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Factors Influencing the Effectiveness of E-Learning System (EduWave) in the Educational Process

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Abstract
This study aimed to reveal the factors effecting the effectiveness of e-learning(EduWave) education in the educational process in Jordan, through a group of dimension that effect this effectiveness, to achieve the objective of this study the researchers prepare a questionnaire that include (22) paragraph, to collect the primary information from the study sample, and then collecting and analyzing the data and testing the hypotheses using SPSS, the study sample consisted of (96) individuals in (3) Jordanian public schools at the beginning of September, 2014.
After processing the data and the hypotheses of the study, it found the following: The results showed that there is an impact of the electronic learning system (Training the users, infrastructures, the ability of the system to meet the needs of users, the powers granted for the users (Authority), perceived usefulness, perceived ease of use) combined on the effectiveness of the system, except training the users.
Keywords: E-learning system, EduWave, The Jordanian Ministry of education, Infrastructure, Technology acceptance model, Education, ICT, and Amman governorate.

1. Introduction

E-Learning system (EduWave) was launched in Jordan in the year 2003 as an educational initiative for advancing education in the country and especially rural areas (Tareif, 2009), then other countries started to move in the same direction by applying this system (US-Arab Tradeline, 2004). a Web-based K-12 e-Learning system, was fully designed and developed by Jordanian company called Integrated Technology Group (ITG) , it is a comprehensive e-Learning system implemented by the Ministry of Education (MoE) of Jordan to meet the unique needs of educators and learners in a K-12 public schools environment It provides access to the right content from any place, at any time. EduWave comprises three main components, an e-Learning Management System (ELMS), an Authoring Tool, and a Portal. Currently 1.78 million Jordanian users, including students, teachers, and parents, are using EduWave e-Learning system in K-12 schools across Jordan.

The system stakeholders include: headmasters, teachers, students, parents, and the community. The system enables them to engage in virtually every aspect of the teaching and learning process in Jordanian schools, and improves students' educational levels by offering new and compelling educational ways. **Table I** describes the stakeholders mentioned (ITG, 2012).

Table I : The EduWave Stakeholders

Category	Role
Headmasters	EduWave Provides headmasters with tools that help them develop and maintain comprehensive and accurate information, monitor development and performance, and plan and adjust resources, resulting in more effective decisions. Through EduWave, administrators are able to easily and securely develop and manage administrative data files, build the organizational hierarchy, define all related resources, create users' profiles, authorize and control access to users, develop schedules, and communicate directly with related parties through multiple communication channels.
Teachers	The administrative and educational tools provided in EduWave, help teachers to better manage and utilize their time allowing for higher efficiency, and more room for innovation and creativity. EduWave provides an extensive collection of instructional design, authoring, and professional development tools and resources, to support the role of educators. In addition to the ability to manage learning content and curricula, teachers can easily create their own teaching material. They are also able to provide effective guidance and support, and interact with their students and colleagues through the various communication channels provided in the system. Teachers are also provided with a variety of assessment and evaluation tools that help them measure individual student performance and progress.
Students	EduWave helps students track their progress, improves their performance, and makes their learning experience enjoyable through a number of comprehensive tools and learning resources. The system enables students to interact with each other through multiple communication and collaboration tools and perform online tests and access assignments, grades and learning materials at all times. Finally, the system enables them to interact with their teachers and the school administration at any time and from any place.
Parents	EduWave enables parents to keep track of their children's progress and their development at school by accessing their assignments, attendance records, grades, and their school activities. Also parents can interact and follow-up with teachers and administrators through the various communication tools when needed.
The Community	EduWave enables parents to keep track of their children's progress and their development at school by accessing their assignments, attendance records, grades, and their school activities. Also parents can interact and follow-up with teachers and administrators through the various communication tools when needed.

EduWave allows for full interactivity between users, so they can interact, communicate and collaborate through multiple channels including e-mail, discussion forums, online study sessions, and others as shown in **Figure 1.**

Figure 1: EduWave Users Interactivity
(ITG, 2012)

2. Literature review

This section briefly discusses a review of researches relevant to the present study.

2.1 Factors influencing the effectiveness of e-learning systems

2.1.1 Training users

Alenshar (2009), study aimed to identify the effectiveness of teaching and learning on student achievement, the study variables were tested based on identification of distributed to faculty members and a random sample of students of the University, the dimensions of the study are the factors affecting the use of the Internet in teaching, such as: availability of well equipped computer laboratories, training in the use of the Internet. the results of the study referred to preferential use of the Internet in education on the traditional way of organizing and teaching content for educational materials, and educational technology division students. Based on the results of this study the most important recommendations as follow: Faculty and training assistances from

assistant teachers to use the internet in education, students should be trained to develop individual learning tools and how to proceed, through teaching, courses and training programmes for teacher education technology graduates from college of education quality on digital learning environments and how to education.

This study differed from the current study in it turning to the impact of using the Internet to teach, while the effect was discussed in the present study as one of the factors that influence the effectiveness of e-learning system (EduWave).

Dr. Al- Muheisin (2010) study reviewed the nature and components of e-Learning systems ,also highlighted its technical effects on education, and learned the most important problems facing the system learning in the arab world. The study concluded that e-learning systems if properly used may participate to solve a large part of the problems faced by the educational system in the arabic region.

Study problem centering on the challenges and difficulties faced by the educational system in the arabic region, so the researcher focused in his recommendations on the importance of getting the appropriate training to targeted individuals on this technique, as well as the importance of developing the techniques used in this type of education, and motivating the target group to use this type of education.

Hammam (2011) study was conducted at the Faculty of Education/Department of educational technology (Sana'a University) ,with a view to the basic development of the training programme in the use of educational technology for the students of the Faculty of education, the importance of this study is due to the desire of researcher to reach to recommendations and proposals to improve teacher training, training in the use of educational technology in particular, the study influenced the current study by illustrating the importance of training in the use of technology in education, and position influence the quality of training on the effectiveness and quality of the output of technology. One of the most important recommendations touched by the study was the attention to overall quality levels in teacher preparation in accordance with the requirements of globalization and openness of information.

2.1.2 Infrastructure

Osman (2006), in his study addressed e-learning technology requirements in general education and technology challenges facing this kind of recruitment, and the impact of this recruitment on the quality of education, through a distributed questionnaire to general education schools in Damietta, on a random sample of students academic and administrative body. The results indicated that there is a provision of material resources, needed programs, technical components, manpower of designers and trainers and trained shared classes specialists, develop of the human element in terms of training supervisors, managers, teachers, students and the executive team at school, and the participation of the private sector in building the foundations of training and e-learning, recruitment of technology elements that we need to reduce the cost of e-learning and consolidate local experience to ensure the linking experience with the community culture and its needs, review and adoption plans and past experiences of the developed countries that have preceded us in e-learning to benefit from their experience in this area, the most important requirements for e-learning technology in public education, while resistance to change and lack of funding and the necessary infrastructure and lack of awareness, lack of trained manpower is one of the most important challenges in this area. This agreed with the results of the current study.

This study differs from the present study that it talked about e-learning technology achieving the quality of education and this has not touched the current study.

Dr. Mahafdah (2008), in his search talked about the most important factors influencing the choice between e-learning and e-learning plus traditional learning. The search include the concept of e-learning and types of e-learning and what are the advantages of e-learning, the main obstacles facing e-learning and the requirements of a successful e-learning from the viewpoint of the researchers, and what are the most important stages of electronic material production and future of e-learning in higher education institutions. The concept of e-learning education from the standpoint of Dr. Mahafdah: that it is an educational system and learning method using special electronic systems, communication techniques , modern technology: computer networks, multimedia and Internet, for the delivery of information for learners in audio and synchronously or asynchronously in shorter and faster time, from anywhere, at lower cost, and high quality. The researcher summarizes his recommendations in : making workshops at the University for students and teachers to explain the concept of e-learning and its importance, and how to set up and development decisions, and to provide the infrastructure, represented in preparing trained human cadres, providing rapid communication lines and equipment with speed and high storage and benefit from Government initiatives and private companies "a computer for each student and faculty member", enter information technology evolution in the teaching process.

Dr. Al-fayoumi (2009) reviewed the research policies and steps taken by Jordan in the field of learning, not e-learning, and the challenges facing the process resources and environment required to achieve its objectives.

Systems and software developed locally by Jordanian companies to provide e-learning arabic language in schools in the Kingdom adopted by the ministry of education at the national level, where its features and specifications reviewed.The search also included the most important factors affecting the adoption of e-learning

in Jordan, these factors can be summarized as follow:Stimulate the use of educational technology, specialized training sessions for users that any education, development of infrastructure for the use of e-learning.

2.1.3 Support the user's need

Brown & Voltz (2005), conducted a survey of the many literature in distance learning, open learning, analysis and integration of their results and their implications with a view to access factors of educational e-effective design, they can be summarized in six factors: provide a variety of learning experiences to meet the needs of learners, providing expertise in certain frames to motivate the learner, providing opportunities for self reflection and feedback on activities associated with learning process , the use of appropriate designs to the system and user interaction with the system, ensure the appropriate elements of the domain, and personal effects and social and environmental e-learning activity. This study agreed with the current study that it is looking at the factors influencing the effectiveness of e-learning instructional design and it is part of the effectiveness of e-learning system, in general so the researchers was guided by some of these factors in the current study.

The study of Albesisi and Al-Khafaji (2009) was prepared for the Conference on quality assurance and accreditation II "of the University of Kufa, the study focused on factors affecting the quality of the scientific method and techniques used to improve the quality of the output of the educational process, it can be summarized in:" efficiency and effectiveness of electronic curricula, provide electronic curriculum for all University and other disciplines ". This study aimed at several targets including our study: Learn about the reality of the internal efficiency of curcuma for higher education in Iraqi universities, identify the constraints and address curriculum development and aligning development knowledge in various scientific disciplines, identifying the importance of using educational technology, to complement the scientific method to improve the quality of educational service. The researchers reaches several recommendations as follow : Solve the problem of e-learning curriculum development techniques and the application of TQM in education, based on academic accreditation of the arabic universities, and prepared educational programmes and curricula in line with technical developments current information, and current international environment based on knowledge, in addition to ensuring the availability of resources and equipment for higher education, and in support of research and development effort in higher education institutions to improve the material situation of research, teaching bodies, and development of cognitive abilities.

The difference between this study and the present study that it turn to the impact of using the Internet to teach while this impact was discussed in the present study as one of the factors that influence the effectiveness of e-learning system .

The study of Albakl (2007), sought to disclose the impact of the use and design of e-courses on academic achievement for students of Faculty of specific education, and its relationship to guide student learning through the Internet, results showed that the use of e-courses is help to increase the academic achievement of students, compared to the usual way which increase the student attitude to change and his need to use e-learning, as results showed that using e-courses and e-content nature meets user requirements and easy access to educational content and assist the learner to perform its functions more increase the quality of electronic content and quality of education. This study has been used in the current study to identify some dimensions used in the questionnaire of the current study. This study differed from the present study that it turns to the impact of e-learning in student achievement and school was not touched in the current study.

2.1.4 Powers granted to the users (Authority)

In this perspective, Rosenberg (2006) defined e-Learning as the use of Internet technologies to create and deliver a rich learning environment that includes a broad array of instruction and information resources and solutions, to enhance individual and organizational performance. E-Learning in the context of education can be defined as the use of technology to enable students to learn anytime, anywhere; it makes the learning materials available to the learner 24 hours a day, 7 days a week. According to Assaf et al. (2007), e-Leaning gives learner more authority over learning environment, and autonomy to access their courses in their free time. Teachers, in some specific occasions, can then access training in the manner and time convenient to them.

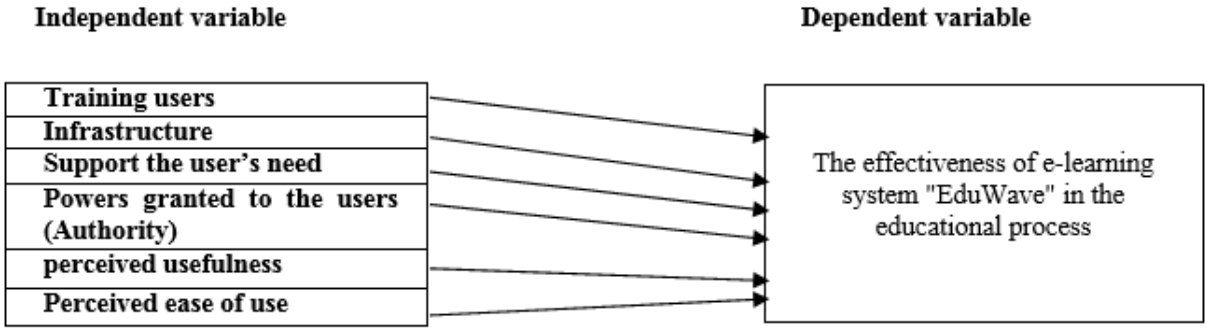
2.1.5 perceived usefulness and perceived ease of use:

Wu, Change and Guo (2008) looked at factors that motivated secondary teachers to accept technology in the educational environment. The authors concluded that the perceptions of teachers on the usefulness and ease of use of computer technology were strongly determined by whether or not they believed that the use of technology was an appropriate fit in the classroom environment.

Alsunbul (2002) suggests an even broader influence on individual perception in the form of a global cultural movement towards distance education, which the research contends present major implications for the Arab World. This is especially true for a region of the world where many individuals seeking higher education are often unable to gain admission into colleges and universities (p. 61). This phenomenon suggests that individuals who were denied access to a conventional higher education would likely find the concept of E-Learning a viable and privileged option for pursuing an academic career, and would, therefore, develop a positive individual perception of technology. In this case, ICT would certainly demonstrate its usefulness while

perceptions on ease of use would be supported by the quality of information and/or experience in E-Learning obtained by the student. According to the previous literature research, model-1 was developed and applied for understanding the impact of factors (independent variables) on the effectiveness of e-learning system (dependant variable).

3. Research Model



Model-1: Factors influencing the effectiveness of e-learning systems

4. Hypotheses

This study adopted a set of hypotheses which aimed primarily to know factors influencing the effectiveness of e-learning systems in the educational process. According to the study problem these hypothesis has been formulated as follows:

H0: There is no relationship between the effectiveness of e-learning system in the educational process, and the combined factors influencing the effectiveness (user training, infrastructure, support the needs of users from the system, power granted to the system user, technology acceptance model).

H1: Training user of the system does not affect the effectiveness of e-learning systems "EduWave" in the educational process.

H2: Available Infrastructure does not affect the effectiveness of e-learning systems "EduWave" in the educational process.

H3: Support the needs of users do not affect the effectiveness of e-learning systems "EduWave" in the educational process.

H4: Powers granted to users do not affect the effectiveness of e-learning systems "EduWave" in the educational process.

H5: Perceived usefulness does not affect the effectiveness of e-learning systems "EduWave" in the educational process.

H6: Perceived ease of use does not affect the effectiveness of e-learning systems "EduWave" in the educational process.

5. Method and procedures:

5.1 Introductions

The methodology is a link between what is materialized from the accumulation of theoretical applied and knowledge and the ability to reflect this accumulation in the lives of organizations current and future reality, identifying the paths of the methodological is depends on a few of this accumulation which should be subject to selection and testing in the organization with the aim of checking the possibility of using it in the work and activities of the organization within the present and future vision. This section describes the methodology, Community, sample study instrument, tools, honesty and persistence used in this study, and the study procedures and variables and statistical treatments as shown below.

This topic includes the used research method, research population and sample, survey unit and analysis, describing the study sample demographic variables, research's instruments and data resources.

Research method consisted of two parts:

1. The theoretical method since the researcher investigated many studies that addressed the topic e-learning in order to strengthening and enriching the research theoretical frame.
2. The field survey method, through studying a selected sample.

5.2. Research Population and Sample:

Research population consisted of (3) Jordanian public schools in the capital Amman, while the study sample consisted of (96) headmasters, teachers, students and parents.

5.3 Demographic Variables:
These variables include the gender, age, education, position.

5.4 Survey and Analysis Unit
-This unit consisted of (58) males and (38) females of users.
-The researcher received the (100) questionnaire responses.
-The valid for the analysis (96) questionnaire, which represents 96% of sample size.

5.5. Research Instrument and Data Collection Sources:
To achieve the research goals, the researcher used two basic sources for data collection:
-The primary source to treat the "analytical descriptive "sides of the research topic, is through a questionnaire constructed by the researcher as the basic tool.
-Secondary sources including the use of journals, articles & books relating to the e-learning topic in addition to previous researches conducted by Arab and foreigner researchers to know the relevant methods for conducting and writing the scientific research, to obtain the general perspective about the up-to-date innovation and different usages of the e-learning.
-The questionnaire consisted of invitation letter for participation, study sample demographic variables, including gender, age, education, position. The third part included the main questionnaire items using likert scale (five point scale) ranging from strongly agree (5) points to strongly disagree (1) point.

6. Statistical Treatment
To answer the research questions and to test software its hypothesis SPSS statistical package for social sciences was used through using the following statistical procedures:
Frequencies, percentages to describe the demographic variables of the research sample.
Means and standard deviations.
Tab and manipulate data using the Statistical Package for the Social Sciences, SPSS, as the researcher used the .05 level of significance and the calculated value and tabular value in testing hypotheses, and data collected to achieve the objectives of the study and testing of hypotheses have been using descriptive statistical methods
Researcher adopted the following statistical methods:
1. Standards descriptive statistics (Descriptive Statistic Measures) in order to describe the characteristics of the study sample, as has been the use of percentages and frequencies, and to analyze the answers respondents paragraphs of resolution and determine the relative importance of the answers of the study sample and the direction of axes and the dimensions of the study, it has been the use of standard deviations.
2. Analysis (One Sample t test) in order to test the sample opinion on the subject of study.
3. Study tool reliability coefficient (Cronbach Alpha) to test the reliability of study tool.

Questionnaire is the main tool used to collect raw data for this study, and to achieve the objectives of the study and testing of hypotheses have been building resolution depending on the model, in addition to previous studies related to the subject of the study was formulated all the paragraphs of resolution on the Likert scale quintet was as shown in Table (1)

Table (1)
Likert scale quintet

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

To make sure of the reliability of study tool has been tested using Cronbach's alpha (Cronbach Alpha) for the stability of the final sample, with a Cronbach alpha coefficient (83.91%) which is an excellent rate being higher than the acceptable 60%.

First :describe the characteristics of the study sample :
Was extracted frequencies and percentages of the characteristics of the study sample also shows the following tables

1) Gender

Table (2)
The study sample distribution by gender

Gender	repetition	rate
Male	58	60.4
Female	38	39.6
Total	**96**	**%100**

Note that 60.4% of respondents male and the rest female.

2) Age

Table (3)
The study sample distribution by age

Age	repetition	rate
13-20 years	42	43.8
21-28	4	4.2
29-36	17	17.7
37 -above	33	34.4
Total	**96**	**%100**

Note that 43.8% of respondents between the ages of 13-20 years, followed by 34.4% of respondents over the age of 37 years, followed by 17.7% of them between the ages of 29-36 years, while 4.2% of respondents between the ages of 21-28 years.

3) Education

Table (4)
The study sample distribution by education

Education	repetition	rate
Secondary school and less	48	50.0
Diploma	5	5.2
Bachelor degree	38	39.6
Higher education	5	5.2
Total	**96**	**%100**

We note that 50% of the sample is generally followed by a secondary and 39.6% of BA, while 10.4% of the sample dispensers evenly between the degree and postgraduate diploma.

4) Position

Table (5)
The study sample distribution by monthly position

Position	repetition	rate
Headmasters	-	-
Teachers	42	43.8
Students	42	43.8
Parents	12	12.5
Total	**96**	**%100**

Note that 87.6% of the sample distributors evenly between teachers and students, while 12.5% of parent

Second: The results of the study:
The arithmetic mean and standard deviation extract to describe the sample answers about the paragraphs below.

Table (6)
Mean and Standard deviation

Paragraph Number	Mean	Standard deviation
Training the users		
You have trained and qualified properly by specialized courses and workshops to deal with EduWave System.	3.0521	1.11798
You are aware of EduWave System services and materials.	3.2604	1.14473
You have received sufficient training and useful technical support to deal with EduWave System.	2.8750	1.16303
You know how to use electronic guide to deal with Curriculum and EduWave System.	3.2083	1.12312
Infrastructure		
School laboratories are equipped with the latest equipment necessary to connect with the EduWave system.	3.3646	1.22363
You have a fast Internet access in your local environment to connect to EduWave system.	3.5729	1.21174
You have easy access to necessary software "applications" that facilitate dealing with the EduWave System.	3.5521	0.97192
Networks and communications links are easily available and offered in a wide range to connect you with EduWave System.	3.5000	1.05631
Support the user's needs		
Marks Scheme is easily seen in EduWave System.	3.7813	0.99687
Computerized Curriculums are easily seen in EduWave System.	3.5313	0.98358
Complete Information are listed about teachers and students in EduWave System.	3.4583	0.99384
EduWave System provides administrators with helpful information to take the right decision.	3.3021	1.00650
EduWave system Covers teachers guide.	3.3646	1.07723
EduWave system provides interactive opportunities between users and system.	3.3542	0.98386
Power granted to the users		
Degree of creating username or password is easy and accessing password reset Platform.	3.4062	1.15693
Possibility of updating marks or data in EduWave System.	3.5521	1.15958
Creating or updating interactive pages such as; exams, workshops and others by user authority in EduWave System.	3.0833	1.02255
EduWave System considered Portal "E-gate" that can be accessed worldwide by interested persons.	3.5104	1.16071
perceived Usefulness		
EduWave System helps me be more effective.	3.6771	1.21823
EduWave System saves me time when I use it.	3.8958	1.14689
perceived Ease of use		
EduWave System is user friendly.	3.4792	1.1514
EduWave System requires the fewest steps possible to accomplish what I want to do with it.	3.7187	1.1938

We note that the sample positive attitudes towards the paragraphs above and because averages calculation is greater than the average measurement tool (3) with the exception of paragraph (3) of the training is the negative fact that the arithmetic average of less than average study tool (3).

Third: hypothesis testing:
The main first hypothesis:
Ho: There is no relationship between the effectiveness of e-learning system in the educational process, and the combined factors influencing the effectiveness (user training, infrastructure, support the needs of users from the system, powers granted to the system user(authority), perceived Usefulness, perceived Ease of use).
Ha: There is a relationship between the effectiveness of e-learning system in the educational process, and the combined factors influencing the effectiveness (user training, infrastructure, support the needs of users from the system, power granted to the system user, perceived Usefulness, perceived Ease of use).

Table (7)
The main first hypothesis test results

result of Ho	T SIG	T tabulated	T calculated
Reject	0.00	1.9853	7.967

One Sample T-Test was used to test our hypothesis and we found that in the previous table, the value of (T calculated = 7.967) greater than T tabulated , according to our rule is: accept the (Ho) if the calculated value is less than tabulated value and rejects (Ho) if the calculated value is greater than tabulated value, so we will reject Ho and accept the alternative hypothesis Ha

The branch first hypothesis:
Ho: Training user of the system does not affect the effectiveness of e-learning systems "EduWave" in the educational process.
Ha: Training user of the system affect the effectiveness of e-learning systems "EduWave" in the educational process.

Table (8)
The branch first hypothesis test results

result of Ho	T SIG	T tabulated	T calculated
Acceptance	0.246	1.9853	1.16

One Sample T-Test was used to test our hypothesis and we found that in the previous table, the value of (T calculated = 1.16) less than T tabulated, according to our rule is: accept the (Ho) because calculated value is less than tabulated value and rejects (Ha) because value is less than tabulated value, so we will reject Ha and accept hypothesis H0

The branch second hypothesis:
Ho: Available Infrastructure does not affect the effectiveness of e-learning systems "EduWave" in the educational process.
Ha: Available Infrastructure does affect the effectiveness of e-learning systems "EduWave" in the educational process.

Table (9)
The branch second hypothesis test results

result of Ho	T SIG	T tabulated	T calculated
Reject	0.00	1.9853	5.83

One Sample T-Test was used to test our hypothesis and we found that in the previous table, the value of (T calculated = 5.83) greater than T tabulated, according to our rule is: accept the (Ho) if the calculated value is less than tabulated value and rejects (Ho) if the calculated value is greater than tabulated value, so we will reject Ho and accept the alternative hypothesis Ha

The branch third hypothesis:
Ho: Support the needs of users do not affect the effectiveness of e-learning systems "EduWave" in the educational process.
Ha: Support the needs of users do affect the effectiveness of e-learning systems "EduWave" in the educational process.

Table (10)
The branch third hypothesis test results

result of Ho	T SIG	T tabulated	T calculated
reject	0.00	1.9853	6.90

One Sample T-Test was used to test our hypothesis and we found that in the previous table, the value of (T calculated 6.90) greater than T tabulated, according to our rule is: accept the (Ho) if the calculated value is less than tabulated value and rejects (Ho) if the calculated value is greater than tabulated value, so we will reject Ho and accept the alternative hypothesis Ha
The branch fourth hypothesis:
Ho: Powers granted to users do not affect the effectiveness of e-learning systems "EduWave" in the educational process.

Ha: Powers granted to users do affect the effectiveness of e-learning systems "EduWave" in the educational process.

Table (11)
The branch fourth hypothesis test results

result of Ho	T SIG	T tabulated	T calculated
Reject	0.00	1.9853	5.15

One Sample T-Test was used to test our hypothesis and we found that in the previous table, the value of (T calculated 5.15) greater than T tabulated, according to our rule is: accept the (Ho) if the calculated value is less than tabulated value and rejects (Ho) if the calculated value is greater than tabulated value, so we will reject Ho and accept the alternative hypothesis Ha

The branch fifth hypothesis:
Ho: Perceived usefulness does not affect the effectiveness of e-learning systems "EduWave" in the educational process.
Ha: Perceived usefulness does affect the effectiveness of e-learning systems "EduWave" in the educational process.

Table (12)
The branch fifth hypothesis test results

result of Ho	T SIG	T tabulated	T calculated
Reject	0.00	1.9853	7.423

One Sample T-Test was used to test our hypothesis and we found that in the previous table, the value of (T calculated 7.423) greater than T tabulated, according to our rule is: accept the (Ho) if the calculated value is less than tabulated value and rejects (Ho) if the calculated value is greater than tabulated value, so we will reject Ho and accept the alternative hypothesis Ha
The branch sixth hypothesis:
Ho: Perceived ease of use does not affect the effectiveness of e-learning systems "EduWave" in the educational process.
Ha: Perceived ease of use does affect the effectiveness of e-learning systems "EduWave" in the educational process.

Table (13)
The branch sixth hypothesis test results

result of Ho	T SIG	T tabulated	T calculated
Reject	0.00	1.9853	6.157

One Sample T-Test was used to test our hypothesis and we found that in the previous table, the value of (T calculated 6.157) greater than T tabulated, according to our rule is: accept the (Ho) if the calculated value is less than tabulated value and rejects (Ho) if the calculated value is greater than tabulated value, so we will reject Ho and accept the alternative hypothesis Ha

7. Conclusions

Results discussion and recommendations

7.1. Results discussion

Discussing results related to the hypotheses: the results indicated that there is an effect of dimensions of e-learning system (training of users, the infrastructure, system's ability to support the needs of users, the powers granted to users, technology acceptance model) on the effectiveness of the system . The following are the discussion of the sub hypotheses

H1. Training in the use of e-learning system: the results indicated that there is no impact of training users in the effectiveness of e-learning system as shown in the paragraph (3) of the training is the negative, the Mean = (2.8750) and (T calculated = 1.16) less than T tabulated, according to our rule is: accept the (Ho) because calculated value is less than tabulated value and rejects (Ha) because value is less than tabulated value, so we will reject Ha and accept hypothesis H0 , this result can be explained that the Ministry of education don't give enough courses, educational workshops and provide necessary technical support, electronic and paper guides help to use the system.

H2. Infrastructure for e-learning system/EduWave: the results indicated the presence of impact of the infrastructure of e-learning system in the effectiveness of e-learning system and the reason for this may be due to the importance of school laboratories equipped with the latest devices and equipment, and the availability of an

efficient communication system with Internet access, and also the availability of specialized centers with a central reference databases and the availability of appropriate software ,all leads to the effectiveness of the system

H3. E-learning system's ability to support the needs of users: the results indicated that the impact of the system's ability to support the needs of users of e-learning in the effectiveness of e-learning system, this is a logical consequence as providing educational curricula for various grades, disciplines, and provide an opportunity of interaction between users and the system, as well as containment of the system of teacher guides, student grades and their full information, facilitate it for the users to deal with and use them , thus is reflected by influencing the effectiveness of the system.

H4.The powers granted to users of e-learning system: the results indicated the presence of an effect of the powers granted to users in the effectiveness of e-learning system, as enabling the users to access the system easily, facilitate obtaining a password , changing it, and to expand pages that the user can see influences the effectiveness of the system.

H5. Perceived usefulness: results indicated that there is an impact of Perceived usefulness on the effectiveness of e-learning system where the e-learning system helps the users be more effective and save time when they use it in the educational process.

H6. Perceived ease of use: results indicated that there is an impact of Perceived ease of use on the effectiveness of e-learning system where the e-learning system users friendly and requires the fewest steps possible to accomplish what they want to do with it.

7.2. Recommendations

According to the results obtained from the statistical analysis the following recommendations have been reached:

1. The need to review the training courses given by the Ministry of education, and developed it to suit the functional requirements, professional trainees and meet their needs.

2.The need to pay greater attention to infrastructure technical and technological equipment in order to create the necessary conditions for teachers to use in teaching-learning system.

3.The need for further studies similar to this study to include broader educational areas like private schools, rural places and a larger study sample, in order to be able to circulate this study; in order to disseminate the results of this study.

4. E-Learning system applied in the universities.

5.The need to motivate the target audience of e-learning system on the use of the system by reviewing the multiple benefits of using the system which is represented by flexibility, reducing time and effort in storing processing and retrieving information and comparing it without depending on the system to gain the information.

6.The importance of the continuous renewing of the system by the Ministry of education to suit the expected benefits from using it and any updating must to be friendly with users guides and usefulness.

7.The importance of including all the curriculum of all classes and educational stages by Ministry of education to gain the best benefits from using the system.

8.The importance of providing an interactive mechanism through the e-learning system by Ministry of education where the user could introduce his need to the decision makers in the Ministry of education.

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