

Vocational education teachers' usage of the E-learning methods in Jordan

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Abstract

Online learning was mandatory and only available option during COVID-19 outbreak. One of challenging in online learning is vocational Education. The current study aims to analysis the current use of e-learning in vocational education in schools at the south of Jordan. The study design is cross-sectional survey study. The survey includes assessment of teachers' skills, and schools' readiness. The instrument was validating. A total of 118 teachers were participated in the study. There were moderate-high levels of teachers' skills in using online learning in vocational education. The level of teachers' skills was related to the level of education, and years of experience. The main challenges in online vocational education were at the used e-learning systems, and limitations in online facilities. The study provides a set of recommendations to improve Vocational Education. In conclusion, the online learning was suitable in vocational education at the school education levels.

Keywords: e-learning methods; teaching vocational; Vocational teachers; COVID-19; school education

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1. Introduction

Online learning has become a trend for learning and teaching at all levels of education that allows teachers and students to change the way they learn and deliver information to students which is significantly different from the traditional way. Employing technology in the educational process has become an urgent need in all academic subjects, including vocational education due to the circumstances imposed by the Corona pandemic on the world. Therefore, teachers today need to learn information and communication technology and educational means, how to include and employ them as an effective tool in learning and teaching, to meet the needs of students and to achieve learning outcomes.

It is necessary to prepare teachers who are able to employ technology in the teaching and learning process efficiently during the teaching process (Vail Lowery, 2002). Develop the teacher's professional and academic culture, and to bridge the performance gap for him between the way he teaches by face-to-face learning and e-learning, which requires him to deal with computers, programs and websites that enable him to communicate with the students.

The success of e-learning depends on the degree of readiness of the educational sectors with all its components, in addition to the desire of teachers and the extent of their skills and competencies to deal with this type of education. The higher their level of readiness, the more easily the distance learning becomes important at distance learning to facilitate online learning to access the study materials (Starkey et al., 2021).

Vocational education is considered important in preparing the individuals professionally. Every student after his graduation needs to choose his future career goals; starting from the elementary stage until the end of the university stage. Therefore, vocational education sought to provide students with professional knowledge related to their daily lives, to instil awareness and a sense of professionalism in them, and to develop positive attitudes and tendencies towards learning professions (Moodie, 2002).

Educational technologies in e-learning enhance the effectiveness for teaching of vocational learning. It is necessary to use new pedagogical methods that allow cooperation, communication and mobility with technological development in virtual educational environments such as content management systems, interactive multimedia technologies, the use of mobile devices and modern technologies (Paunova-Hubenova & Trichkova-Kashamova, 2020). While e-learning provided the learner with the use of means that simulate reality and transform abstract concepts into tangible ones; And the use of more than one sense in the learning process, where educational materials can be presented by the vocational teacher and explained by sound, image and movement to match the vocational education materials.

Theoretical Framework

The approach to online learning as a form of teacher training has been met with great interest among vocational & educational training (VET) educators and the perception of an individual benefiting from such a training option has been positive. The quality of online learning modules is crucial to accepting e-learning opportunities (Hofmeister & Pilz, 2020).

There are five steps teachers must follow to teach online to move from teaching in the classroom to teaching online, because of the practical and theoretical aspects of vocational education in its efficient teaching as shown by (Oranburg, 2020) which are:

1. To teach the material, you must specify whether it is "synchronous" (live) or "asynchronous" (recorded) by:

- When the teacher has already developed the materials for presentations and teaching activities in the classroom, simultaneous online teaching is similar to teaching in the classroom.
- Simultaneous, remote virtual classes work well for small groups, but with an increase in class size to more than 20 students, choosing to teach simultaneously may need to use modern pedagogical strategies.
- Asynchronous teaching requires skill in video production and editing as well as time and effort, and is best suited for creative teachers and those who teach large subjects frequently.
- The asynchronous setting helps the teacher to reuse it multiple times, and this same setting is easier if the teacher already has some recorded material that they can use.
- Synchronous learning provides more direction and structure to students while asynchronous learning is preferred by busy students and self-directed learners because it allows them to learn on their own schedules.

2. Obtain the necessary hardware and software to create effective online content through:

- Audio: Upgrading the microphone, because good sound quality is necessary to attract videos and communicate in the virtual classroom.
- Image: Have a good webcam and good location if you plan to host virtual classes.
- Programs available to you through your organization's subscriptions.
- Learn about the programs on your computer, especially PowerPoint, which is the easiest tool for effective video recording.
- Explore your class enrolment options. If your school has a green screen or light recording studio.

3. If it is asynchronous, your video content is generated:

- Divide the topic topics into more precise (smaller) units that can fit into 5 to 10 minutes of video.
- Design your PowerPoint slides in a clear and easy way using graphics, images, and a specific number of words per slide.
- You can type a literal text if you are concerned about stumbling or aliasing.

4. Develop your own online learning environment.

- Use the Ministry of Education platform.
- Organize your content first by week, then by lesson.
- Upload your video content and educational materials to a media server, whether that be the media platform licensed by the Ministry of Education or YouTube.

5. Add your attachment to the class.

- Provide opportunities for student feedback.
- Use advertising tools to keep everyone informed.
- Respond to concerns and solve problems quickly.
- Remain calm and carry on.

Related Researches

The study of Smadi & Al-Hashimi showed that the level of teachers' practice of governance principles had a significant role in teachers' commitment to the principle of integrity and moral values, and the teacher's relationship with management was less than that (Shdaifat et al., 2020) showed that the percentage of concentration in practical skills among students is high through observation, and that this percentage is higher among males. Aowad indicated that vocational education teachers have few skills that help them implement lessons due to the obstacles they face, and that they have a future vision for developing the vocational education curriculum (Shdaifat et al., 2020)

The study of (Rabiman et al., 2020) proved that the development of e-learning in the professional field based on the Learning Management System is "very feasible" for its use and the assessment depends on the usability of the LMS, its functions, visual communication, learning design, material contents, in addition to language and communication. This increases the satisfaction and the quality of learning. The teachers in managing online learning are not in line with students' expectations. Students feel that online learning has not provided better experience and productivity in mastering competencies, but can provide them motivation and ease of learning with easy access to resources and they are still hesitant in sustainable use in the future (Syauqi et al., 2020)

Quarantine students have become subject to distraction and this is the most important risk they face, so it is useful for teachers to adapt or develop their skills in distance teaching. There are many teaching strategies for vocational education, such as e-learning as a teaching method and to improve the distance learning environment when schools are closed (Yulia, 2020)

Sameer and colleagues defined it as to acquire practical skills and cognitive concepts related to various professional aspects that serve programs to prepare students to be productive, with a broad base of skills that enable them to adapt to the reality of life and its requirements (Shdaifat et al., 2020)

Purposes of the study

The outbreak of the Corona virus pandemic forced the countries of the world to close schools, and Jordan was one of the first countries in the region to respond to the crisis by imposing a curfew and closing all educational institutions across the Kingdom. In order to sustain learning during the pandemic, the Ministry of Education has resorted to distance learning tools. The vocational education topic is one of the main topics that constitute an important basic base for discovering and developing students' professional tendencies and abilities in the basic education stage.

Therefore, this study explores the use of e-learning by vocational education teachers in teaching vocational education in Jordan. By answering the following questions:

The first question: What are the skills possessed by professional education teachers in using e-learning?

The second question: How ready are schools for the e-learning method for teaching vocational education?

The third question: Are there statistically significant differences at the significance level ($\alpha \leq 0.05$) in the use of the e-learning method due to the gender variable?

2. Methods and Material

2.1. Research Model

The study design is a cross-sectional survey study. The methodology used in this study is based on the descriptive and inferential analytical approach, which includes a field survey to collect data using the study instrument.

2.2 Participants

The study population consisted of vocational education teachers for the year 2020/2021, which amounted to (256) teachers, including (93) male and 163 female teachers, according to the statistics of the education directorates for the year 2020/2021.

Due to the small number of members of the study community, the study population will be its sample. Whereas responses of (127) respondents were obtained during the application period, and a review was conducted for them, where the researcher excluded (9) of them from the statistical analysis process, due to the lack of completeness of the required data, and thus the final study sample consisted of (118) respondents. Table (1) shows the relative distribution of sample characteristics.

The pilot sample was contained 20 male and female teachers, to verify the psychometric properties of the study tool.

Table 1

Distribution of the study sample according to the levels of its variables

variable	Level	Number	Percentage	Total
Gender	Male	47	%39.8	118
	Female	71	%60.2	
Educational qualification	Bachelor	78	%66.1	118
	Postgraduate studies	40	%33.9	
Experience	> 10 years	35	%29.7	118
	< 10 years	83	%70.3	

2.3. Data Collection Tools

A questionnaire was developed to measure the extent to which vocational education teachers use the e-learning method in teaching vocational education in Jordan by referring to the theoretical framework and previous relevant studies. This questionnaire consisted of two parts:

Part One: It includes the following demographic variables: (gender, educational qualification, experience).

Part Two: It included (32) paragraphs distributed to include the use of e-learning by vocational education teachers in teaching vocational education in Jordan, where it was formulated and built. This part consists of two areas, and they are: the skills possessed by vocational education teachers in teaching using e-learning, represented by paragraphs (1-16), and the readiness of schools to teach using e-learning, represented by paragraphs (17-32).

The five-point Likert scale was used to measure the respondents' answers, which calculates the weights of its paragraphs as follows: (strongly agree, representing 5 degrees), (agree, representing 4 degrees), (neutral, representing 3 degrees), and (disagreeing, representing 2 degrees) and (strongly disagree, representing 1 degree). Accordingly, if the arithmetic average value of the paragraphs is greater than (3.68-5), the level of perceptions will be high, but if the value of the arithmetic average ranges between (2.34-3.67), then the level of perceptions is average, and if the arithmetic average is less than (2.33) then the level of perceptions low. Depending on the upper-minimum criterion.

Validity and reliability:

Validity:

The validity of the instrument was verified by displaying the scale to (10) arbitrators from vocational education teachers in Jordanian universities. Their purpose is to express their opinions on the validity of the questionnaire in terms of the extent to which the paragraphs belong to its dimensions and language, and the percentage of agreement (80%) was determined to take into account the opinions and modifications of the arbitrators. The results of the arbitration indicated, according to the percentage of agreement, that no item was deleted and that some minor linguistic modifications were made, which did not affect the meaning and content of the paragraphs.

Reliability:

To verify the reliability of the instrument, the researcher applied the scale to an exploratory sample of (20) male and female teachers from within the study community and from outside the study sample, and Table (3) shows the reliability coefficients calculated in this way.

Table 2

Correlation coefficients between each item of the domain and the total score of the domain to which the item belongs in the extent to which vocational education teachers use the e-learning method in teaching vocational education in Jordan

Item number	Correlation coefficient	Item number	Correlation coefficient
Vocational education teacher's skills		readiness of schools to teach using e-learning	
1	0.370*	17	0.320*
2	0.495*	18	0.426*
3	0.518*	19	0.374*
4	0.552*	20	0.311*
7	0.672*	21	0.308*
6	0.402*	22	0.476*
7	0.321*	23	0.508*
8	0.384*	24	0.365*
9	0.366*	25	0.481*
10	0.334*	26	0.524*
11	0.509*	27	0.643*
12	0.446*	28	0.402*

of the questionnaire, colleagues, friends and acquaintances were contacted to help disseminate the questionnaire to the largest possible number of respondents

2.5. Data Analysis

After the input of the study data on the computer using the statistical package for the social sciences (SPSS.22. v1), the following statistical treatments were performed:

1. Descriptive Statistic Measures were used to describe the characteristics of the study members and answer the study questions, where arithmetic averages and standard deviations were used.
2. Multiple analysis of variance and Scheffe's test for statistically significant variables were used.

3.Results

Results related to answering the first question: What are the skills possessed by vocational education teachers in using e-learning?

To answer this question, the arithmetic averages and standard deviations of the responses of the study sample members to the study instrument as a whole and the domains were extracted, and Table (4) shows the arithmetic averages and standard deviations.

Table 4

Arithmetic averages and standard deviations of the skills items possessed by vocational education teachers in using e-learning

Item No.	Item	Arithmetic averages	standard deviations	order	Level
1	Possess skills in using educational computer to teach vocational education	3.84	0.93	6	High
2	Give the students an opportunity to imagine, guess, and give them enough time to apply what has been learned	3.80	0.98	9	High
3	Training of faculty members in the use of the e-learning system	3.71	1.00	13	High
4	I find it difficult to use the system technically and the complexity of dealing with it	3.88	0.94	4	High
5	Possess the skills to deal with the system operated on in schools to teach students	3.86	0.93	5	High
6	Help students acquire computer skills	3.78	0.99	10	High
7	The financial cost has a role in my lack of practical skills in teaching vocational education	3.90	0.91	3	High
8	I can deal with the electronic programs in the school's e-learning system	3.81	0.96	8	High
9	I have the ability to store scientific materials and present them to students at any time	3.69	0.90	15	High

Item No.	Item	Arithmetic averages	standard deviations	order	Level
10	There are shortcomings in the services provided by the e-learning system in the school	3.64	1.02	16	Average
11	Not enabling faculty members to have the skills to deal with the school's e-learning system	3.83	0.93	7	High
12	Weak computer skills of some faculty members	3.75	0.97	11	High
13	Encourage students to use technology	4.15	0.88	1	High
14	Possess manual skills that help students understand the subject of vocational education	4.00	0.90	2	High
15	Ease of dealing with e-learning in the lab	3.70	1.01	14	High
16	I have skills to train students to use computers in modern practical aspects	3.72	0.92	12	High
16-1	Total average	3.82	0.52	-	High

Table (4) shows the values of the arithmetic averages and standard deviations of the paragraphs of the field of "skills that professional education teachers possess in the use of e-learning", where the highest value of average was for item No. (13) "I encourage students to use technology", where the arithmetic average value reached (4.15) with a standard deviation (0.88). The lowest arithmetic average was for item (10), which states, "There are shortcomings in the services provided by the e-learning system in the school," its arithmetic average was (3.64) with a standard deviation (1.02), and the average for the field as a whole was (3.82) and with a standard deviation of (0.52), with a high degree.

The result showed the fact that the skills possessed by vocational education teachers in the use of e-learning helped to provide more than one method of teaching, as e-learning is a large library in which all books are available, whether they are easy or difficult. It was also found that the implementation of e-learning helps with individual self-learning and cooperative learning as well, and the role of vocational education teachers in the teaching position has changed from providing information and controlling it, to guiding teaching and learning at the same time.

The use of e-learning also helps flexibility in teaching, as the student learns when and how he wants. It develops students' spirit of initiative, dialogue and broad-mindedness, which helps them to exchange opinions and proposals, and develop many research and critical thinking skills, creative and innovative. Vocational education teachers need to develop their skills in the use of e-learning.

The use of e-learning is an important element in the educational process, as it has great importance in various aspects of the teaching and learning process, and it cannot be dispensed of. It also has a major role in facilitating the teaching process, as it brings many concepts and clarifies a lot of information and ideas, the importance of having a skill familiarity with technical knowledge in the educational field has become an urgent necessity. Its importance derives from the fact that it is a necessity imposed by the nature of various educational situations and has the greatest impact on the quality of educational outcomes.

It also works on gaining experience for students, increasing positive participation, modifying behavior, forming new trends and sound concepts, avoiding verbal errors, and consolidating and

deepening the learning process. Results related to answering the second question: How ready are schools for the e-learning method for teaching vocational education?

Table 5

Arithmetic averages and standard deviations of the paragraphs of the extent to which schools are ready for the e-learning method for teaching vocational education

Order	Item	average	standard deviations	Item No.	Level
17	Weakness in school equipment for computers for all students	3.58	1.02	12	Average
18	Technical workshops and workshops in schools are connected to computers	3.46	1.05	15	Average
19	Buildings and workshops do not take into account international standards and standards	3.63	1.01	11	Average
20	Providing 24-hour technical support and maintenance to overcome malfunctions in the e-learning system	3.39	1.06	16	Average
21	The school has a high-quality e-learning system	3.55	1.04	13	Average
22	There are shortcomings in the services provided by the system	3.91	0.91	5	High
23	E-learning system helps to increase the ability to understand the scientific material by making it available all the time	3.74	0.96	9	High
24	Not enabling faculty members to have the skills to deal with the system in the school	3.88	0.95	7	High
25	The school has its own e-learning system	3.96	0.92	3	High
26	The e-learning system helps to discover the contents of the subject and prepare them in advance for the students	3.92	0.94	4	High
27	Ease of dealing with the e-learning system	3.99	0.90	2	High
28	Handicrafts can be implemented through the e-learning system easily	4.18	0.87	1	High
29	Weakness in the internet hinders work	3.90	0.96	6	High
30	There is a specialized computer center in the school to follow up on e-learning	3.79	0.96	8	High
31	The speed of the administration's response to provide what we need from software and computer hardware	3.51	1.04	14	Average

Order	Item	average	standard deviations	Item No.	Level
32	Schools train students to use computers in vocational education	3.71	0.99	10	High
17-32	Total average	3.76	0.55	-	High

Table (5) shows the values of the arithmetic averages and standard deviations of the paragraphs of the field of "the extent of the readiness of schools for the e-learning method for teaching vocational education", where the highest value of the arithmetic average was for item No. (28) "Handwork can be applied through the e-learning system easily", where it reached the arithmetic average value (4.18) with a standard deviation (0.87). The lowest arithmetic average was for item (20) which states "providing technical support and maintenance over (24) hours to overcome malfunctions in the e-learning system", which averaged 3.39) with a standard deviation of (1.06), while the arithmetic average for the field as a whole was (3.76), with a standard deviation of (0.55), with a high degree.

These results are attributed to the fact that schools that adopt face-to-face learning, and did not plan to adopt e-learning, have suddenly switched to an e-learning management system, and this reduces their experiences in this field, and makes this type of education a novelty that needs practice to improve its level.

This result is also because the use of the e-learning method requires the existence of an infrastructure of computers, phones and software that is tested and approved in education. The purchase of special programs for schools to ensure the participation of the largest number of students in e-learning, and because the use of the e-learning method was suddenly imposed on schools because of the Corona pandemic. Vocational education teachers communicate with students within the available capabilities, which are weak and not accounted for. In addition, e-learning requires concerted government and private efforts, and schools have faced government decisions like other educational institutions without providing support for the continuation of the education process. In addition, vocational education teachers have not received sufficient training to lead the e-learning process in crises.

The use of the e-learning method in the educational process represents a comprehensive transformation in the concepts, theories, methods, practices, structures and legislation on which the distance learning process is based on. It is not just a slogan to be raised or an ambition that can be achieved through a ready recipe or imported experience, but rather it is a complex process and an integrated system of human, technical, informational, financial, legislative, environmental and other components.

Therefore, many and integrated requirements must be provided to bring out the concept of using the e-learning method in the educational process into practical reality in schools. The most important of these requirements are:

1. Social awareness of the culture of using the e-learning method in the educational process and its requirements in schools: Given that, the shift towards the use of the e-learning method in the educational process is an integrated philosophy of values, goals, means and integrated systems. Translating it into practical reality requires efforts and many requirements, foremost of which is the awareness of those in charge of this schools with the nature of this transformation and the psychological, behavioural, financial preparedness and other requirements to adapt to it.

2. Developing education and training systems in line with the new transformation: The use of the e-learning method in the educational process requires radical changes in the quality of human elements appropriate to it. This means the need to reconsider education and training systems to keep up with the requirements of the new transformation, including plans, programs, methods and educational and training resources at all levels.

3. Providing appropriate technology and keeping abreast of its developments: that is, providing devices, equipment, software, methods and sources of appropriate knowledge in all institutions and making them available for individual and institutional use on the widest possible scale. There are requirements to build the use of the e-learning method in the educational process, technical, organizational, administrative, legal and human, but we focus here on the two most important requirements that can be summarized as follows:

- Solve existing problems in real life before moving to the electronic environment.
- Providing the appropriate infrastructure and strategies to ensure the schools, and this requires the establishment of an interactive medium that activates communication between schools, between them and students, and between them and their providers.

Results related to the third question which state: Are there statistically significant differences at the significance level ($\alpha \leq 0.05$) in the use of the e-learning method due to the variable gender, number of years of experience, and educational qualification from the point of view of vocational education teachers?

To answer the question, the arithmetic average and standard deviations of the levels of the study variables were calculated on each field, and Table (6) shows the results of that.

Table 6

Arithmetic averages and standard deviations of the level of using the e-learning method due to the variable gender, number of years of experience, and educational qualification from the point of view of vocational education teachers

variable	Level		Skills possessed by professional education teachers	Schools' readiness to teach in an e-learning manner	Total
gender	Male	average	3.67	3.52	3.61
		deviation	0.55	0.69	0.40
	Female	average	4.02	3.93	3.97
		deviation	0.45	0.64	0.39
educational qualification	Bachelor	average	3.73	3.72	3.73
		deviation	0.46	0.63	0.39
	Postgraduate	average	4.18	3.87	4.02
		deviation	0.50	0.77	0.42
experience	Less than 10 years	average	3.58	3.46	3.48
		deviation	0.59	0.62	0.39
	10 years and more	average	4.01	3.92	3.97
		deviation	0.42	0.67	0.40

Table 7

Results of the multiple variance analysis of the differences in the level of using the e-learning method from the point of view of vocational education teachers according to demographic variables (gender, educational qualification and experience)

Variable	Wilks' Lambda's value	Hotelling's Trace's value	(F) corresponding value	significance level
gender	-	0.108	3.89	0.011
educational qualification	-	0.102	3.65	0.015
experience	-	0.139	4.99	0.003
educational qualification × gender	-	0.074	1.031	0.382
experience × gender	-	0.061	0.758	0.603
× educational qualification	-	0.058	0.818	0.557
experience	-	0.053	1.870	0.139
educational qualification × gender	-			
experience ×	-			

Table 8

Results of the triple variance analysis of differences between gender, educational qualification and experience at the level of using the e-learning method from the point of view of vocational education teachers

Variation source	independent variable	sum of squares	degrees of freedom	mean squares	(F) value	significance level
gender	Skills possessed by professional education teachers	0.554	1	0.554	2.742	0.100
	Schools readiness to teach in an e-learning manner	1.885	1	1.885	*6.477	0.001
	Total	0.694	1	0.694	*6.666	0.011
educational qualification	Skills possessed by professional education teachers	2.508	1	2.508	*12.423	0.001
	Schools readiness to teach in an e-learning manner	0.013	1	0.013	0.030	0.863
	Total	0.519	1	0.519	*4.983	0.028
experience	Skills possessed by professional education teachers	1.385	1	1.385	*6.861	0.010

	Schools readiness to teach in an e-learning manner	1.976	1	1.976	*4.693	0.032
	Total	2.732	1	2.732	*8.266	0.000
Error	Skills possessed by professional education teachers	23.018	114	0.202		
	Schools readiness to teach in an e-learning manner	48.005	114	0.421		
	Total	11.874	114	0.104		
Total	Skills possessed by professional education teachers	31.197	117			
	Schools' readiness to teach in an e-learning manner	54.700	117			
	Total	19.374	117			

It is evident from Table (8) that:

1. There are statistically significant differences for the domains (readiness of schools to teach by e-learning, and the total degree) due to gender, where the value of the statistic (P) reached (6.477, 6.666). Therefore, there are statistically significant differences at the level ($\alpha \leq 0.05$) in the field of (school readiness to teach by e-learning, and the total score) according to the gender variable. Table (6) shows that the differences are in favour of females, as the average response of males to the field of school readiness to teach using e-learning was (3.52) and the average response of females was (3.93). As for the overall domain, the average response of males was (3.61) and the average response of females was (3.97). It is also noted that there are no statistically significant differences for the domain (the skills possessed by professional education teachers in teaching using e-learning), where the statistical value (F) reached (2.742), which are insignificant values at the level of statistical significance at the level (0.05). So there are no differences statistically significant at the level ($\alpha \leq 0.05$) in the domains (the skills possessed by vocational education teachers in teaching using e-learning) from the point of view of vocational education teachers according to the gender variable.

2. There are statistically significant differences for the domains (the skills possessed by vocational education teachers in teaching using e-learning, and the total score) due to the educational qualification, where the statistical value (F) reached (12,423, 4.983). Table (6) shows that the differences were in favor of graduate studies, where the average response of bachelor's degree holders in the field of skills possessed by vocational education teachers in teaching using e-learning was (3.67) and the average response of graduate studies holders was (4.18). As for the overall field, the average response of the bachelor's degree holders was (3.73) and the average response of the graduate studies holders was (4.02).

3. It is also noted that there are no statistically significant differences for the field (readiness of schools to teach by e-learning), where the statistical value (F) reached (0.030), which are insignificant values at the level of statistical significance at the level (0.05).

4. There are statistically significant differences for the field (the skills possessed by vocational education teachers in teaching using e-education, the readiness of schools to teach in an electronic

manner, and the total degree), where the statistical value (F) reached (6.861, 4.693, 8.266). They are significant values at the level of significance (0.05).

Differences in responses according to the study variables

According to the gender variable. Table (6) shows that the differences are in favor of females, as the average response of males to the field of school readiness to teach using e-learning was (3.52) and the average response of females was (3.93). As for the overall domain, the average response of males was (3.61) and the average response of females was (3.97). It is also noted that there are no statistically significant differences for the domain (the skills possessed by professional education teachers in teaching using e-learning), where the statistical value (F) reached (2.742), which are insignificant values at the level of statistical significance at the level (0.05).

With regard to the skills domain possessed by vocational education teachers, Table (6) shows that the differences are in favour of the average answers of the study members with experience (10 years or more). Where the average answers of the study members with experience (10 years or more) were (4.01), while the average answers of the study members with experience (less than 10 years) were (3.58).

In the field of readiness of schools to teach using e-learning Table (8) shows that the differences are in favour of the average answers of the study members with experience (10 years or more). Where the average answers of the study members with experience (10 years or more) reached (3.92), while the average answers of the study members with experience (less than 10 years) was (3.46).

With regard to the domain of the total score, Table (6) shows that the differences are in favor of the average answers of the study members with experience (10 years or more). Where the average answers of the study members with experience (10 years or more) was (3.97), while the average answers of the study members with experience (Less than 10 years) was (3.48).

4. Discussion

This is the first study explained the usage of e-learning in vocational training in Jordan. The study found moderate-high levels of teachers' skills in using online learning in vocational education. These promising results emphasize the role of e-learning in the comprehensive education process at school-level. The full mode of distance learning is still challenging at school and university levels (Etoom et al., 2022)

The study found that the teachers with higher level of experience exhibited better perspective toward the using of e-learning. This may be due to the fact that at the beginning of their academic career, vocational education teachers seek to develop themselves academically, which requires them to have knowledge and access to databases and information available in schools, scientific institutions and websites. Moreover, vocational education teachers are at the beginning of their appointment, therefore are active in their job performance until they prove their presence, and often need to involve them in training programs to enhance their ability to academic achievement by employing the e-learning management system and keeping them informed of everything new in their academic work.

The female teachers also showed better perspective toward the using of e-learning. This can be explained by the fact that females often spend most of their time at home, and therefore find enough time to develop electronic content through the system and follow up on students' learning from a distance, where females mostly seek to prove themselves professionally. In addition to the fact that the interests and activities of males are usually multiple compared to females. This may also be attributed

to the psychological nature of females, as they are more disciplined than males in attending lectures and training workshops and more committed in implementing laws. This may also be due to social factors and attention and more concern for job stability and avoidance as much as possible from work conflicts.

The study has several limitations. The population was based on one school, and the cross-sectional design. Further studies with larger sample size and from more comprehensive geographic region are required to analyse better the e-learning experience in vocational education

5. Conclusion

The online learning was suitable in vocational education at the school education levels. The gender and years of experience may have an impact on e-learning perspective in school teachers. Further studies with larger sample size and from more comprehensive geographic region are required to analyse better the e-learning experience in vocational education

6. Recommendations

Based on the previous conclusions, and to complement the requirements of the study for benefiting from it, it presents a number of recommendations, which are:

1- The necessity of providing appropriate techniques for vocational education teachers to use e-learning methods in teaching vocational education through the following mechanisms:

-Holding training courses for teachers of vocational education to understand this concept and the possibility of coexisting with it at intervals until it is applied in a planned manner in public and private schools.

-Presenting awards to outstanding teachers of vocational education in public and private schools, praising their efforts, and encouraging them to make more efforts and provide the necessary innovations, which will be reflected in the development and effectiveness of schools.

- Reconsidering the system of incentives, rewards and wages, organizing them and awarding them fairly because of their significant impact on this concept.

2- Emphasizing the need for public and private schools to pay attention to the introduction of e-learning, and to spread e-culture among students to achieve the greatest degree of interaction with this type of education.

3- Providing an appropriate educational structure for the application of e-learning in public and private schools and removing all human, material and technical obstacles that prevent its spread in the educational system in various stages and fields.

4- Public and private schools should conduct more studies and research to find out the effectiveness of e-learning in the presence of harsh conditions and hold conferences and seminars for the development and advancement of e-learning.

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