in the use of laboratories and educational technology . (Baiser, 1987: 58)

Educational technology as a component of the curriculum plays an important role in the development of the educational system in general, and the curriculum in particular, and help to solve some of the contemporary educational problems and increase the effectiveness of the curriculum and help learners to change their behavior, also increase the achievement of knowledge and skills leading to integration and their development , new vision and inclusiveness process design and development of education to consider teaching materials as an important element indispensable in the teaching and learning process. (Farra, 1987: 130) The use of traditional methods in the teaching of science subjects students do not earn physics curriculum well, so it was imperative for the modern education can make the student at the center of the educational process and an active participant of the interaction with the educational process and the sources of the parties to be learned and the computer is a rich opportunity for this interaction is the one who provides plenty of room for the learner in all activities interaction as playing an important role in this interaction, the new education system tries to find the interaction formats such giving them other knowledge systems through computers and software for multimedia, and connect to the global information, and this is an opportunity rich interaction for through the participation of learners in all activities. (Mouse 1998: 181).

Karam (1993) sees the need for attention to the development of thinking in the curriculum skills, but does not take place only if the vast amount of information reduced, increasing the goals of self-mobility or skill,

where the learner is participating by the learning process in terms of participation, and interested in methods of teaching associated with the development of thinking skills, so we must specify these skills before the development of the students, there are interpersonal skills (remember, retrieval)are used in teaching methods, and teaching methods associated with thinking skills, such as (comparison, classification, imagination) did not take their right to development, this may be due to the lack of awareness of a large proportion of teachers for these skills. (Karam, 1993: 204)

It showed the need to give attention to the revitalization of thinking and direction to the development of scientific thinking through the physics curriculum, where Zaitoon (1994) stated that, the most important objectives of teaching science In general and physics in particular, is to provide students with scientific knowledge and help the development of scientific thinking and gain science operations or scientific thinking skills. (Zaitoon, 1994: 75)

The researchers believe that there is close linkage of scientific thinking curricula and the courses, the scientific thinking and the content of the topics of study became entrapped, that enrich the curricula of the school and methods of effective learn and targeted thinking.

The appearance of new technology and the resulting tools and machines, made many thinker, down the education process, and retrograde the role of the teacher, but in fact this is not true, The technology does not eliminate the role of the teacher, but backed and make him a significant role requires the availability of certain efficiencies of tasks, because the technology made the teachers take on new roles, and imposed numerous efforts with the technological development that has taken place, where it pass function of the teacher from the traditional role and become a new functions. (Ibrahim, 1999: 50) In the past years there has been a significant evolution of the educational methods, in the developed countries has become the use of the computer as an educational tool, most of the schools of the United States introduced the Internet service in the ranks, and became used as an educational tool, and took the technology imposes itself in education and became a very important role in the teaching and learning process. (Ajlouni., 2001: 85).

Adel and Saeda (2003) put a set of credentials for the use of computers in teaching including:

1.improve the opportunities for students to future job and so advancing them within scientific techniques.
2.the need to acquaint students with computer and dissemination of computer awareness ((Computer Awareness to adapt to the new changes in life.
3.educational aim which emphasizes the improvement of the educational process , enrich and provide new ways of presenting information.
4. The need of change with a computer at school may improve the effectiveness of teaching and graduating from the familiar routine. (Happiness, and just, 2003: 43)

It is informed by the researchers to many of the literature in the field of computer use in education have reached a number of advantages in its use to enrich the educational process, including:

1.the large the information storage , retrieval and composition of the bank of information that refer to it quickly and easily capacity.
2. allow students to learn according to their sense of opportunity for individual learning taking into account the readiness of the learner.
3.allow students with underachievement to correct their mistakes without feeling ashamed with colleagues.
4.made learning more fun than other methods of teaching as a result of colors, music and animation.
5.provide information and replicated many times without getting bored allowing students with underachievement use tutorial more than once, regardless of the availability of the teacher.

Research problem

The researchers noted that, there is scientific attitudes towards employing developments in educational technology in education to enrich the curriculum and achieving educational goals in cognitive. So, it is an important of activating the role of electronic learning in teaching physics curriculum at the intermediate level emerged in order to satisfy some gaps and deficiencies resulting in the provision of laboratory tools to conduct scientific experiments and time-saving. As a result for the need of modern methods and techniques, including computer capabilities of systems and application programs and offer advanced slides (POWER POIN), designs, illustrations and feedback material subjects as well as films about the phenomena Natural Scientific aggressive and exciting and a positive direction of scientific thinking about learning physics curriculum, so following question appeared:

"What is the effectiveness of enriching the physics curriculum for students in middle school electronic learning in the scientific thinking and their attitude towards the development of physics?"

Third: The objective of this research

The current research aimed "effective enrich the physics curriculum for students in middle school electronic learning in the scientific thinking and their attitude towards the development of physics."

Fourth, the research hypotheses

1. "There is no statistically significant difference between the average scores of students pre & post of the experimental group in scientific thinking of physics."
2. "There is no statistically significant difference between the average scores of students pre & post of the experimental group in the direction towards physics."
3. "There is no statistically significant difference between the average scores of students pre & post of the control group in scientific thinking of physics.'
4. "There is no statistically significant difference between the average scores of students pre & post of the control in the direction towards physics.'
5. "There is no statistically significant difference between the average scores of experimental students & control one in the scientific thinking of physics."
6. "There is no statistically significant difference between the average level students the experimental group and between average grades students in the control group post test toward physics."

V: The Limits Search

The current research was limited to:

1. students second grade average in intermediate and secondary school for girls in Mosul city in (2013-2014 AD)year.
2.corriculum scheduled of physics taught in second grade, for the academic year (2013-2014 AD).

Sixth: review of literature:

1. Balkis and Shetty (1989) stated that:

"Enrich the curriculum or cause increases or additions which complement certain deficiencies discovered by educators in any of its components or make them clearer or easier or receptive." (Balkis and Shetty, 1989: 6)

2. Kathiri and Saleh (2005) as "a curriculum companion school curriculum and the content of a set of activities &states that can be done by students, through some of the problems they face, and contribute to the growth of their abilities and attitudes towards the subject, and is implemented under the supervision and guidance of the teacher ". (Kathiri and Saleh, 2005: 184)

second (Physics):

1.Halbbern (2001):

"Study of natural phenomena that tell her the human senses, either directly or with the help of tools." (Halbbern 2001: 7)

2. Abdullah (2005) :

"Aware of the theory interact with the interactive experience mutually." (Abdullah, 2005: 11)

Third Electronic Learning:

1. Tawalbeh (1998)stated that:

"Device that receive and process the data and output in the form of information." (Tawalbeh 1998: 336)

2.Almlah (2010) stated that:

"Way to teach using modern communication mechanisms of computers network with its multiple pictures , audio, graphics and methods of research and library eBooks, as well as online portals, whether remote or in the classroom, the important thing is intended to use the technology of all kinds in the delivery of information to the learner in the shortest time and with less effort and greater benefit" . (Almlah 2010: 69)

Procedural definition:

The researchers will adopt a definition of Almlah (2010) that he procedurally:

A set of planned steps and the organization adopted by the physics teacher on students in second grade intermediate school as experimental group by employing e-learning and multimedia in the presentation of content and simulate the physical experiences and combined with theoretical content and this technology based on presentation with power point and explanation of the teacher with the participation of students.

Fourth: the Development

1. Shehata and Zainab (2003)

"Raising the level of students in various educational positions of learning and determine, as example, the increase of average grades after being trained on specific program." (Shehata and Zainab., 2003: 157)

. Abu Samra (2007)

"Operations in which unintended activities are being made in accordance with the general policy for social and economic development, political and cultural and knowledge-based to people in their local environments, mainly relying on civil and governmental coordinated and integrated efforts."

(Abu Samra, 2007: 10)

Fifth. Scientific thinking

1.Al Najdi et al. (2005) that:

"Mental organized activity among students through daily dealing with issues and problems experienced in the school. It is a limited expresses the mentality of a single process, but rather is a complex activity in the

composition and quality of its properties and has a distinctive".(Al Najdi et al., 2005: 235)
2. Abdul-Aziz (2009) said:
"That kind of systematic purposeful thinking that an individual connects to the understanding and interpretation of various phenomena and predict the occurrence disclose the reasons that led to their happen based on the principle of observation, hypotheses and choice assignments and access to the results based on the experimental method in the search." (Abdul-Aziz, 2009: 52)
Sixth Attitude:
1.Abdul Aziz (2009): "disputes that let the individual to respond to specific patterns of behavior towards people or ideas or certain things."
(Abdul Aziz, 2009: 246)
3.Atallah (2010) "a case of pre-configuration formed by the student (individual) somehow through interaction with the people, the things, or events, making him exhibits a certain behavior in similar situations."
(Atallah, 2010: 164)
The researchers defined the trend toward physics curriculum procedural:
A psychological preparation acquired by the second grade students at the intermediate school, expressing their condition for emotional approach toward physics is acceptance of this approach and the formation of an optimistic outlook about it or rejection or neutrality is measured through their responses all paragraphs of the trend toward scale physics curriculum prepared for the purposes of this research.

previous studies

1. Meli (1988):
This study done in the United States - Northern Arizona University, aimed to know the impact of the use of computers as an educational tool beside the normal way in raising student achievement in physics "consisted of (34) students, divided into two groups, the first group trial was receiving curriculum by the computer in the first half of each lesson, while the second half was complemented by the usual way, and the second control group taught in the usual way throughout the lesson was attainment classification in physics into two levels the first level, is the extent to accommodate students 'physical concepts, and the second is the students' ability on the application of physics concepts, the study lasted for 12 weeks, and after data collection and statistical analysis, the researcher found the following results:
1.non significant difference found in average achievement between the two groups to accommodate the physical concepts and their application.
2.the study reaches the same conclusion when comparing each sex separately.
3.the study found that direct lecture, and continuous discussion will be reduced to (50%) of the share allocated to school time and that computer-aided without the effect on student achievement (Meli, 1988: P.7).
2.Al Bawi (1995).
This study was conducted in the Faculty of Education / Ibn al-Haytham the University of Baghdad, aimed to impact the use of computers and the old education method, two methods for individual learning in the collection of first-grade, students from the Department of Physics - Faculty of Education (Ibn al-Haytham) for mechanics subject, sample formed of (58) students from the first grade physics department of the school year students (1994 - 1995 AD), those divided into three groups, two are experimental and the third control. The first experimental group using computer in the individual instruction, the second experimental group using old education method in, while the control group was studied in the usual way, the researcher has prepared program for computer & old education method and confirmed the validity in from of(20) objective paragraph and 10 paragraphs of essay, these applied after the end of the experiment, two weeks after re-apply the same test to measure the degree of remembering the information, after the data is collected and analyzed statistically using analysis of variance , researcher found the following results:
1. a significant difference found among the groups, better result was in first experimental group over second and third groups.
2. better result was in second group over third one that is significant.
(Bawi, 1995: 13-109)
3. al-Moussawi (2001): This study was conducted in the Faculty of Education / Ibn al-Haytham the University of Baghdad, aimed to know the impact of the use of computers to teach physics in the collection, retention and development tendency of physics at the fourth-grade year, formed of (104) students, and used researcher computer with the experimental group as illustrative of some physics concepts related to the topic of the lesson, while the control group was studied using the method routine, and to achieve the goal of research researcher two equal test grades prepared consisting of 40 items, each image, and a variety of vertebrae test of multiple choice, and complete the blanks and essay questions, as the researcher has prepared a measure of the tendency toward physics, be in its final form (34) and after the application of paragraph study tools, data analysis statistically researcher found the following results:
1.there is significant difference between the average collection of the experimental & control groups.

2 there is significant difference between the average retain information of experimental and control groups.
3. there is significant difference for the average inclination towards physics between the experimental and control groups (al-Moussawi, 2001: 1-98).
4. Yadgar (2007). This study was conducted in the Faculty of basic education - University of Babylon, and aimed to know the effectiveness of the application software of the computer mail in teaching and its impact on the collection and retention of second year the average student in physics, and consisted appointed (93) students from the second grade average students, were distributed into two groups, The first experimental rate (47 students), and the second control (46), a student, and then re-teaching plans for the two sets of research, a program applied by the slide show (Power Point) for achievement of test component as the final of the 40 items of multiple choice, statistical methods used (t-test) for two independent samples, and Pearson correlation coefficient, and the equation of Spearman - Brown, and Chi-square, and the equation of the difficulty of paragraph coefficient discrimination paragraph, the researcher found the following results:
1.no difference statistically significant at the level (0.05) between the average students who are studying the use of computer degrees (experimental group) and the average students who are studying in the usual way degrees (control group) in physics.
2.no difference statistically significant at the level (0.05) between the average students who are studying using a computer degrees (experimental group) and the average students who are studying in the usual way degrees (control group) in the retention of information.
3.no difference statistically significant at the level (0.05) between the average scores of the experimental group students on the first achievement test and the second in physics.
4.no difference statistically significant at the level (0.05) between the average group score students control on the first achievement test and the second in physics. (Yadgar 0.2007: 1-83)

Signs and indications from previous studies

The study	Objective of the study	the sample			Supplies and tools		Groups
		gender	N0	Phase And specialization	Kind	No paragra-phs	
(1) Study 1988 Meli United States of America	Know the impact of the use of computers as an educational tool in the side of the normal way to raise student achievement in physics	Males and female	34	Secondary, Physics	Test accommodate physical concepts, and the second able to apply physics concepts		Experimental
					The usual way		Control
(2) Bawi, Iraq 1995	Know the impact of the use of computers and educational bag as a way for individual learning in the collection of first-grade students from the Physics Department of material mechanics and retention	Males and female	58	association First grade students mechanics	Computer-learning program and educational bag, The achievement test The usual way	(20)Objective paragraph and(10)Paragraphs essay	Experimental
							Control
					Achievement test	(40) a question of choice of the type Multi	Control
					The usual way		
)3(al-Moussa-wi 2001 Iraq	The aim know the impact of the use of computers to teach physics in the collection, retention and development tendency of physics at the fourth-grade year, students,	Males	104	Fourth grade year students Physics	Test grades	(40) Paragraph multiple choice, and he finished blanks and essay questions	Experimental
					Clinometer about physics		Control
					The usual way	(34) paragraph	
)4(Yadgar)2007(Iraq	The definition of effective software applications for computer mail in teaching and its impact on the collection and retention of second grade of intermediate students in physics	Fourth grade students	93	Medium Second grade physics students	The program applied	) 40 (Paragraph of multiple choice	Experimental
					Achievement test		Control

The current research on the effectiveness of enriching the physics curriculum schedule for students of

intermediate e-learning phase in scientific thinking and their direction development, aimed toward physics, and will be the sample of students in the second grade of intermediate school distributed into two groups (experimental and control group), tools of the search will be a test of scientific thinking, and the scale of the trend towards physics.

Research procedures:

First: Selection of Experimental Design

It helps the experimental design to guide the construction of a scientific experiment by preparing planning includes a number of independent variables and the number of levels of each of them, and how they are subjects allocated to each condition so, the researcher got the data & uses to test hypotheses conditions . (Abu Hatab and Amal 2010: 397)

The researchers chose the experimentally determined with equal groups, the experimental group studied by giving them enriched curriculum scheduled e-learning, and the second group studied in the usual way, as shown in Figure 1.

Groups	Pretest	Independent variable	The dependent variable	Posttest
Experimental	Scientific thinking and the trend towards physics	Enrich the curriculum e-learning	The of scientific thinking The trend towards physics	Scientific thinking and the trend towards physics
Control		The usual way		

Figure (1) shows the experimental design

Second: determine the research community

Research society of second grade students in intermediate school in the Directorate of Education Nineveh who are studying physics curriculum for the academic year 2013/2014 .

Thirdly. Choose the sample

The sample was selected from students in the second grade of intermediate school, four classes(A,B,C &D) their numbers(158), from those two groups (A & C)were chosen their number (64). A random selection of (A) as a pilot group (B) as a control, (32) student for each group .

In spite of the random distribution of the two sets of search, the researchers tried as much as possible to make similarity between the groups in a number of variables such as age and the degree of Physics in the first grade, scientific thinking and the trend towards physics by (t-test) for two independent samples and the results were all non significant .

Fourth :the search tools

1.testing the scientific thinking: through informed researcher on a number of literature and scientific studies and tests of scientific thinking in this area and after taking the views of specialists in the field of teaching methods of physics and supervisors specialists and teachers of physics curriculum of intermediate school, so the researchers preparing a test of thinking scientific knowledge of students' abilities and mental scientific potential.

then re-test in accordance with the following steps:

a. Identify scientific thinking skills: After consulting a specialists in the field of teaching methods of physics, teachers has been reached to determine (7) skills of scientific thinking, namely: (a sense of the problem, identify the problem, the imposition of hypotheses, the choice of hypotheses, the conclusion, & application) .

B. preparing paragraphs for the test: from the literature and previous studies as Alabeygi (2005), Shayal Al alam (2009) and Alhaimed (2011), paragraphs were prepared, which, caught up with the students the characteristics of this school stage has become test in its final form consists of (9) questions for the job, (8) questions for the static objects, and (8) questions for the total reflection of images, and thereby became a component test (25) question of the all.

Truth of the test: the researchers relied on the virtual and logical honesty to extract test the sincerity and knowledge of its suitability to measure developed for him. So it has been introduced to a group of gentlemen arbitrators in the field of educational and psychological sciences and methods of teaching physics and supervisors specialists for physics curriculum and teachers numbered (16) professor specializing. researchers made proportion (80%) to be an accepted paragraph for the test. In according to the observations, and arbitrators views on the paragraphs of test has been excluded (4) paragraphs and make adjustments on the others. final test consisting of (21) questions and four alternatives.

D. application of exploratory test:

The researchers applied the test on an exploratory sample of community group(B, & D), (62) students of the intermediate school (Sinai) for Girls on Sunday 23/2/2014 m, in order to calculate the discriminatory paragraphs force, and the right time to answer, the researchers divided the sample to two groups by (31) students for each, then according to the equation discriminatory and all within acceptable range up of (0.25).

Effectiveness of false alternatives:

In order to verify the effectiveness of the false alternatives, the researchers analyzed the exploratory test of the paragraphs using an equation effective alternatives in response to the sample and it was all negative and less than (0.05).

Stability testing:

The extraction coefficient test for the stability in two ways of return. As it has been pointing test application on Sunday, 02/23/2014, on (36) student of the exploratory, two weeks later was re-test on the same sample application. by using the Pearson correlation coefficient appeared that the reliability coefficient was (86.0) with good firming coefficient and the second was using Alfa-kronbach to the sample as a whole exploratory equation and the percentage of persistence (0.83) which is acceptable ratio. And so the test became ready for application after extracting the sincerity and persistence.

(Zakaria Al-Bayati 2011: 181)

correction test:

In order to give the digital character of the test, the researchers made key for the test paragraph, were score (1) correct answer and (zero) to wrong answer or that are not answered by the student or made an alternative and thus the degree of testing ranged from scientific thinking (from zero to 21) degrees .

2.evaluation the trend towards physics curriculum:

A. preparation paragraphs of the tool:

To measure this variable, it required to build trend measure towards physics curriculum and after briefing the researchers on the direction standards in this area, so it felt researchers building trend measure towards physics curriculum in the light of those standards of educational and psychological literature, scale from (22) items as preliminary, and followed by (5) alternatives according to a Likert scale: apply to a degree (very large, large, medium, few,& very few).

B. tool Believes :

The researchers check out the virtual and the concept of honesty through group of experienced and specialist in the field of measurement and evaluation, curriculum and methods of teaching physics and took the agreement proportion (80%) and more a standard for accepting paragraph or not all of which have got the paragraphs on this ratio, thus fulfilling the researchers from Believe scale.

C. discrimination the paragraphs of the tool:

The researchers achieved the distinction paragraphs direction tool and through the application of the scale on an exploratory sample of 56 students in intermediate-Sinai for Girls on Monday 02/24/2014 and then divided in two (50%) higher and (50%) minimum, The researchers calculate mean and standard deviation for each paragraph of the scale when the two categories then t-test for two independent samples that all were statistically significant.

D. The stability of the tool:

The stability has been prepared by repatriation through its application to the exploratory sample, and after 10 days returned to the same sample on Monday, 02.24.2014, then Pearson correlation coefficient for twice the percentage of persistence (0.82), a good percentage . (Al-Bayati, 2008: 139-140). The researchers also test the internal consistency reliability through applied Alvakronbach equation of (0.80) and so the tool is ready for the application of the final research sample members. (Nabhan 2004: 249)

E. The trend towards the physics curriculum tool correction:

In order to give the digital capacity in response to a sample search tool individuals researchers put the following criteria in the correct direction scale tool towards the physics curriculum, and grades (5,1,2,3,4) paragraphs positive alternatives and to apply to the extent (very large, large, medium, and a few, very few)

And grades (5,4,3,2,1) of alternatives at the same negative paragraphs, bringing class to gauge the trend toward ranged physics curriculum (110.22) degrees.

F. application the experiment:

After creating two sets of research and simulate them together, a number of variables and the preparation of its requirements of a set of lesson plans based on the e-learning as well as technical equipment for creation the experiment as follows:

Experiment began on Thursday, 03/06/2014 and ended on Thursday, 04.10.2014. the experiment stayed (35) days. Before starting the experiment, researchers test the scientific thinking (test tribal) and both sets, then began teaching by the teacher for the two groups (experimental and control) as a specialist teaching physics curriculum, good and long field experience more than (15) years of teaching experimental group to enrich the curriculum of physics education e-Book where the teacher used computer (Laptop & data show) as directed by the researchers, as well as CDs, all of which contain enrichment teaching-learning curriculum physics scheduled and simulation of scientific experiments activities. as the control group were taught according to the method of teaching traditional.

The internal and external honesty was calculated as were all the variables that predicted the researchers to play a role in the results with the exception of the way teaching settings (to enrich the curriculum of physics e-

education). After the completion of the teaching was applied two tools (post-test to think about science and the trend towards physics curriculum) on two groups. Data was collected and analyzed by statistical means to extract the results.

6. Statistical methods:

The researchers used a statistical methods the following:

1. two independent (t-test): parity and test hypotheses and extract discrimination clauses direction scale.
2. interrelated (t-test): to test the research hypotheses.
3. Pearson correlation: to find a firming trend toward scale physics.
4.SPSS Statistic:
5. alfa - Cronbach (α- cronbach)equation to find and test the stability of the scale trend toward physics.

Results and discussed:

After collecting the data statistical analysis will be discussed in the light of the research hypotheses and as follows:

First. Results for the first hypothesis:

There is no statistically significant difference between the average scores of tribal students of the experimental group and the post degrees in scientific thinking of physics.

To investigate this hypothesis the researchers applied the test (t-test) for interconnecting two samples and extracted the arithmetic average, standard deviation and incorporated the results. (Table 1) as follows:

Table (1)t-test of tribal members of the experimental group and post in the scientific thinking in physics

Experimental Group	No	Mean	Stander deviation	t-test		sig
				recorded	tabulated	
Pre	32	14.031	1.959	11.383	2.042	0.05
After		17.812	1.554			

In Table (1) the calculated t-value (11.383) is greater than the tabulated t (2.042) at the level of (0.05) and the degree of freedom (31) This means that the difference is significant between the mean scores of pre and post tests for experimental group, which enriched curriculum education eBook, this attributed to the effectiveness of enriching the curriculum of physics education eBook and the development of science of thinking in general in the skill of measuring the ability to sense the existence of a problem and the skill of identifying the problem, and the imposition of hypotheses, the choice of hypotheses, and the conclusion, & application.

On the other hand, enrich the curriculum of physics education students eBook gave pleasure and fun and is comfortable and interesting as well as the vigor and vitality through active participation in the subjects.

Secondly. Results for the second hypothesis:

There is no statistically significant difference between the average scores of tribal students of the experimental group and the post degrees in scientific thinking of physics. To investigate this hypothesis the researchers applied the test (t-test) for interconnecting two samples extracted them arithmetic average and standard deviation as well as the t-value spreadsheet. As shown in Table 2.

Table (2)mean scores of pre & post of the experimental group in the direction towards physics

Experimental Group	No	Mean	Stander deviation	t-test		sig
				recorded	tabulated	
Pre	32	62.875	5.240	8.985	2.042	0.05
Post		77.000	9.108			

In Table (2) the value of calculated t (8.985) is greater than the tabulated t (2.042) at level (0.05) and the degree of freedom (31) This means that there is a significant difference between the mean scores of the tribal and post for experimental group, This result efficient to enrich the curriculum of physics e-learning and make teaching more exciting and enjoyment in other than the classic method, made positive trend among students in the experimental group toward physics.

Thirdly. Results for the third hypothesis:

There is no statistically significant difference between the average scores of tribal & post students degree of the control group in scientific daring in physics development. To investigate this hypothesis the researchers applied the test (t-test) for interconnecting two samples and extracted them arithmetic mean and standard deviation as well as tabulated t value shown in the table (3) as follows:

Table (3)t-test of the control group prior and subsequent to the development of scientific thinking in physics

Control Group	No	Mean	Stander Deviation	t-test		sig
				Recorded	tabulated	
Pre	32	13.406	2.212	2.790	2.042	0.05
After		13.937	2.368			

Evident from this table, calculated t (2.790) is greater than the tabulated t (2.042) at level of (0.05) and degree of freedom (31) This means that there is a significant difference between the mean scores of the tribal and post for control group that taught in classic method, this due to less effectiveness of classic method in developing scientific thinking

On the other hand, the classic method give students the routine in teaching, that is less fun and interesting as well as the weakness of vigor and vitality and lack of participation in explaining subjects.

Fourth. Results for the fourth hypothesis:

There is no significant difference between the mean scores of the tribal and post for control group in the direction towards physics." To investigate this hypothesis the researchers applied the equation (t-test) for interconnecting two samples and extracted them arithmetic mean and standard deviation as well as the T value spreadsheet. As shown in Table 4.

Table (4) score members of the control group pre and post in the direction towards the development of physics

Control Group	No	Mean	Stander deviation	t-test		sig
				recorded	tabulated	
Pre	32	59.343	8.608	1.190	2.042	0.05
After		59.812	8.858			

Evident from the table (4) calculated t (1.190) is less than the tabulated t (2.042) at level of (0.05) and the degree of freedom (31) This means that there is no significant difference between the mean scores of the development of the tribal trend and post test of control group of individuals toward physics, the researchers attributed this result to weakness of normal way in teaching physics curriculum that make teaching less exciting and pleasure, generating a negative direction of the female students in the control group about physics.

On the other hand, the classic method did not let the to know modern educational technologies that enrich the curriculum of physics and their effectiveness in teaching to a lack of imparted fun and the interesting with poor access to get benefit in teaching process as well as the lack of excitement and activity.

Fifth, the findings on the fifth hypothesis:

There is no significant difference between the average scores of students who have studied the use of E-learning experimental group and between the average scores of students who have studied in the classic method(control group) in scientific thinking about physics."

To investigate this hypothesis the researchers applied the equation (t-test) for two independent samples and extracted them arithmetic mean and standard deviation as well as the T value spreadsheet. As shown in the table (5).

Table (5)

t- test average grades of the experimental & control groups in skills by scientific thinking as a whole in physics

Groups	No	Mean	Stander deviation	t-test		sig
				recorded	tabulated	
Experimental	32	17.812	1.554	7.738	1.999	0.05
Control	32	13.937	2.368			

Evident from the table (5) calculated t (7.738) is greater than the tabulated t (1.999) at the level of (0.05) and the degree of freedom (62). This means that there is significant difference between the mean scores of the two post-test for the two groups (experimental and control) and in favor of the experimental group, which was enriched teaching education e-Book method, the researchers attributed this result to the effectiveness of enriching the curriculum of physics education eBook and scientific development of thinking skills in a whole.

On the other hand, it shows the effectiveness of teaching method using E-learning; they take into account individual differences among students, and take into account their abilities and speed of learning, and the fact that the use of computers in the teaching of this article how exciting and fun has led to increase the students interact and their understanding the content of the subject, also increase the motivation to learn, in fact, the use of computer drives away the boredom and increases the interaction of the students to learn. Add to that the fact that the students are able to re-learning process over and over by their need to learn.

Vi. Results for the sixth hypothesis:

There is no significant difference between the average level students of experimental & control groups in their direction towards the physics."

To investigate this hypothesis the researchers applied the equation (t-test) for two independent samples and extracted them arithmetic mean and standard deviation as well as T-Driven Value As shown in the table (6).

Table (6)

Results Average grades members of the experimental group and the control group in the development of the trend toward dimensional physics

Groups	No	Mean	Stander deviation	t-test		sig
				recorded	tabulated	
Experimental	32	77.000	9.108	7.652	1.999	0.05
Control	32	59.812	8.858			

Evident from the table (6) On calculated t value (7.652) is less than tabulated t value(1.999) at the level of (0.05) and degree of freedom (62) This means that there is a statistically significant differences between the mean scores of the trend measure of dimensional members of two groups(experimental and control)in favor to the experimental group, which was enriched teaching education e-Book way, the researchers attributed this result to the effectiveness of enriching the curriculum of physics education e-Book and development trend of physics, this result due to the effectiveness of enriching the curriculum of physics in a way E-learning and the formation of a positive trend for members the experimental group compared to the control group members that is twice the normal way of teaching curriculum of physics to a positive trend towards physics curriculum, and make teaching less exciting and pleasure with the control group students about physics.

On the other hand, the reason for this may be due to the nature of e-learning; helping of teacher to take into account individual differences among students and communicate information to them and to raise motivation, that includes forms, graphics, images, colors, movement, video clips, simulation programs conversation, conferences video, audio formats and Mail, as well as to the desire of teachers to keep pace with scientific and technological development. The reason is also due to the nature of the computer and its relevance to human life, and the benefits to its users in all areas of life.

Conclusions

In light of the search results researchers concluded that:

1. effectively enrich the physics curriculum for second grade intermediate school with e-Book education in the development of scientific thinking skills.
2. the possibility of the application of e-learning in secondary education for teaching of science subjects including physics.
3. effective enrich the physics curriculum for second grade intermediate school eBook education in the development of the trend toward physics curriculum.

Recommendations

The researchers recommend responsible parties concerned in the Ministry of Education follows:

1. Work on the provision of computers and devices (Data show) in the classroom with a sufficient number in secondary schools, so as to allow sufficient time to use for teachers and students.
2. training courses for teachers in the Ministry of Education so that they are trained on how to use computers and the Internet in education and how to implement e-learning.

Suggestions

Complementing the current research, the researchers suggested for future scientific research the following

1. enrich physics curriculum for students in secondary school computer and effectiveness in their thinking and deductive orientation towards the development of physics.
2.effect of proposed teaching strategy based on constructive theory to acquire physics concepts to the middle school students and their attitude towards the development of the material.

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