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Degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers

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Abstract

This study aimed to identify the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers. To achieve the goal of the study, the descriptive analytical approach was used, and a questionnaire consisting of 20 paragraphs was developed, which was distributed to (100) physics teachers after the sincerity and stability of the questionnaire was confirmed, and after the process of distributing and collecting questionnaires was encoded and entered into the computer, and processed statistically using the statistical package of social sciences. The study showed that the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers was significant, and also showed that there are no statistically significant differences at the level of significance ($0.05 \geq \alpha$) in the average responses of the respondents in the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers. Due to the variable specialization (country, years of experience, scientific qualification), based on the results of this study, the researchers recommended recommendations, the most important of which is the need to design a website for each school in order to publish instructions on it.Fizik öğretmenleri açısından Bağdat ve Nablus illerindeki ortaokullarda eğitim teknolojisinin istihdam derecesi

Özet

Bu çalışma, Bağdat ve Nablus illerindeki ortaokullarda eğitim teknolojisinin istihdam derecesini fizik öğretmenleri açısından belirlemeyi amaçlamıştır. Çalışmanın amacına ulaşmak için açıklayıcı analitik yaklaşım kullanılmış,(20) paragraftan oluşanbir anket geliştirilmiş, anketin samimiyeti ve istikrarı teyitedildikten sonra(100) fizik öğretmenine dağıtılmış, anket dağıtma ve toplama işleminden sonra kodlanarak bilgisayara girilmiş ve istatistiksel sosyal bilimler paketi kullanılarak istatistiksel olarak işlenmiştir. Fizik öğretmenleri açısından Bağdat ve Nablus vilayetlerindeki ortaöğretim kurumlarında eğitim teknolojisi istihdam derecesi anlamlı olmuştur veayrıca katılımcıların Bağdat ve Nablusillerindeki ortaokullarda eğitim teknolojisi istihdam derecesi açısından ortalama yanıtlarında anlam düzeyinde istatistiksel olarak anlamlı farklılıklar olmadığını ($0,05 \geq \alpha$) göstermiştir. Değişken uzmanlık (ülke, yılların deneyimi, bilimselyeterlilik) nedeniyle

ve bu çalışmanın sonuçlarına dayanarak, araştırmacı, en önemlisi tavsiyelerin, her okul için talimatları yayınlamak için bir web sitesi tasarlama ihtiyacı olduğunu tavsiye etti.

Introduction to the study

The world in general and the Arab community in particular face increasing and accelerating challenges as a result of rapid developments in various fields, particularly in the scientific and technological field witnessed by the world during the last quarter of the last century, which is expected to continue at a significant pace. This scientific and technical progress - which has dominated all aspects of life and which has accompanied the development of education, and the renewal of teaching methods and methods - has caused the machine to enter the field of education, where it has become a necessity after it was a kind of perfectionism and luxury, the importance of the stage of basic education in the educational ladder comes from being the first educational stages on which the process of child development depends to a large extent.

At this stage, the child acquires various behavioral skills and habits, and from different sources, where he is born surrounded by many media and communication, which has become provided with a huge amount of information, and therefore posed a challenge to the school because it has mobilized the finest experts and the best modern educational means, and has become the superiority of the school in many cases, and has to change the way it is taught traditional and take the means of modern education technology such as television, videos, cinema and computers, and cooperate with the media, Studies and research results have shown that education through teaching technology leads to increased attainment among learners, and the educational process has proved successful in many developed and developing countries that have used the means of education technology(Hasaean, 2008).

The employment of teaching technology innovations is an important and contemporary topic, and everyone has realized that the fate of nations depends on the creativity of their children, and the extent to which they challenge the problems and demands of change. Education occupies a prominent position within the framework of the community shift, and education is one of the most important pillars covered by the winds of change and renewal. And education technology is one of the educational sciences that has witnessed rapid growth and development in the modern era. Although this science in the concept of modern - as an entry point for the development of education, relatively recent science may return to its real beginning after world war II, but its roots extend back to the distant past, since man began to teach young people while trying hard to improve and improve this education, he used man Gravel in the count also used many materials that have the ability to convey learning and this is clearly shown in the effects of ancient civilizations such as ancient Egyptian civilization where ancient Egyptians used writing, statues and images as also shown in ancient Greek and Roman civilization, and the stages of the development of this science can be identified in three main stages: the stage of focusing on separate educational materials and the stage of focusing on number and machines and the stage of focusing on methods, methods and strategies, which is the stage that this concerns Research because it is this stage that has been interested in employing the innovations of education technology in terms of performance and interaction in

education as the use of education technology in an effective way helps to solve many educational problems in general, and in the teaching of the basic stage in particular (Ghandour, 2008).

On the other hand, physics is one of the most important subjects taught by the student in school, and physics is known as science that studies basic concepts such as energy, power, time, material and movement, as this science aims to analyze nature and know how the universe works, and physics is one of the oldest sciences dealt with by man, where it is based on the formulation of knowledge in laws that explain cosmic phenomena, and predict things that may happen in the near future, Physicists rely on the scientific method to test the validity of physical theories by comparing the effects of theory with the conclusions drawn from the experiments that have been done, and physics is one of the materials that requires the teacher to have great experience in teaching it, in order to be able to communicatethe idea to his students quickly and easily(Al-Sa'adeh, 2019).

Given the importance of using technology in the effectiveness of the educational process and the role played by education technology in increasing the achievement of students and the importance of physics and its nature, the researcher decided that by conducting field head that aims to identify the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers.

Study problem:

The problem of study crystallized when the researcher that through many readings on the subject of the subject of technology and what has a clear impact on the growth of the educational process and increase the educational achievement of students who learn about the method, where schools in otherworld, especially in Palestine and Iraq need to enrich them with electronic devices specialized in the field of education and in order to employ technology in it significantly Physics is one of the materials that needs to be explained and interpreted as it depends on understanding, it needs specialized strategies and therefore the problem of study may lie in answering the following questions:

1. What is the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers?
2. Do the views of the surveyors differ about the degree of employment of education technology in secondary schools in Baghdad and Nablus governorates from the point of view of physics teachers according to the country's variable?
1. Do the views of the students differ on the degree to which high school education technology is employed in Baghdad and Nablus provinces from the point of view of physics teachers? Depending on the variable of scientific qualification?
2. Do the views of the students differ on the degree to which high school education technology is employed in Baghdad and Nablus provinces from the point of view of physics teachers? Depending on the variable years of experience?
3.

Study objectives:

This study aims to:

1. Learn about the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers.
2. To know if there is a difference in the views of the respondents about the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers according to the country's variable.
3. To see if there is a difference in the views of the students about the degree of employment of high school education technology in Baghdad and Nablus provinces from the point of view of physics teachers. Depending on the variable of scientific qualification.
1. To see if there is a difference in the views of the students about the degree of employment of high school education technology in Baghdad and Nablus provinces from the point of view of physics teachers. Depending on the variable years of experience.

The importance of study

The importance of the study lies in the:

1. This study is one of the most important studies that sheds light on the subject of the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers.
2. This study deals with the subject of education technology and deals with it with explanation and analysis and this helps the reader to fully understand the subject of education technology and the dimensions it seeks.
1. It will be a fertile study and benefit researchers in considering previous studies that are interested in the subject of teaching technology and teaching techniques in the teaching of physics.
2. It is hoped that this study will benefit students and physicists in particular.
3. The study seeks to highlight the most important obstacles to the use of technology in the teaching of physics.
4. Exit of the study with recommendations that benefit educational specialists and researchers as well as benefit them in conducting future studies

Study limits:

This study was limited to

1. **Human Boundaries:** This study was conducted on a sample of physics teachers.
2. **Spatial** boundaries: This study was conducted in schools in Baghdad and Nablus.
3. **Temporal** boundaries: This study was conducted in the first semester of the2021-2022 school year.

Study terms

Technology: Technology means applied scientific study and is an orderly applied approach to the facts, concepts, principles and theories of various fields of life, transportation, education, etc. and

uses the material and non-material possibilities to accomplish the desired work with a high degree of mastery (Shaq our, 2014).

Instructional Technology is a procedural aspect and a field of work through which ideas and principles are applied on which education technology is based and is an integrated system consisting of the following elements: human- machine - ideas and methods .... They are all within the same framework to achieve educational goals and effective learning and education events (Abu Al-Basel, 2012).

Previous studies

The Study of Al-Gadhiya (2014) entitled The extent to which IT and communication are **employed in** the teaching of Islamic education in Oman aimed at the current study to know the reality of employing female The researcher used the descriptive curriculum to suit the nature of this research, where she prepared a questionnaire formed from 20 paragraphs, and after confirming the sincerity and stability applied to a random sample of 222 teachers. In light of the results of the study, the researcher made a series of recommendations, the most important of which are: the need to implement appropriate workshops and training programs in order to give the teachers of peace education in the second episode in Oman the skills of employing and using IT applications in the teaching of Islamic education. It has also submitted a series of proposals for future studies.

Shaq our Study (2012) entitled: The reality of **employing technological innovations and the obstacles to this in schools in** the West Bank and Gaza Strip from the point of view of teachers aimed at determining the reality of the use of technological innovations in schools in the West Bank and Gaza Strip from the point of view of teachers, and the obstacles faced by teachers in their use, in addition to determining the impact of the region and the country And scientific qualification and years of experience and the type of school and its place on the reality of using technological innovations in Palestinian schools from the point of view of teachers. To achieve this, the study was conducted using the analytical descriptive curriculum in the 2011-2010 school year on a sample of 790 teachers, including 419 teachers and 371 teachers, and applied to it to measure the reality of the use of technological innovations and their constraints. The study reached the following results: the reality of the use of technological innovations in Palestinian schools from the point of view of teachers was moderate and by a percentage of 60.64%. The degree of barriers to the use of technology was highly related to the lack of adequate availability of devices, in addition to the inability to use the devices by teachers and teachers. There are differences in the reality of the use of technological innovations in Palestinian schools from the point of view of teachers according to the variables of the region and scientific qualification and years of experience and the type of school, while the differences were not statistically indicative depending on the variable of the country and the researcher recommended several recommendations, the most important of which are: the need to increase interest by the Ministry of Education and education in holding advanced courses for teachers on follow-up developments in the field of the use of education technology.

Murad's study (2012)entitled: The reality of the use of information technology and communication and the barriers to its use in teaching in teachers and teachers of the schools of education brigade **Al-Shaback** aimed to identify the extent to which a sample of teachers and

teachers of the Director of Education and Education in the Shoba Brigade for applications and basic software of information technology and communication, and the extent to which they use and employ them in the subjects they study, as well as to identify the obstacles that prevent them from using them. To answer the study questions, the researcher designed, after reading educational literature, the study tool (questionnaire) where it was formed from 40 paragraphs as a tool for collecting data, where the tool was applied to a sample of 101 teachers randomly selected from the schools of the Directorate of Education and Education spread throughout the areas of the Shoba Brigade and used percentages, repetitions, calculation averages and standard deviations to analyze the data as the study used test (t) and Analysis of binary variability, in order to identify the average differences between the study groups. The results of the study showed that the majority of the individuals sample practiced different applications and software for information technology and communication adequately, but their use and employment for teaching purposes was low, as the results revealed some obstacles to their use of information technology and communication in teaching, the most important of which was the lack of the necessary equipment and infrastructure, some of which are related to poor training in how to employ information technology and communication in teaching. Based on the results, the study recommended some recommendations, the most important of which were: providing all the requirements of the educational environment necessary to implemented-learning strategies, training students and teachers in the use of computers, training in IT recruitment and communication in teaching.

Study methodology:

In order to achieve the objectives of the study, the descriptive field approach, which is defined as a method of research, was used to explain the status quo of the phenomenon or problem by identifying its circumstances and dimensions and characterizing the relationships between them in order to conclude a thorough and integrated practical description of the phenomenon or problem based on the facts associated with it. (Al-Laylah, Abu Bakr, 2002, p.15).

Community and sample study:

The draw society is one of all physics teachers selected from them a available sample the size of (110)teachers - and was distributed to them a questionnaire recovered from it (100)a questionnaire suitable for analysis and in what described the characteristics of the sample of the study according to its variables:

Table (1) Distribution of the sample of the study according to its variables

Percentage	Number	Variable categories	Variable
50	50	Baghdad	Country
50	50	Nablus	
100	100	**Total**	
32	32	Less than 5 years.	Years of experience
18	18	5-10 years ago	
22	22	11-15 years old	

28	28	More than 15 years.	
100	100	**Total**	
76	76	Bachelor	Scientific qualification
24	24	Master's Top	
100	100	**Total**	

Study tool:

The researcher prepared the study tool (questionnaire) after reviewing the literature of the study and previous studies related to the subject, and the questionnaire included two sections section I metadata, and the second section included data of the study variables where the number of paragraphs of the tool (20) paragraphs, designed on the basis of the five-dimensionally Scale, the paragraphs were built in appositive direction, and weights were given to paragraphs as follows: Strongly approved: five grades, ok: four degrees, neutral: three degrees and not ok: 2 degrees, not at all: one degree.

Believe the tool:

The validity of the tool has been verified by presenting it to a group of arbitrators with competence and experience in the field of education and asked them to express an opinion on the paragraphs of the questionnaire by deleting, amending and proposing new paragraphs and appropriate tool for the subject of the study, and based on the observations of the arbitrators the study tool was modified to become its final component.

Tool stability:

From the extraction of the stability factor, the researcher used the Alpha Kronbach equation, which reached the stability factor (0). 92)These values reached for stability transactions are appropriate and meet the purpose of study.

Statistical treatment:

After collecting, coding and processing data in appropriate statistical ways, using the SPSS statistical program, the researcher used repetitions, arithmetic averages and standard deviations, the Kronbach Alpha equation, the single contrast analysis test, and the (t) test of two independent samples.

View results

This study aims to identify the degree of use of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers. From the point of view of teachers and in order to achieve this, the researcher used a questionnaire consisting of (20) paragraphs filled out by a sample of (100) physics teachers, and to explain the results of the study, the researcher used that the following mathematical averages:

1. Less than 2.5 degrees applying a few
2. 2.5-3.5 medium application degrees

3. Greater than 3.5 degrees large application

First: Results on the main study question

What is the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers?

In order to answer this question, calculation averages and standard deviations were extracted for each paragraph of the instrument, and the following tables show this:

Table (2) Arithmetic averages and standard deviations for the degree of employment of high school education technology paragraphs in Baghdad and Nablus provinces from the point of view of physics teachers.

Grade	Standard deviation	Arithmetic average	Paragraphs	Paragraphs No.
Big	0.554	4.84	Computer-generated physics is explained at school	1.
Big	0.909	4.66	Lcd projector issued explain physics	2.
Big	0.963	4.52	The school has an electronic room used by physics teachers.	3.
Big	0.792	4.28	This physics is explained by the design of remote applications	4.
Big	0.850	4.16	The teacher will use the zoom program to explain the subject of physics	5.
Big	0.812	3.96	The material of physics is displayed by a sound recorder	6.
Big	0.640	3.95	Information is brought closer to the ground electronically	7.
Big	0.812	3.89	Smart tools are used during the distance physics class.	8.
Big	0.971	3.88	Physics is explained by electronic educational means remotely	9.
Big	0.971	3.85	There is a data room at the school	10.
Big	0.833	3.82	Use sound recorders to review physics lessons later	11.
Big	0.624	3.80	Modern electronic liquid is used in the explanation of physics	12.
Big	0.523	3.78	Mad physics is explained by recorded videos	13.

Few	0.663	2.24	The material of physics is explained by computer	14.
Few	0.759	1.92	Physics is explained by designing lessons on the Brizzi website	15.
Few	1.036	1.64	The material of physics is explained by smart blackboard and remotely	16.
Few	0.879	1.24	There is an electron site for the school on which instructions for physics republished.	17.
Big	0.957	1.10	Electronic devices are used to solve the home duties of physics	18.
Few	0.572	1.08	Physics teachers send home duties to students by email	19.
Few	0.862	1.08	Distance physics exams are offered	20.
Medium	0.31314	3.32	**Total degree**	

From the point of view of physics teachers, the degree of employment of secondary school education technology in Baghdad and Nablus provinces ranged from large to small, with calculation averages ranging from (4.84) to (1.08), and with regard to the overall degree of employment of high school education technology in Baghdad and Nablus provinces from the point of view of physics teachers. It was average, in the calculation average of 3.32, and this result indicates that the degree of factors is the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of intermediate physics teachers.

Question 2: Are there **statistically significant differences at the level of significance (0.05 ≥α) in** the average responses of the **respondents in the** degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of **physics teachers. attributable to the country's change.**

In order to answer the question concerning the country's variable, I used the (t) test to denote the differences and the results were as follows:

Table (3)

Test (t) the degree of employment of high school education technology in Baghdad and Nablus provinces from the point of view of physics teachers. Depending on the change of country

Level of significance	Value (t)	Standard deviation	Arithmetic average	Number	genre	Axis
0.729	0.351-	0.47675	3.3025	50	Baghdad	**Country**
		0.59548	3.3467	50	Nablus	

* (statistically d at the indication level **(0.05 = α)**

It is noted from the data in the previous table that there are no statistically significant differences at the level of significance (0.05 ≥ α) in the average responses of the respondents in the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers. .

The third question: Are there statistically significant differences at the level of significance (0.05 ≥α) in the average responses of the **respondents in the** degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of **physics teachers** due to the **change** of the years of **ink**

In order to answer the question of the change in years of experience, I used the single contrast analysis test.

Table (4)

Analysis of the unilateral variation of the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers. Depending on the variable years of experience

Level of significance	Value (P)	Average squares	Degree of freedom	Total squares	Source of contrast	Axis
0. 07	2.321	0.130	3	0.391	Between groups	**Years of experience**
		0. 056	96	5.297	Within groups	
			99	5.687	Total	

* (D statistically at **the** α indication level = (0.05

It is noted from the data in the previous table that there are no statistically significant differences at the level of significance (α =0.05) the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers. Due to the change of years of experience. 07)This value is greater than (0.05) and this result means accepting the zero hypothesis related to the variable years of experience, i.e. there is no difference in the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers. Depending on the variable years of experience.

Question 4: There are no statistically significant differences at the level of significance (0.05 ≥α)in the average responses of the **respondents in the** degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of **physics teachers** due to the **variable** of scientific **qualification**

In order to answer the question of the scientific qualification variable, it used the single contrast analysis test.

Table (5)

Analysis of the unilateral variation of the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers. By Variable Scientific Qualification

Level of significance	Value (P)	Average squares	Degree of freedom	Total squares	Source of contrast	Axis
0.388	1. 598	0.251	1	0.251	Between groups	**Scientific qualification**
		0. 157	98	15.436	Within groups	
			99	5.687	Total	

* (D statistically at **the** α indication level = (0.05

According to the data in the previous table, there are no statistically significant differences at the level of significance (0.05 ≥α) in the average responses of the respondents in the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers. Due to the variable of scientific qualification. The value of the level of significance(0.38)and this value is greater than(0.05)and this result means acceptance of the zero hypothesis related to the variable of scientific qualification, i.e. there is no difference in the degree of employment of education technology in secondary schools in Baghdad and Nablus provinces from the point of view of physics teachers. According to the variable of scientific qualification.

Recommendations

Based on the results of the study, the researcher came out **that** a number of **recommendations were as follows:**

1. The need to design a website for each school in order to publish instructions omit.
2. The need housemother electronic liquid in the explanation of the material of remote physics.
3. The need to use a variety of electronic teaching methods to explain the subject of physics.
4. The need to bring information closer to the ground- simulation-by computer when explaining the material of physics.
5. The need to work to employ education technology significantly in explaining the subject of physics.
6. The need to modify the infrastructure of schools so that physics teachers can use technology.
7. The need to conduct further studies on this subject and address variables and another study community.

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