Obstacles in using the E-learning strategy in teaching high school courses (Tawjihi class) from the point of view of educational supervisors in Al-Balqa governorate

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Abstract

This study aimed to reveal the obstacles in the use of e-learning strategies in the teaching of high secondary school courses from the point of view of educational supervisors, and its relationship to the variables years of experience and training courses (ICDL, INTEL & ICDL). The study sample consisted of (64) supervisors who work in the directorates of education in Al-Balqa governorate. To collect data, the study tool (the questionnaire) was applied electronically to all of them. The results of the study showed that the obstacles to using the e-learning strategy in teaching high school courses from the educational supervisors' point of view came to a high degree, while at the level of the scale domains they came in succession as follows in the first order: Related to the administrative, financial and infrastructure aspect of the school environment, then the obstacles related to the educational content of the high school course, followed by the obstacles related to high school students, finally the obstacles related to high school teachers. And there were statistically significant differences in the obstacles related to the administrative, financial and infrastructure aspects of the school environment, and the differences in favor of the group of less than five years. The study recommended equipping school environments with the requirements of e-learning and providing support from various societal bodies to enhance and improve e-learning for students and teachers in government schools.

Keywords: Obstacles; e-learning strategy; high school class; educational supervisors.

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1. Introduction

1.1. Concept

In the midst of global changes in the fields of human life and its requirements, man found himself in a circle based on integrated reciprocal relations that force the individual to keep pace with the changes and developments that have continued during his life in order to reach the achievements he strives for at the developmental, educational, health, economic, social, cultural and political levels. And since it is required of him by desire or by what the requirements of life impose, he must respond to these changes in a way that reflects achieving more success and obtaining the desired benefit in order to overcome all the difficulties that may prevent a person from reaching what he seeks in the right way. Since education is the center of life for societies and one of the most important forms of their existence, and with it they achieve success in various areas of life, these societies have strived hard for the continuity, improvement and development of the education process in light of the world facing many scientific and technological changes and developments and the impact of the various sectors of education, politics, economics and modern biological arms races that directly or indirectly affected the effectiveness and continuity of the educational process and the nature of its intended outputs in the twenty-first century. Therefore, societies tended to introduce technology in the field of education and strive to adopt e-learning as a theoretical and practical concept in the field of education, both in schools and universities, and in a manner that ensures the success and continuity of the educational process system for all students in the school and university environment and to ensure the achievement of the desired educational learning outcomes and the achievement of meaningful learning for students, which societies and countries seek worldwide in a manner consistent with their educational philosophies because of its positive effects on the elements of the education process, whether for the student, the teacher, the curriculum and its teaching, or the school environment.

Accordingly, there has been an urgent need to adopt new teaching strategies that direct the path of education to keep pace with scientific and technological progress and influence it in a manner that imposes burdens and requirements, whether at the individual level for development in achievement and skills acquisition, or at the state level to spread the umbrella of education as a human right (Al-Harash and Muflih Al- Al-Dahoun, 2010).

As a result, what is known as e-learning has emerged in contemporary teaching strategies based on e-learning, and it plays an important role in creating effective learning environments and creating learning conditions for students that increase their opportunity to acquire knowledge and skills, develop different trends and desires, and thus provide educational learning environments in every place and time.

E-learning is a method of education using modern communication mechanisms such as a computer, networks, and multimedia, such as sound, image, graphics, CDs, educational software, e-mail, websites, electronic libraries, and internet portals, whether remotely or in the classroom (Hassamou, 2011). In other words, it is the use of multi-electronic technologies in all their forms and the use of them in the delivery of information to the student in the shortest time and the least effort and for the greatest benefit to achieve effective and meaningful learning. Through this usage, new roles have emerged for both the teacher and the student within the contemporary educational system.

According to Al-Khazraji and Ali (2018), E-learning is the use of technologies and technological means in the student's education and self- and collective learning making him the focus of the educational process starting with the techniques used in the classroom, including electronic devices and multimedia, and ending with the educational components such as virtual classrooms and the virtual school through the interaction between the elements of the education process through a network of internet and interactive video technologies.

Among the definitions of e-learning is Amer's (2015) explanation that e-learning is a flexible learning method using technological innovations and information network equipment via the internet based on multi-directional communications and the provision of educational material concerned with interactions between students and teachers, academic content, experiences and software at any time and place. Abu Aqil (2014) also defined e-learning as education using electronic digital information using computer and internet tools, whether learning in the classroom or distance learning.

In light of the multiplicity of definitions of e-learning, two types of e-learning and its teaching strategies have emerged which show its importance for students and teachers. They are: direct (synchronous) e-learning, in which the student gets immediate answers to students' questions and inquiries and direct feedback to his study at the same time, and indirect (asynchronous) e-learning, which provides the student with learning at the time and place that suits his circumstances and available to him according to his needs and his capabilities, along with the possibility of returning to the learning material, studying it, and again returning to it at any time (Al-Khazraji and Ali, 2018). Several terms related to e-learning have also emerged, including distance education, online education, network education, blended education, direct education, virtual education, computer education, asynchronous education, and e-learning (Amer, 2015).

There is great importance for teaching strategies based on e-learning that utilize audio-visual means to make the educational process more interesting and fun than the monotony and boredom found in traditional education. A measure of the information available to students on websites and databases should be presented in a way that makes the student a seeker of knowledge in line with scientific and technical development in various fields of knowledge, providing active learning opportunities and opportunities for collaborative participatory learning, encouraging self-learning, developing higher mental skills, and offering a variety of methods to evaluate students' performance, such as electronic tests and immediate assignments, and the provision of educational discussion forums, a chat room, and an electronic document bag (Abu Aqil, 2014).

The developments in information and communication technology have had a significant impact on all sectors of society, including the education sector where the application of information technology in higher education has led to a change in the form of e-learning and a change in the teaching and learning process. This was due to the presence of various educational, social and economic factors that prompted higher education institutions to adopt e-learning, such as increased access to information and greater communication through electronic means, increasing cooperation and effectiveness through simultaneous learning, lowering the cost of reaching different students in large numbers, and achieving educational improvement through simulations, virtual experiments and graphic presentations, and offering trainers and students choices of applications that are appropriate for them and are flexible in terms of time and place and that can be reused later (Sife, Lwoga and Sanga, 2007).

On the other hand, despite the benefits and advantages of employing e-learning strategies in the educational system, there are challenges and obstacles that stand in the way of achieving the effectiveness of e-learning and utilizing the strategies based on it in the process of teaching and learning students. This is represented by the presence of human obstacles such as the continuous need to train learners and administrators due to the renewal of technologies, and there is a scarcity of teachers who are fluent in the art of e-learning in addition to the physical obstacles, which include the degree of spread of computers, internet coverage, speed and high costs, and the possibility of purchasing and maintaining equipment and devices for e-learning (Abboud, Fadlallah, and Sabri, 2008). In addition, there is not a large group of teachers who have computer courses of importance in e-learning, such as the INTEL and ICDL course.

In addition, various challenges are facing online teaching, such as the presence of technology characterized by complexity, the possibility of covering less educational content, consumption of a lot of time related to open schedules, the difficulty of interactions and the lack of direct contact with students, offering multiple things at the same time, the presence of difficulties in motivation of students, and tremendous pressure and stress in planning and delivery (Chunlei, Barrett, and Olivia, 2020).

Since the high school stage (Tawjihi) is one of the grades of great importance in which the academic destiny of the individual is determined, students have to make more effort to pass the stage successfully and excel through several factors of great benefit to them such as increasing the daily study hours, commitment to school hours, undergoing short exams, more homework compared to previous classes, and taking home tutoring or private lessons. In the cultural centers, which they consider supportive and enhancing for face-to-face school education, in addition, there is a small group that tends to use modern technology in education whether audio-based technology or visual technology. These technologies are utilized by students in attending private lessons through education in synchronous and asynchronous virtual classes or CDs, returning to educational websites, educational discussion forums, video conferences, audio conferences, interactive video. They also learn the educational material through electronic and computer means equipped with the necessary hardware, software and communications to offer e-learning in presenting information, delivering lessons and explaining them in traditional classes or teaching them remotely. Adopting the principle of self-teaching or teacher-assisted learning, however, may sometimes encounter many obstacles that limit the effectiveness of the e-learning strategy and its use in educating high school students.

Accordingly, this study sought to reveal the obstacles to using the e-learning strategy in teaching high school courses from the point of view of educational supervisors in Al-Balqa Governorate. Especially The importance of the study stems from both the theoretical and practical aspects in that It presents a list of the obstacles that limit the effectiveness of employing the e-learning strategy in teaching academic courses for high school students, which may benefit those responsible for preparing and developing curricula and school environment officials in taking them into account when developing curricula and preparing school environments for the use of e-learning in them, also It practically reveals the extent to which educational supervisors understand e-learning as educational officials and their duty to follow up the implementation of teaching courses in the educational field and to review the teaching strategies followed by teachers in light of the results of the study, and The perspective of this study is consistent with contemporary educational development movements calling for the computerization and development of school curricula for different school classes in light of the scientific and technological progress that the world is witnessing today.

1.2. Previous Studies

By reviewing the theoretical framework of the study, several previous studies emerged that examined the obstacles to the use of the e-learning strategy in teaching, and they were arranged according to the latest study standard, which are as follows:

Al-Qabbani study (2015) aimed to identify the impact of the different e-learning strategies used in the Web Quest in developing the levels of thinking and the trend towards e-learning among educational technology students at Sultan Qaboos University, where two tools were applied to collect data represented by the thinking test and the measure of attitude towards e-learning, which were applied on a sample of (25) students in the experimental group and (24) students in the control group. The results of the study demonstrated the effectiveness of the individual and cooperative e-learning strategy used in the Web Quest in developing the levels of thinking and the positive trend towards the use of e-learning

among students, in addition to proving the preference of the individual e-learning strategy over the use of the cooperative e-learning strategy in developing students' thinking levels.

Arkorful and Abaidoo (2014), identified the advantages and disadvantages of e-learning by reviewing the previous theoretical literature. The results showed the flexibility of e-learning in providing the freedom for students to choose the appropriate place and time to learn it, and that it enhances the effectiveness of knowledge through easy access to a huge amount of information and knowledge, its ability to provide opportunities for strengthening relationships between learners by using discussion forums and thus removing barriers that could hinder student participation or fear of talking to other learners. In addition, e-learning motivates students to interact with others, and exchange and respect viewpoints in a manner that improves relationships that support student learning, and it takes into account individual differences between students and the speed of self-learning through the use of asynchronous technological applications. On the other hand, the study showed that the e-learning method is less effective than the traditional learning method in terms of providing feedback between the elements of the educational situation and its speed in providing clarifications and explanation, and with regard to electronic assessment, it is difficult to control bad habits such as cheating, copying and sticking to duties and tasks.

The study of Abu Aqil (2014) tried to reveal the reality of e-learning and the obstacles to its use in university education. The study sample consisted of (404) male and female students who were asked to answer the study questions. The results of the study concluded that there are (12) computer labs for students and a laboratory for training faculty members, and that the percentage of electronic courses constituted (26%) of the courses and the study also found that there were obstacles that limited e-education such as the presence of an insufficient number of technical support staff to train students in the use of e-learning, students lack of familiarity and skills using modern techniques, a large number of subjects per semester, and some found it difficult to use English during e-learning.

The study of Hamadna and Al-Sarhan (2013) aimed to identify the degree to which Arabic language teachers use the internet in teaching and their attitudes towards it. The sample of the study consisted of (160) teachers in Mafraq Governorate, and a questionnaire consisting of (61) items was distributed to them. The results showed that the degree of Arabic language teachers' use of the internet was moderate, while the trends towards use were of a large degree. The results also showed that there were statistically significant differences in the degree of internet use due to the effect of the educational qualification variables in favor of master's degree holders, and the place of work in favor of Mafraq Qasaba district.

Murad (2014) conducted a study aimed at revealing the reality of the use of information and communication technology and the obstacles to its use in teaching from the teachers' point of view. The results of the study concluded that the majority of the study sample individuals adequately practiced the various applications and software of information technology. Their use of it for teaching purposes was low, and the results showed that there are obstacles that limit their use of information and communication technology in teaching, such as the lack of necessary equipment and infrastructure, and poor training on how to employ information technology in the teaching process.

Qudah and Muqabala's (2013) study sought to identify the e-learning challenges facing faculty members in private Jordanian universities from their point of view. The study sample included (113) teachers. The results concluded that there are challenges represented by the following in descending order: challenges of scientific research, challenges of e-learning technologies, financial and administrative challenges, professional challenges, e-learning assessment challenges, e-learning management challenges, and e-learning planning and design challenges. The results showed that there were statistically

significant differences attributable to the type of college and in favor of the humanities colleges, and differences attributable to the university, and in favor of Jadara University.

The study by Al-Adly and Ali (2013) aimed to identify the trends of university faculty members using computers in teaching. The study sample consisted of (135) teachers, to whom a questionnaire was distributed. The results of the study concluded that the attitudes of university faculty members towards the use of computers in teaching are positive, as there are statistically significant differences due to the variable of teaching experience, the large number of teaching lectures, the lack of computer equipment, the power outage, and the presence of classrooms that are not qualified to teach using computers.

Al-Harash, Mufleh, and Al-Dahoun (2010) sought to identify the use of the e-learning system from the point of view of secondary school teachers by applying a questionnaire to a study sample that consisted of (105) teachers in the Koura District. The results of the study concluded that the obstacles related to the educators came in the first place, followed by the obstacles related to administration, then the obstacles related to infrastructure and basic equipment, and finally the obstacles related to students. The results indicated that there are statistically significant differences in the field of obstacles related to the infrastructure and basic equipment are attributed to gender, which is in favor of males, and there are statistically significant differences in the field of obstacles related to students due to the scientific qualification, which is in favor of the master's degree.

Andersson (2008) sought to reveal the main challenges facing e-learning in developing countries as a case study. The study included (1887) informants, where data were collected from 2004 to 2007, in a way that covers the views of students and employees and by following a quantitative approach to determine the most important factors. This was followed by qualitative analysis to explain why and how the factors were important. The results showed that there are seven main challenges regarding e-learning in the following areas: student support, flexibility, teaching and learning activities, empowerment, academic confidence, localization and trends.

Eissan and Al-Ani (2007) revealed the reality of e-learning from the point of view of students of the College of Education at Sultan Qaboos University. A questionnaire was applied to (165) male and female students who were studying courses using e-learning. The results of the study showed that there are advantages to using e-learning such as its ability to activate cooperative learning among students, and it bridges the gap between the student and the teacher and between students with each other, and that it gives the student the freedom to present his ideas and opportunities to show his abilities through student participation and continuous scientific dialogues and helps him develop the skill of using the computer. One of the most important negatives that were encountered during electronic learning was not having enough equipment.

Almarabeh, Mohammad, Yousef, Majdalawi.(2014) revealed the nature of e-learning challenges at the University of Jordan where the researchers developed a small paper survey that was applied to (240) students at the University of Jordan from various faculties. The results showed that there are many obstacles that students face when using the University of Jordan platform (Moodle) in learning. These obstacles were related to hardware resources, followed by defects in the university network, obstacles related to students who faced difficulties in seeking help to work on Moodle or solve technical problems, and other obstacles related to students encountering difficulties in learning on a computer screen.

When reviewing the previous studies literature relating to e-learning challenges, we noted the previous studies focused on the reality of e-learning, its challenges, and trends towards it within the university level and school classes in Jordan and other countries, and from the point of view of students, teachers and faculty members in universities. However, the current study was distinguished by the fact that it sought to identify the obstacles to using the e-learning strategy in teaching high school courses

(Tawjihi) from the point of view of educational supervisors in Al-Balqa Governorate according to classification variables such as the variable of experience and the variable of training courses. These educational supervisors are responsible for following up the implementation of academic courses and teaching them in schools and within effective educational situations in order to achieve the desired educational goals which the philosophy of education in Jordan seeks to achieve among students of the secondary school class (Tawjihi). This is specifically in light of what the Jordanian Ministry of Education is currently doing: an attempt to improve students' learning and make them seek to link what they learn in daily life as "lifelong learning" and achieve meaningful learning in various educational courses, and it is after the development and improvement of curricula in line with the Jordanian environment and in line with what the world is experiencing in the contemporary time at all levels and in the various fields of technological, scientific, political, economic, social and cultural life that affect the course of human life in general at the level of Arab and Islamic countries and the world as a whole.

1.3. Study Questions

1.3.1 The first question: What are the obstacles to using the e-learning strategy in teaching high school courses (Tawjihi) from the point of view of educational supervisors in Al-Balqa Governorate?

1.3.2. The second question: Does the educational supervisors' point of view about the obstacles to using the e-learning strategy in teaching high school (Tawjihi) courses differ according to their years of experience (less than five years, from five years or more)?

1.3.3. The third question: Does the educational supervisors' point of view about the obstacles to using the e-learning strategy in teaching high school (Tawjihi) courses differ according to their computer training courses? (ICDL, INTEL & ICDL)

2. Method and Materials

2.1. Participants

The study population consisted of all educational supervisors in the directorates of education in Al-Balqa governorate who carry out the educational supervision process for secondary school teachers for academic courses in the various academic branches in the first semester of the academic year 2021/2022. Their number was (68) male and female supervisors. The study tool (the questionnaire) was distributed electronically to all of them to collect study data, and (64) supervisors responded to the study, making up a percentage of (94%). Table (1) shows the relative distribution of the study sample members according to years of experience and training courses.

Table (1). Relative Distribution of Study Sample Members According To: Years of Experience and Training Courses. (n=64)

	Variable	Number	Percentage
Years of Experience	Less than 5 years old	14	21.9
	5 years or more	50	78.1
Training Courses	ICDL	11	17.2
	ICDL& INTEL	53	82.8

It is clear from the data of Table 1 that the highest percentage of the study sample members have experience of five years or more and a representation rate of (78.1%), while the percentage of those with

less than five years' experience reached (21.9%), and with regard to training courses, we note the high percentage of those who had two (ICDL & INTEL) courses, which amounted to (82.8%), and the remaining percentage had the (ICDL) course only (17.2%).

2.2. Study Methodology

The descriptive approach, which is a method of searching for the present, was used and aims to process data to prove certain assumptions in preparation for answering precisely defined questions regarding current contemporary phenomena by collecting information about them at the time of the research using appropriate tools and subjecting the data to statistical analysis using the Statistical Packages of Social Sciences (SPSS V.21) program.

2.3. Procedural Definitions

2.3.1. E-Learning Strategy

A teaching strategy based on the possibility of teaching students through contemporary means of communication, software and applications of modern technology and the internet, whether in the traditional classroom or teaching through synchronous and asynchronous virtual classes with the aim of transmitting, communicating and explaining the educational material to students and achieving meaningful and effective learning for them that is consistent with the desired educational learning outcomes.

2.3.2. High School Students

They are the students who attend public schools in the Hashemite Kingdom of Jordan during the academic year 2021/2022 and learn the subjects in the first and second semesters and are tested in them through school experimental exams and then take the ministerial exams (orientation exam) at the end of the academic year, provided they succeed in school test exams.

2.3.3. Educational Supervisors

They are all educational supervisors who work in the directorates of education in the Balqa governorate in the Hashemite Kingdom of Jordan during the academic year 2021/2022. These directorates include the Directorate of Development and Education of Qasabt Salt, the Directorate of Development and Education of Ain Al-Basha, the Directorate of Development and Education of the Southern Shouneh District, and the Directorate of Development and Education of Deir Alla.

2.3.4. ICDL Course

International Computer Driving License Certificate; It refers to the ability to use computers and related technology efficiently by employing a set of skills that cover levels of initial software use, advanced problem solving, and comprehension and understanding of how computers operate and work./ It refers to the ability to use a computer and related technology efficiently by employing a set of skills that cover levels of initial use of software, solving advanced problems, and comprehending and understanding how computers operate and work.

2.3.5. INTEL Course

It is a certificate given to teachers and educators in the Ministry of Education in Jordan who are enrolled in the INTEL computer course for the purpose of enhancing, developing teaching strategies in education, and for the purpose of promotion. INTEL course is named after the Intel Corporation, which is concerned with information technology (IT).

2.4. Study Limitations

The study was applied and implemented within the following limits and limitations:

2.4.1   The application of the study was in the first semester of the academic year 2021/2022 and on educational supervisors in the directorates of education in the Balqa governorate in the Hashemite Kingdom of Jordan, so the results of this study are determined by the size of the sample and the extent to which it represents the community.

2.4.2   The study was limited to identifying the obstacles facing the teachers who teach the educational courses for the second year of secondary / high school (Tawjihi) and from the point of view of educational supervisors.

2.4.3   The extent of the validity and reliability of the study tools used in collecting the data of the study, and the results of the study were determined by the extent of their credibility and stability in general, which were developed by the researcher in the light of his knowledge of the literature and previous studies.

2.5. Instruments

To collect the study data and answer its questions, a questionnaire was developed in the light of the literature review and previous studies related to the subject of the study, such as the study of Aissan and Al-Ani (2007), and the study of Al-Harash, Mufleh, and Al-Dahoun (2010). The domain of obstacles related to high school students, the domain of obstacles related to the educational content of the high school course, and the domain of obstacles related to the administrative, financial and infrastructure aspects of the school environment.

2.5.1. The Validity of the Study Instruments

In order to find the validity of the tool, it was presented to five arbitrators who are specialists and experienced in curricula and teaching. They were teachers specialized in teaching courses for high school students. They were asked to express an opinion about the paragraphs of the study in terms of the drafting of paragraphs and the appropriateness of the area in which they were placed, where some paragraphs were deleted and added so that the tool in its final form became a paragraph distributed in four areas as follows: The area of obstructions for high school teachers includes (19) paragraphs, the area of obstructions for high school students includes (14) paragraphs, the area of obstructions related to the educational content of the high school course includes (9) paragraphs, and the area of obstructions related to the administrative, financial and infrastructure of the school environment guarantees (13) paragraphs.

2.5.2. The Reliability of the Study Instruments

To test the stability of the study tool, the Facronbach coefficient of internal consistency between the items of the scale and the stability of the half-part was calculated according to the Spearman-Brown equation. The value of the Alfacronbach coefficient among all the items of the scale was (0.826), according to the Spearman-Brown equation (0.799), and these values indicate the stability of the study tool, and Table (2) shows this.

Table (2).Stability Coefficients According to the Spearman-Brown Equation. (n=64)

Domain	Number of Paragraphs	Stability Coefficient
Obstacles related to high school teachers (Tawjihi)	19	0.885

Obstacles related to high school students (Tawjihi)	14	0.889
Obstacles related to the educational content of the high school course (Tawjihi)	9	0.872
Obstacles related to the administrative, financial and infrastructure aspects of the school environment	13	0.874
All items of the scale	55	0.920

2.5.3. Correction of the Study Tool:

The obstacles scale was designed according to a five-point Likert scale (strongly agree, agree, neutral, disagree, and strongly disagree), and to determine the degree of approval of the obstacles for the answers to the items of the scale, the following weights were adopted: 1-2.33 low score, 2.34-3.67 medium score, and 3.68-5.00 high score.

2.6. Study Design and Statistical Analysis

2.6.1. Study Variables

The study included, according to its design, the following (independent and dependent) variables:

First: The independent (classification) variables: 1. Years of experience and has two categories: less than 5 years, 5 years and more, 2. Training courses, and have two categories: ICDL, ICDL& INTEL .

Second: the dependent variable, which is as follows: The responses of the study sample members towards the obstacles to using the e-learning strategy in teaching the second grade secondary / high school courses (Tawjihi).

2.6.2. Statistical Processing

Statistical software was used (SPSS V.21) in the process of data analysis. Appropriate statistical methods were used for the purposes of the study, which were represented in simple methods such as frequencies, percentages, arithmetic averages and standard deviations, and for the purposes of testing differences in the obstacles of using the e-learning strategy in teaching high school courses according to the variables of years of experience and training courses .T-test for independent samples (Independent Samples T test) at the level of significance ($0.05= \alpha$). With regard to testing the stability of the study tool, the Alfacronbach coefficient was used for the internal consistency between the paragraphs of the scale and the stability by the split-half, according to the Spearman-Brown equation (Spearman-Brown).

2.7. Application Procedures

The study was applied and implemented according to the following short procedures:

2.7.1. Reviewing literature and previous studies related to the obstacles to using the e-learning strategy in teaching, developing the study tool "the questionnaire" and finding its validity and reliability.

2.7.2. The study population and selecting the sample members according to the simple random sampling method and applying the tool to the study sample members, educational supervisors in Al-Balqa Governorate.

2.7.3. The statistical data collected for the study sample members were classified into the study variables: The independent variables (classification), which are: 1. Years of experience and has two categories: less than five years, five years and more, 2. Training courses, and have two categories: ICDL, ICDL& INTEL.

2.7.4. The raw statistical data was entered into the computer and the statistical package was performed (SPSS V.21) to find the required descriptive and inferential statistics according to the study design, its variables, and the appropriate statistical treatments.

3. Results

3.1. Results of the First Question:

What are the obstacles to using the e-learning strategy in teaching high school courses (Tawjihi) from the point of view of educational supervisors in Al-Balqa Governorate? To answer the first question, descriptive analysis was used represented by the arithmetic averages, standard deviations, and the degree of approval of the items of the scale at the level of the scale domains first, and then at the level of the items of each domain, , as shown in Table (3).

Table (3). Arithmetic Averages and Standard Deviations of Obstacles to the Use of the E-Learning Strategy in Teaching High School) Courses from the Point of View of Educational Supervisors in Al-Balqa Governorate

Domain	SMA	Standard Deviation	Ranking	Degree of Approval
1. Obstacles related to high school teachers (Tawjihi)	4.06	0.50	4	High
2. Obstacles related to high school students (Tawjihi)	4.07	0.53	3	High
3. Obstacles related to the educational content of the high school course (Tawjihi)	4.15	0.56	2	High
4. Obstacles related to the administrative, financial and infrastructure aspects of the school environment	4.18	0.57	1	High
Total	4.11	0.45	---	High

It is noted from the results shown in Table 3 that the obstacles to using the e-learning strategy in teaching high school courses (Tawjihi) from the point of view of educational supervisors in Al-Balqa governorate were evident to a high degree, as the average answers on the scale as a whole were (4.11) and with a standard deviation of (0.45). At the level of the scale domains, the first order came in the obstacles related to the administrative, financial and infrastructure aspects of the school environment with an arithmetic mean (4.18) and a standard deviation (0.57), and in the second order came the obstacles related to the educational content of the high school course with an arithmetic mean (4.15) and a standard deviation (0.56). Then, in the third order, the obstacles related to high school students came with an arithmetic mean (4.07) and a standard deviation (0.53), while in the last order came the obstacles related to high school teachers with an arithmetic mean (4.06) and a standard deviation (0.50). These results indicate that there are challenges and obstacles to a high degree that stand in the way of teachers and limit the degree of their employment of e-learning and their ability to use the teaching strategy based on it, as educational supervisors see that there is an impact and reflection of obstacles in the four areas and on the field as a whole on the use of e-learning strategy in teaching general secondary courses

because they experience this on the ground in the actual educational environment during the field visits to schools and their follow-up to the process of teachers teaching an educational class (high school / tawjihi) during the school year. In view of the results, the most influential obstacles are the obstacles related to the requirements and equipment necessary for the success of the e-learning strategy and its activation in educational situations. Teaching constitutes a major challenge to the elements of the teaching process, the teacher and the student, the educational content and the school environment. This indicates the poor readiness of schools to a large extent so that their teachers can employ e-learning in teaching high school students general educational courses, and the poor encouragement of some governing bodies for teachers to use e-education and motivate them in its direction, possibly due to the weak ability of the administration to provide the necessary requirements for the use of e-education and to ensure that teachers are able to cover the curriculum for the high school/orientation class within the specified time. These results are consistent with the study of Al-Harash, Mufleh and Al-Dahoun (2010) that the obstacles to using the e-learning strategy were evident to a high degree, but they differed in the arrangement of the domains of these obstacles, where the order of the domains in their study was the following: Obstacles related to teachers, followed by obstacles related to administration, then obstacles related to structure, infrastructure, and school equipment, and finally the obstacles related to students. This is also consistent with Qudah and Muqabala's (2013) study indicated that there are challenges represented by the obstacles of scientific research, obstacles of e-learning techniques, financial and administrative obstacles, professional obstacles, e-learning evaluation obstacles, and e-learning management obstacles, and the obstacles of planning and designing e-learning; Here are the results in order of each field:

1. Obstacles related to the administrative, financial and infrastructure aspects of the school environment

Table (4). Arithmetic Averages and Standard Deviations of Obstacles Related to the Administrative, Financial and Infrastructure Aspects of the School Environment in the Use of the E-Learning Strategy in Teaching High School Courses (Tawjihi)

Paragraph	SMA	Standard Deviation	Ranking	Degree of Approval
1. The weakness of the Internet in the school during the application of the e-learning strategy	4.34	0.70	2	High
2. Weak administrative oversight and follow-up in the extent of teachers' commitment to employing e-learning	4.16	0.76	8	High
3. Lack of human expertise and competencies in the field of e-learning management and use	4.34	0.65	1	High
4. The school administration's belief in the effectiveness and efficiency of face-to-face teaching of academic subjects more than the effectiveness of e-learning in the secondary school class	4.25	0.84	5	High
5. The administration's response to the requests of parents and students in direct face-to-face teaching of subjects in high school	4.16	0.84	9	High
6. Lack of regular maintenance for school computer laboratories	4.00	0.67	12	High
7. The need for technological tools, equipment, communication network in the classroom and the school environment for the use of e-learning	4.19	0.73	7	High

8. The school administration focuses on formalities in the school day rather than assessing quality in the process of teaching high school	3.88	0.90	13	High
9. The school administration's low motivation for teachers and students to use e-learning strategies, which leads to their failure to be creative in using e-learning and teaching methods.	4.06	0.83	11	High
10. The presence of the school in areas that lack a strong communication network	4.25	0.71	6	High
11. Some educational networks and web pages require an advance fee for their use	4.16	0.72	10	High
12. The lack of computer laboratories within the school environment	4.28	0.68	4	High
13. Few computers connected to the Internet	4.31	0.64	3	High
Total	4.18	0.57	---	High

The results in Table 4 show there is a high degree of obstacles related to administrative and financial aspects, infrastructure and school environment in the use of e - learning strategy in the teaching of high school courses (guideline), where the average answers to the total on the scale is (4:18) and standard deviation (0.57) at the level of the domain paragraphs. It is noted that the highest degree of obstacles is in Paragraph No. (3) With an arithmetic mean (4.34) and a standard deviation (0.65) which states "lack of human expertise and competencies in the field of e-learning management and use," and in the second degree came paragraph (1) With an arithmetic mean (4.34) and a standard deviation (0.70), and it states "the weakness of the internet in the school during the application of the e-learning strategy." "The school administration focuses on formalities in the school day rather than evaluating quality in the process of teaching high school." These results are attributed to the recent introduction of e-learning in the Ministry of Education and its schools and its application as a teaching strategy employed in teaching educational materials for the high school grade, which entails a lot of financial burdens necessary to provide the equipment and requirements for e-learning in government schools. In addition, the fact is that the reality of school environments is not at the level it is hoped and aspired to in the use of contemporary e-learning. These schools lack the human and material resources and equipment necessary for teachers to use e-learning in classes, whether in face-to-face teaching in traditional classes or teaching through synchronous or asynchronous virtual classes. The lack of resources, requirements and equipment for e-learning encourages teachers to maintain traditional teaching strategies that require less time and effort compared to the teaching strategies based on e-learning when preparing and applying them with students, especially since the Ministry of Education has worked to introduce e-learning and its various applications to schools, the majority of which have inappropriate infrastructure and are not qualified in terms of buildings, equipment and requirements to receive e-learning and adopt it in the teaching of the secondary school class / Tawjihi. These results are consistent with Murad's study (2014) which indicated that the lack of supporting infrastructure for the employment of information and communication technology in teaching, the lack of computers in classrooms, and the lack of an appropriate classroom environment in computer laboratories are among the most important obstacles that prevent teachers from employing information and communication technology in teaching.

2. Obstacles related to the educational content of the high school course.

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Table (5). Arithmetic Averages and Standard Deviations of the Obstacles Related to the Educational Content in the Use of the E-Learning Strategy in Teaching High School Courses (Tawjihi)

Paragraph	SMA	Standard Deviation	Ranking	Degree of Approval
1. The intensity of the course content	4.09	0.64	6	High
2. The nature and difficulty of the academic content varies according to the academic path, scientific or literary...etc.	4.08	0.51	7	High
3. The need for academic content to be explained in a face-to-face format to ensure students' attention and interest in the subject matter in the educational situation	4.19	0.71	4	High
4. Some subjects require a large number of lessons because they are based on understanding, such as scientific courses	4.22	0.74	3	High
5. The need for effort and time to prepare and design educational content electronically	4.48	0.67	1	High
6. Delayed feedback related to academic content in the educational situation during e-learning	3.97	0.78	8	High
7. Weak interaction between student and teacher and academic content during e-learning	4.19	0.73	5	High
8. Lack of necessary security while using educational websites and fear of penetration	3.88	0.79	9	High
9. The high cost of preparing educational content electronically	4.22	0.73	2	High
Total	4.15	0.56	---	High

It is clear from the results shown in Table 5 that there is a high degree of obstacles related to the educational content in the use of the e-learning strategy in teaching high school (Tawjihi) courses, where the average total responses on the scale were (4.15) and with a standard deviation (0.56), while at the level of paragraphs of the domain. It is noted that the highest degree of obstacles is on Paragraph (5), with an arithmetic mean (4.48) and a standard deviation (0.67). It states "the need for effort and time to prepare and design educational content electronically." In the second degree, Paragraph (9) came in the middle of my account (4.22) and a standard deviation of (0.73) and it states "the high material cost of preparing educational content electronically", while the lowest degrees of practice were on paragraph (8) with an arithmetic mean (3.88) and a standard deviation (0.79) and it states "the lack of the necessary safety while using educational websites and the fear of penetration." This is explained by the fact that there is great importance for the nature of the educational content of the courses in the high school class in the ability of teachers to employ the e-learning strategy in teaching these courses, especially if these courses require understanding, reflection or memorization in various academic disciplines such as scientific, or literary, as there are a lot of study materials with a large quantity of educational content and based on understanding, explanation and accurate detail, and this requires more face-to-face classes, which also leads to adding pressure and effort on teachers, and consequently, they do not have enough time to use the e-learning strategy. In addition, not all teachers have enough time to prepare and design educational content electronically, or they are unqualified and unable to design electronic educational content or the ability to deal with it, and the design of educational content electronically requires material requirements that the financial budget in schools may not provide, leading to the design of electronic educational content. Teachers' reluctance to teach electronically and resort to traditional education is

consistent with Murad's study (2014), which suggests that lack of time due to the momentum of subjects does not provide an opportunity to employ information and communication (ICT) in teaching.

3. Obstacles related to high school students (Tawjihi).

Table (6). Arithmetic Averages and Standard Deviations of the Obstacles Related to Students in Using the E-Learning Strategy in Teaching High School Courses (Tawjihi)

Paragraph	SMA	Standard Deviation	Ranking	Degree of Approval
1. Lack of cooperation between students and teachers in the application of e-learning	3.70	1.05	13	High
2. Students are not convinced of the feasibility of e-learning in a way that leads to their disregard for the educational position based on the e-learning strategy	4.03	0.69	8	High
3. Weakness of students' possession of the necessary skills to deal with and benefit from e-learning	3.59	0.90	14	Medium
4. Weakness of students' English language proficiency, which enables them to deal with various electronic devices and software	3.98	0.72	11	High
5. The large number of weekly classes that students take in a way that leads to a weak commitment to the e-learning implemented by teachers	4.11	0.67	7	High
6. Students' preoccupation with electronic educational sites other than those electronic education sites approved by teachers	4.03	0.73	9	High
7. The control of the student's fear of ministerial exams for the high school class (Tawjihi) in a way that makes him prefer face-to-face teaching	4.17	0.83	6	High
8. The student's preference for specific private tutors for teaching courses based on face-to-face teaching	4.31	0.59	3	High
9. The lack of electronic devices needed in e-learning for students compared to their numbers in the classroom	4.31	0.73	2	High
10. Density of students in one classroom	4.31	0.69	4	High
11. Reflection of the characteristics of the age of the student on his learning	3.98	0.68	10	High
12. The reliance of high school students on private lessons in a way that negatively affects the feelings of the teacher and his professional performance	3.95	0.79	12	High
13. The student's negative view of the effectiveness of e-learning in teaching secondary educational courses in a way that leads to a decrease in their motivation towards it	4.20	0.84	5	High

14. The weak financial ability of a student to secure the technological requirements of e-learning in terms of devices, equipment and the Internet	4.34	0.60	1	High
Total	4.07	0.53	---	High

The results shown in Table (6) show a high degree of student-related obstruction in the use of e-learning strategy in the teaching of secondary (orientation) courses, with an average total response on the scale (4.07) and a standard deviation (0.53). At the level of the paragraphs of the domain, it is noted that the highest degree of obstruction is on paragraph 14 with an average calculation (4.34) and standard deviation (0.60) and provides for "the weakness of the financial capacity of a student to secure the requirements of technological e-learning of equipment and the Internet." In the second degree, Paragraph (9) came in the middle of the scale (4.31), a standard deviation (0.73) and a lack of electronic equipment in e-education for students compared to their numbers in the classroom, while the lowest degree of practice was on Paragraph (3) with an average account (3.59) and a standard deviation (0.90) and provided for "poor student ownership of the skills needed to deal with and benefit from e-learning." "This is due to the fact that students can possess computer skills and technology in learning, but not all students can secure the requirements of electronic technology education from equipment and the internet due to the lack of financial resources at the family level, which leads to the lack of ownership of electronic devices by some students in e-learning. On the other hand, given the ability of teachers to employ the e-learning strategy, it will be noted that they will face difficulties limiting its ability to use or demonstrate effective e-learning. For example, the lack of electronic equipment needed in e-education for students compared to their numbers in the classroom if they are to employ e-learning in traditional and relevant classes. This finding is consistent with the study of Al-Harash, Muflih, and Al-Dahoun (2010), which indicates that the lack of computer laboratories available in schools and, if available, does not exist. It is commensurate with the increasing number of students each school year, as well as the lack of internet service in their homes, which does not provide an opportunity to interact with this type of education. In addition, the results were shown in paragraph (8), which states that "the student prefers specific private teachers to teach courses based on direct interaction," which means that many high school/orientation students still prefer to go to private teachers who teach the majority of the courses of this class in a face-to-face manner based on direct interaction, discussion, detailed explanation of educational content, feedback and immediate response to any question or information more than the attributes of e-learning, which may lack these characteristics for this particular class.

4. Obstacles related to high school teachers (Tawjihi)

Table (7). Arithmetic Averages and Standard Deviations of the Obstacles Related to Teachers in Using the E-Learning Strategy in Teaching High School Courses (Tawjihi)

Paragraph	SMA	Standard Deviation	Ranking	Degree of Approval
1. Weak teachers' possession of the skills necessary to apply e-learning	4.06	0.71	10	High
2. Lack of teachers' skills needed to manage time in carrying out assignments and exercises while employing the e-learning strategy	4.19	0.64	6	High
3. The lack of training courses for high school teachers related to the use of e-learning in education	4.38	0.60	1	High

4. The large number of teaching loads (sessions) for high school teachers that impede the implementation of the e-learning strategy	4.25	0.76	3	High
5. Teachers' satisfaction with traditional face-to-face teaching strategies as they are suitable for large numbers of students in a single classroom	4.28	0.63	2	High
6. The difficulty of teaching and applying all courses via e-learning	4.05	0.88	11	High
7. Lack of sufficient time for teachers to prepare and develop e-learning materials and programs as a result of the administrative and teaching burden required of them	4.22	0.86	5	High
8. Teachers' resistance to change and negative attitudes towards e-learning technologies and applications	4.00	0.71	14	High
9. Weakness of teachers' English language proficiency, which enables them to deal with various electronic devices and software	4.16	0.57	7	High
10. Teachers' lack of confidence in the results of high school students' evaluation during the application of e-learning	4.11	0.72	8	High
11. The need for the necessary time and effort in evaluating students through e-learning techniques	4.03	0.91	12	High
12. The deteriorating economic situation of the teacher and its negative impact on the development of his professional performance	3.94	0.79	15	High
13. The advanced chronological age of the teacher in a way that makes him resist change and do not want to teach students	4.11	1.06	9	High
14. The large number of academic courses in a way that leads the teacher to reduce the duties and electronic exams that students are required to do	4.03	0.73	13	High
15. The short term of the semester available to teachers compared to the amount of educational content of the course	3.80	0.86	17	High
16. The classes of each course of study conflict with the classes of other courses in the computer lab	3.72	0.92	18	High
17. The teacher's psychology is affected by the timing of the lessons in the morning or evening period, in a way that is reflected in his application of e-learning	3.69	1.01	19	High
18. The pressures of the teacher's family life and its reflection on the development of his professional performance	3.89	0.93	16	High
19. The weakness of the teacher's skill in preparing and designing websites and uploading them to the network	4.25	0.62	4	High
Total	4.06	0.50	---	High

It is clear from the results shown in Table 7 that there is a high degree of obstacles related to teachers using the e-learning strategy in teaching high school courses (Tawjihi), where the average total answers on the scale were (4.06) and with a standard deviation (0.50) for the paragraphs level. The field notes that the highest degree of obstacles is on Paragraph (3) with an arithmetic mean (4.38) and a standard deviation (0.60) and it states "the lack of training courses for high school teachers related to the employment of e-learning in education." The second degree was indicated in Paragraph (5) with an arithmetic mean (4.28) and a standard deviation (0.63). It states, "Teachers' satisfaction with the traditional teaching strategies based on face-to-face teaching due to their suitability for large numbers of students in one classroom." This is followed by "the large number of teaching loads (sessions) for high school teachers that impede the application of the e-learning strategy" where the arithmetic average was (4.25). The lowest degree of practice was to paragraph (17) an arithmetic mean (3.69) and a standard deviation (1.01) which states a "psychological impact of teacher schedules of classes in the morning or evening is reflected in the application of e - learning." This explains the importance of the role of teachers in the educational system and in activating the e-learning system in schools. However, the lack of training courses for secondary school teachers related to the employment of e-learning in education makes them refrain from e-learning and prefer face-to-face teaching with the aim of achieving direct interaction between teachers and students and providing feedback and immediate response. This may also be due to the delay in the time of the training courses held and the delay in the exams assigned to them in a way that prevents the teacher from enrolling in a new course without success in the current course, as well as the lack of time for teachers in a way that prevents them from enrolling in the evening training courses. The large number of teaching loads and the overcrowded schedule of teachers' classes make teachers feel short of time to complete and finish teaching high school courses, while they strive to cover the curriculum in the specified period of time before starting the pilot and ministerial exams, which are held for students at the end of the academic year. This result is consistent with the study of Murad (2014), which indicates that teachers' schedules are crowded in school classes, which does not allow them to use information and communication technology in teaching, and is also consistent with the study of Al-Harash, Mufleh and Al-Dahab (2010) which indicates that the large amount of work that falls on the teacher, the high level of classes, the amount of written and preparatory work and shifts and follow-up students, and the lack of training courses specialized in the development of the skills of the e-learning system are situations facing teachers in the application of e-learning.

3.2. Results of the Second Question:

Does the educational supervisors' point of view about the obstacles to using the e-learning strategy in teaching high school (Tawjihi) courses differ according to their years of experience (less than 5 years, from 5 years or more)? To answer the second question, a t-test for independent samples was used, as shown in Table 8:

Table (8). Arithmetic Averages, Standard Deviations, and T-Test Results for Independent Samples to Test the Differences in the Obstacles to Using the E-Learning Strategy in Teaching High School (Tawjihi) Courses from the Point of View of Educational Supervisors According to Years of Experience

Domain	Years of Experience	Number	SMA	Standard Deviation	Calculated (t) value	Degrees of Freedom	Statistical Significance
	Less than 5 years old	14	4.11	0.30	0.378	62	0.707

		N	Mean	SD	t	df	Sig.
Obstacles related to high school teachers (Tawjihi)	5 years or more	50	4.05	0.55			
Obstacles related to high school students (Tawjihi)	Less than 5 years old	14	4.21	0.47	1.113	62	0.270
	5 years or more	50	4.04	0.55			
Obstacles related to the educational content of the high school course (Tawjihi)	Less than 5 years old	14	4.30	0.66	1.187	62	0.240
	5 years or more	50	4.10	0.52			
Obstacles related to the administrative, financial and infrastructure aspects of the school environment	Less than 5 years old	14	4.54	0.45	2.794	62	0.007*
	5 years or more	50	4.08	0.56			
Total	Less than 5 years old	14	4.27	0.25	1.545	62	0.127
	5 years or more	50	4.06	0.48			

* Statistically significant differences at the level of significance (0.05).

It is noticed from the data in Table (8) that there are apparent differences in the degree of obstacles to the use of the e-learning strategy in teaching high school courses due to the years of experience at the level of the four domains, and the total score tends to all favor those with less than five years of experience, and this may be due to the fact that the category of these supervisors is enthusiastic about the process of educational supervision and, consequently, they seek more to encourage the use of contemporary e-learning and seek to help reduce the obstacles and difficulties that teachers may face while using this type of education. The (t) test for independent samples was applied as shown in Table (8) to test the significance of these apparent differences, as the results indicated that there were statistically significant differences at the level of significance (0.05) in the obstacles related to the administrative, financial and infrastructure aspects of the school environment, which amounted to the calculated T value (2.794) and its statistical significance is (0.007) and the differences are in favor of the category less than five years with a mean of (4.54) compared to (4.08) for those with five years or more experience. While the results of the (t) test did not show that there were statistically significant differences at the level of significance (0.05) in the obstacles related to each of the teachers and students, the educational content and the total degree of the obstacles due to the difference in experience, the calculated (t) values amounted to (0.378, 1.113, 1.187, 1.545) and its statistical significance (0.708, 0.270, 0.240, 0.127) respectively. This is explained by the fact that all educational supervisors within the different years of experience see that there is an impact and a reflection of the obstacles in the four fields and on the field as a whole on the use of the e-learning strategy in teaching high school courses, and that they feel and touch it on the ground in the actual educational field during the field visits to schools and their follow-up on the process of teachers teaching an educational class (high school / Tawjihi), which is extremely

important for students and teachers alike, and during their communication with teachers in training courses and workshops organized by the Ministry of Education. In the directorates of education in Al-Balqa governorate there is an urgent need to reduce the impact of these obstacles on the educational process and its important elements represented by the student, the teacher, the educational content and the encouragement to use contemporary technology and its various applications and means in the educational situation in a way that becomes the focus of the educational process, namely, the effective student who seeks meaningful learning and learns within real and realistic situations and not only a student receiving knowledge. In addition, all educational supervisors, during field visits to the various schools, see the nature of the equipment in these schools, their capabilities, and the adequacy of the requirements necessary for the success of the e-learning process, or even encouraging teachers and students to use the e-learning strategy and interact during its application. They are considered to the degree that the category represented by the Ministry of Education, which surveys the situation of schools, teachers and students, takes information on the possibility of using e-learning and the teaching strategy based on it, and provides it to the Directorate of Education, which in turn communicates with the Ministry of Education to take the necessary measures.

3.3. Results of the third Question:

Does the educational supervisors' viewpoint about the obstacles to using the e-learning strategy in teaching high school courses (Tawjihi) differ according to their computer training courses (ICDL, INTEL & ICDL)? To answer the third question, a t-test for independent samples was used, as shown in Table (9):

Table (9). Arithmetic Averages, Standard Deviations, and T-Test Results for Independent Samples to Test the Differences in the Obstacles to Using the E-Learning Strategy in Teaching High School (Tawjihi) Courses from the Point of View of Educational Supervisors According to Training Courses

Domain	Training Courses	Number	SMA	Standard Deviation	Calculated (t) value	Degrees of Freedom	Statistical Significance
Obstacles related to high school teachers (Tawjihi)	ICDL	11	4.00	0.63	0.144	62	0.643
	INTEL & ICDL	53	4.07	0.48			
Obstacles related to high school students (Tawjihi)	ICDL	11	4.16	0.57	0.597	62	0.552
	INTEL & ICDL	53	4.06	0.53			
Obstacles related to the educational content of the high school course (Tawjihi)	ICDL	11	4.16	0.74	0.102	62	0.919
	INTEL & ICDL	53	4.14	0.52			
Obstacles related to the administrative, financial and infrastructure aspects of the	ICDL	11	4.34	0.52	0.982	62	0.330
	INTEL & ICDL	53	4.15	0.58			

school environment							
Total	ICDL	11	4.15	0.42	0.314	62	0.755
	INTEL & ICDL	53	4.10	0.45			

* Statistically significant differences at the level of significance (0.05).

It is noted from the data in Table 9 that there are apparent differences in the degree of obstacles to the use of the e-learning strategy in teaching high school courses due to the training courses at the level of the four domains, and the total score tends in favor of those who obtained a course ICDL only with the exception of the area of obstacles related to teachers. It tends to benefit the recipients of both courses INTEL & ICDL. The (t) test for independent samples was applied as shown in Table (9) to test the significance of these apparent differences, as the results indicated that there were no statistically significant differences at the level of significance (0.05) in the four obstacles and the total degree of the obstacles due to the different training courses. The calculated t-values were (0.144, 0.597, 0.102, 0.982, 3140.) and its statistical significance (0.643, 0.552, 0.919, 0.330, 0.755), respectively. This is explained by the fact that all educational supervisors hold various training courses ICDL or INTEL & ICDL. Together, they see that there is an impact and a reflection of the obstacles in the four fields and on the domain as a whole on the use of the e-learning strategy in teaching high school courses, and that they are more aware and sensible and aware of these obstacles and experience them on the ground in the actual educational field during field visits to teachers in their schools. Likewise, the majority of supervisors strive to limit and mitigate the impact of these obstacles and challenges in educational situations by providing alternatives and possible solutions for both the teacher and the student together, and that all educational supervisors encourage the use of the e-learning strategy, indicating that their opinions were similar about these obstacles, as they all deal with teachers from different specialties and teachers who are located in school environments that are somewhat close in infrastructure, equipment, and financial terms. Also, the absence of statistically significant differences between the educational attendees due to the training courses indicates the modernity of e-learning and the use of teaching strategies based on it at the local level, and that there is an urgent need to modernize and employ it in the educational system and integrate it into the process of teaching and learning high school students and reformulating the roles of both the teacher and the student in the way in which the teaching and learning process takes place in line with the developments of educational thought in the era of globalization and the speed of global knowledge and technological progress.

4. **Recommendations**

In light of the results and conclusions reached in this study, the following recommendations can be made:

4.1. Develop teaching strategies based on e-learning that are suitable for different school environments in terms of e-learning equipment and requirements.

4.2. Giving more importance to e-learning when developing high school curricula and linking them to the computerization of educational curricula.

4.3. Equipping school environments with the requirements of e-learning.

4.4. Providing support from various societal bodies to provide requirements and technologies for e-learning, including computers, electronic display devices, internet communication networks, etc., with the aim of

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promoting and improving e-learning for high school students and their teachers in government schools in particular.

4.5. Holding workshops and training courses for teachers and students on computerizing school curricula, teaching and operating them through the e-learning strategy, on designing and preparing e-learning courses, and on developing communication skills through electronic means.

4.6. Establishing the appropriate study load that allows teachers to apply the e-learning strategy, prepare software and designs for study courses, and rotate them between the teacher and the student, whether synchronously or asynchronously.

4.7. Conducting studies on the effectiveness of the e-learning strategy, its reality and challenges from the point of view of students and teachers within the different levels of study, the lower basic, the higher basic, and the secondary stage, according to different variables such as teaching experience, computer courses, gender, academic qualification (bachelor, master, doctorate) and school type (public, private), class quorum, etc.

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