Research Article

The Role Of E-Learning Platforms In The Professional Development Of Teachers In Light Of The Data Of The Digital Age From Their Perspective

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ARTICLE INFO	ABSTRACT
	This study aimed to examine the role of e-learning platforms in the professional development of teachers in light of the digital age data from their point of view. Also, to conclude, a number of recommendations regarding the activation of e-learning platforms for the professional development of teachers from their point of view. To achieve the aim of the study, the descriptive and analytical approach was used. The study sample consisted of (400) male and female teachers at a rate of 5% of the study population. were selected by the stratified random method from government schools affiliated to the Education Directorates in Karak Governorate. To achieve the objectives of the study, the two researchers constructed a 21-item questionnaire. The results showed the following: The estimates of the study sample individuals on the role of e-learning platforms in the e-professional development of teachers in light of the data of the digital age were moderate. Also, it showed statistically significant differences at the level of ($\alpha \leq 0.05$) due to a variable impact (scientific qualification) on the teachers 'estimates to activate the use of e-learning platforms in e-professional development. There are no statistically significant differences at ($\alpha \leq 0.05$) due to a variable impact (years of experience) on teachers' estimates to activate the use of e-learning platforms in e-professional development. In light of the results, the study recommended the necessity to start work on taking the necessary measures to gradually shift from traditional training to electronic training, through a transitional period in which integrated training that combines traditional training and electronic training is adopted in preparation for the transition to a college for e-training for teachers. More qualitative studies are conducted on electronic professional development programs for teachers, their effectiveness in developing teachers professionally, and how to make the most of e-learning platforms in light of the digital age.

Keywords: E-Learning platforms, e-professional development, digital age. |

Introduction

Professional development for the teacher is one of the fundamentals of developing and advancing the educational process to be able to achieve the goals of education. Also, to meet the needs of society imposed by the challenges of the era of globalization, the technological and cognitive revolution, information technology, and the emergence of new educational formats that rely on e-learning and virtual learning environments. Therefore, it is necessary to pay attention to the professional development of teachers to be able to deal with these challenges efficiently and competently.

The term professional development is defined as defined by Nasr (2004): It is an organized and deliberate process of building new pedagogical, administrative and personal skills that teachers need to effectively carry out their daily responsibilities, or repairing the ones they have by renewing or developing them, or filling the deficit in them for the ultimate purpose of improving teachers' effectiveness. Thus, increasing the quantitative and qualitative achievement of teachers. In addition to achieving integrated development in the teacher's personality from the scientific, cultural and social aspects related to his school life. Thus, increasing

the efficiency and qualifications to carry out his duty to the fullest extent. In another definition by Ali (2011, p. 105), it is the continuous development of the teacher's academic and performance competencies with the aim of increasing the effectiveness of the educational learning process, and thus achieving comprehensive and integrated growth for the learner. The professional growth of the teacher during his preparation is achieved theoretically through specific academic courses, and practically through practical or field education programs, and in-service training programs. The digital revolution has helped in the emergence of many modern educational trends in the field of teacher preparation and in-service training as a direct result of the interaction of teacher preparation and training institutions with contemporary changes. In view of the explosion of knowledge, the development of communication technologies, the entry into the era of information technology, or the so-called digital age, and the subsequent change in learning environments, it has become necessary to pay attention to the professional development of teachers. To keep pace with these changes and knowing how to deal with them, will help prepare students to understand this digital age, engage in it, and acquire skills to deal with it (Younis, 2016).

Al-Gharib, (2009: 322) pointed out the importance of electronic professional development as a modern trend in in-service teacher training. He called for starting to implement educational projects related to the use of these technological innovations, such as electronic software, in achieving electronic development that keeps pace with the developments and technologies of the times. Many studies have also appeared that emphasized the importance of electronic professional development for teachers, such as the study of (Sultan, 2005; Mantyla, 2006, Gebara, 2010, Wahba, 2011, and Abdel Muti and Zare', 2012). These studies have unanimously agreed on the effectiveness of electronic training programs in the professional development of teachers in general. It also demonstrated the effectiveness of (electronic course management systems) in managing professional development programs and the great advantages it has in this field. The use of e-learning in the professional development of teachers contributes significantly to the effectiveness of online professional development programs because of the various advantages it provides. It demonstrated the requirements for electronic professional development. It also considered good planning in light of teachers' perceptions and needs as one of the most important requirements for effective electronic professional development.

There is no doubt that the development that occurred in the means of communication with the emergence of the digital revolution at the end of the 1990s and the beginning of the 2000s had a clear impact in the gradual shift from traditional life activities to digital activities. Especially with the increased opportunities to benefit from the capabilities of the international information network and the emergence of the need for it at the present time due to the coronavirus pandemic. Among the modern e-learning platforms such as: (Microsoft Teams, Zoom platform, and Edraak platform). Therefore, it was necessary to pay attention to the professional development of teachers in line with the data of the digital age and its implications for education. Also, to qualify them in a way that enables them to be able to adapt and interact with the new data of the digital age. To be equipped with the experience, knowledge and skills that will help them face the current and future challenges associated with the teaching profession. It is reflected in the outcomes of the entire educational process, represented by students' performance.

The philosophy of electronic professional development for teachers is based on providing training to every teacher who desires it. As well as interest in employing currently available information and communications technology. Such as the Internet and various hypermedia, in providing training opportunities for all teachers. Or those who wish to complete the training, regardless of age, place of residence, or economic circumstances. Hence, e-training has an effective role in achieving the goals of professional development for teachers in the digital age. E-training is training that takes place through the use of the Internet as a medium (environment) for training, through which interaction takes place between the trainer and the trainees. It relies on computerized training programs. It can also be considered a training process that relies on local Internet networks and the World Wide Web. To display and present electronic portfolios or interact with trainees, whether synchronously or asynchronously, led by a trainer or without a trainer, through self-training or through a combination of all of that.

Hence, this study aimed to determine the role of e-learning platforms in developing teachers professionally in the era of the digital revolution from their point of view.

Study Problem

The use of new technology in education necessitated the existence of new roles for teachers, and the development of new educational methods to prepare and qualify teachers. Therefore, the need for professional development for teachers is constantly present. This is in order for the teacher to maintain a renewed level of information and skills related to his profession and specialization. To keep pace with the requirements of education in the era of cognitive and technological explosion, the spread of communications systems, and the expansion of the use of the Internet. It is not acceptable for teacher professional development to remain immune to the influences of the digital age. The success of integrating ICT into the classroom depends on the ability of teachers to build an environment for learning through non-traditional means. Integrating new technology with new educational and cultural methods. Also, socially active classrooms should be developed that encourage interactive style and active learning for students.

Hence, the problem of the study was launched to determine the effectiveness and role of modern e-learning platforms represented by (Microsoft Teams, Zoom, and the Edraak platform) in the electronic professional development of teachers in light of the data of the digital age.

Therefore, the problem of the study is determined by the following main question:

- What is the role of e-learning platforms in the electronic professional development of teachers in light of the data of the digital age from their perspective?

The following questions arise from it:

1- What is the role of e-learning platforms in the electronic professional development of teachers in light of the data of the digital age from their perspective?

2- Are there statistically significant differences at the significance level ($\alpha \leq 0.05$) in activating the use of e-learning platforms in the electronic professional development of teachers due to the variables of experience and academic qualification?

Study Objectives

The current study aimed to:

1- Identify the role of e-learning platforms in the electronic professional development of teachers in light of the digital age data from their perspective.

2- Determine the impact of using e-learning platforms on the electronic professional development of teachers in light of the variables (experience and academic qualification).

3- Conclude a number of recommendations and suggestions regarding activating e-learning platforms for the professional development of teachers from their perspective.

Study Terminology:

- **E-Learning Platforms:** "An integrated set of interactive online services that provide teachers, learners, parents, and other education participants with information, tools, and resources to support and enhance education delivery and management" (Homanova & Prextova, 2017, 16).

- **Electronic professional development:** It is a system based on electronic training that relies on communications and information technology in the activities required for the professional development process to include e-learning and e-training. It is not limited to sending the scientific material to the beneficiaries, but goes beyond that to include all steps and procedures, including management, training, and follow-up of the training process (Wahba, 2011: 249).

- The digital age: is the ability to transform information, knowledge, data, shapes, images, and everything related to that from the traditional image to a digital one. It is transferred through the Internet to electronic technology such as the phone, computer, and television, as well as storing and distributing this digital information. (Khalil, 2017).

Previous studies

Many previous studies have addressed the issue of electronic professional development for teachers in the era of the digital revolution, including Al-Yami's study, which sought to conclude digital teaching skills in the twenty-first century and to identify the reality of female teachers' possession of digital teaching skills. It also sought to determine the degree of training needs of female teachers in digital teaching skills from their point of view. In addition to the point of view of school leaders because of their general supervision of teachers and the existence of periodic performance reports. In addition to designing a proposed training program to develop digital teaching skills for female teachers in public education institutions. The study used the descriptive analytical method. To achieve the objectives of the study, a questionnaire was developed consisting of (46) items distributed over (5) areas. It was applied to a random sample of (476) school leaders and (184) teachers. The study concluded with a set of results, the most prominent of which was a proposal for a training program to develop digital teaching skills for female teachers. In light of this, the study recommended the need to pay attention to identifying teachers' training needs in light of the digital revolution. Also, more qualitative studies should be conducted on the reality of training programs for employees of the educational sector and the effectiveness of those programs.

Abdel Moati and Ahmed Zare (2012) also conducted a study that aimed to develop a proposed vision for activating the role of electronic training in achieving professional development for social studies teachers. A proposed scenario was presented for procedures for using e-training to achieve professional development for social studies teachers. The study used the descriptive analytical method. A questionnaire was applied to identify the role of electronic training in achieving the professional development of social studies teachers. The study reached some results that confirmed that e-training has an effective role in achieving the professional development of social studies teachers in the field of self-development, the field of professional and educational growth, the academic field, and the technological field. The study recommended the necessity of employing information and communications technology in the field of professional training for teachers.

Al-Daoud (2016) conducted a study aimed at identifying the requirements for applying MOOCs platforms in educational teaching from the point of view of the male and female heads of educational training departments in the education departments in the Riyadh region. This is done by identifying the degree of application, the degree of availability of administrative, technical and human requirements, and the degree of obstacles to application. The researcher used the descriptive method in its survey style. The study population was the heads of educational training departments in the education departments in the Riyadh region, who numbered (24) heads. The researcher used the questionnaire instrument. The results showed that the degree of application of MOOCs platforms in educational training was average (2.15) and belonged to the (low) category. The second axis, the degree of availability of administrative requirements for implementing MOOCs platforms in educational training, received an arithmetic average of (2.23) and belongs to the (low) category. The third axis: The degree of availability of technical requirements for applying MOOCs platforms in educational training received a mean of (2.80) and belongs to the (medium) category. The fourth axis: The degree of availability of human requirements for applying MOOCs platforms in educational training, received an arithmetic average of (2.23) and belongs to the (low) category. As for the fifth axis, the degree of obstacles to applying MOOCs platforms in educational training, it received an arithmetic average of (381) and belongs to the (high) category.

Al-Hussein (2017) conducted a study that aimed to determine the requirements for using electronic training in training secondary school teachers, which must be available in: (training programs, trainers, trainees (teachers)/and the training environment). To identify the degree of importance of electronic training requirements in training secondary school teachers during service from the point of view of specialists. The study followed the descriptive analytical approach. The researcher used two questionnaires to collect data. One to determine the requirements for using e-training to train female teachers. The other to identify teachers' attitudes towards e-training. The study population represents specialists from faculty members and their equivalents, including lecturers, teaching assistants, specialists in colleges of education, and educational supervisors. The study sample of specialists, including faculty members and educational supervisors, was (82) specialists. The study sample of female teachers was (611) female teachers. The most important results of the study were that all the requirements necessary to be met in planning, implementing and evaluating training programs for using electronic training in training secondary school teachers contained in the instrument of this study are considered "very important" requirements from the point of view of specialists. Also, all the requirements necessary for trainees to use electronic training in training secondary school teachers contained in the instrument of this study are considered "very important" requirements from the specialists' point of view.

Comment on previous studies

Through the researchers' review of previous studies on the subject of the study, it was noted that there are multiple topics, different goals, and a variety of instruments depending on the differences in the aspects they addressed. The two researchers benefited from these studies, as previous studies had helped the researcher know the appropriate methods for his current study and the mechanism for dealing with the data collected. Previous studies have enriched the conceptual framework by revealing some important references related to the subject of the study. The two researchers also benefited from the results and recommendations of previous studies, as this study came as an addition to previous efforts. It benefited from previous studies in determining the most appropriate instrument for collecting data for its study and how to design and process it.

Study methodology

Due to the nature of the objectives of this study, the descriptive and analytical approach was mainly adopted. To achieve the purpose of the study, analytical field research was relied upon to collect data using the study instrument that was designed to answer the study questions.

Study population and sample

The study population consisted of all teachers in government schools affiliated with the Jordanian Ministry of Education in Karak Governorate, who numbered (7,192) male and female teachers, according to the statistics of the Ministry of Education for the year 2018/2019 AD. The study sample consisted of (400) male and female teachers, representing 5% of the study population due to the large size of the study population. They were selected by a stratified random method from government schools affiliated with the directorates of education in Karak Governorate. Table No. (1) shows the frequencies and percentages of the study sample members according to the study variables.

Table (1) Frequencies and percentages of study sample members according to study variables

Variables	Category	.No	%
Qualification	Bachelor's degree + diploma	256	74%
	Postgraduate	90	26%
Experience	years and under 5	72	20.8%

	years 10-6	54	15.6%
	years and more 10	220	63.6%
Total		346	100%

Study instrument

To achieve the study's goal, the two researchers built a questionnaire to determine the role of e-learning platforms in the electronic professional development of teachers in light of the digital age data from their perspective. The questionnaire included an introduction to the questionnaire for male and female teachers, and asked them to answer its items accurately and objectively. It also included 30 items distributed into three areas, each area having ten items.

Appearance validity of the instrument

The implications of face validity were verified using the veracity of the arbitrators by distributing the questionnaire in its initial form to (11) experienced arbitrators, specialists from the professors of the University of Jordan, the University of Mutah and a number of experts, and specialists in the Ministry of Education in the field of educational technology and educational supervisors. The arbitrators read the items of the instrument and expressed their comments in terms of: the soundness of the linguistic formulation of the items, the suitability of the items for the purpose of the study, the extent to which items belong to their fields, suggesting appropriate items, and deleting inappropriate items. The study instrument was modified in light of the arbitrators' suggestions until the instrument took its final form.

The internal construct validity of the instrument

The validity of the questionnaire was also verified using the validity of internal consistency by calculating the correlation between the score of the item and the score on the field to which the item belongs on an exploratory sample of (30) male and female teachers. They were randomly selected from within the community and were not included in the study sample. The reliability coefficient for the study instrument was calculated using the Cronbach Alpha method, reaching a value of (0.96), which is an appropriate value for conducting the study.

Study procedures

After preparing and implementing the study instrument and ensuring its validity and stability, the two researchers implemented the study procedures as follows:
1- Obtaining official approvals from the concerned authorities, which are the Ministry of Education/Directorates of Education in Karak Governorate.
2- Selecting the study sample, distributing and collecting the study instrument.
3- Collect data, analyze it, and draw conclusions using the appropriate statistical analysis program.
4- Coming up with a number of recommendations in light of the study results.

Statistical treatments

Statistics software (SPSS) was used to perform appropriate statistical operations, which include:
- Two-way ANOVA.
- Extracting arithmetic averages and standard deviations for each field of study, and for each of its items.
- Cronbach alpha equation to verify the internal consistency of the questionnaire instrument.
- Scheffé's test for post hoc comparisons for the direction of differences.

Results and Discussion

Results related to the first question: What is the role of e-learning platforms in the electronic professional development of teachers in light of the digital age data from their perspective?
To answer the question, arithmetic means and standard deviations were calculated for the estimates of the study sample members about the role of e-learning platforms in the electronic professional development of teachers in light of the digital age data. Below are the results.

Table (2) Arithmetic means and standard deviations of the study sample members' estimates about the role of e-learning platforms in the electronic professional development of teachers in light of the digital age data, arranged in descending order.

No.	Item	AM	SD	Rank	estimate's degree
20	The lack of necessary infrastructure prevents the activation of e-learning platforms for the professional development of teachers.	4.03	1.05	1	high
21	Institutional barriers to accessing and making the best use of e-learning platforms.	3.87	1.00	2	high

19	Teachers' lack of knowledge of digital skills prevents them from achieving the required benefit from e-learning platforms.	3.68	1.17	3	high
14	E-learning platforms provide the opportunity for teachers to make the best possible use of the available Internet.	3.41	1.17	4	average
18	E-learning platforms help teachers employ advanced technological technologies in the educational process.	3.39	1.12	5	average
5	E-learning platforms provide teachers with self-learning skills.	3.38	1.17	6	average
13	E-learning platforms give teachers the ability to pick and choose between information alternatives available on the Internet.	3.37	1.10	7	average
4	E-learning platforms provide an opportunity for teachers to participate positively in various electronic activities in the digital age.	3.34	1.11	8	average
16	E-learning platforms increase teachers' ability to realize the importance of time and invest it appropriately within the classroom environment.	3.34	1.17	8	average
17	E-learning platforms increase teachers' awareness of the importance of positive electronic communication and interaction between the teacher, students, and parents.	3.29	1.18	9	average
9	E-learning platforms increase teachers' awareness of modern professional problems of the teaching profession.	3.21	1.20	10	average
7	E-learning platforms motivate teachers to participate in planning and decision-making for training themselves.	3.16	1.19	11	average
12	E-learning platforms increase teachers' ability to identify society's future needs from the outcomes of accelerating science and technology technologies.	3.16	1.14	11	average
6	E-learning platforms help teachers control the training methods through which they learn.	3.10	1.12	12	average
11	E-learning platforms increase teachers' ability to use diverse and modern teaching strategies that suit the nature of the digital age.	3.09	1.19	13	average
15	E-learning platforms give teachers the ability to use various methods to measure and evaluate educational performance electronically.	3.09	1.24	13	average
3	E-learning platforms encourage teachers to take responsibility for training by evaluating progress and success in achieving training objectives	3.08	1.12	14	average
8	E-learning platforms offer teachers synchronous and asynchronous interaction as tools for interaction.	3.03	1.11	15	average
10	E-learning platforms increase teachers' ability to think creatively.	2.98	1.22	16	average
2	E-learning platforms provide a safe environment for teachers that makes them feel reassured and comfortable while participating in e-training.	2.92	1.21	17	average
1	E-learning platforms avoid teachers feeling shy when asking their questions and expressing their opinions	2.72	1.19	18	average
Overall arithmetic average		**3.27**	**0.84**		average

It is clear from Table (2) that the estimates of the study sample members about the role of e-learning platforms in the electronic professional development of teachers in light of the data of the digital age were average, with an arithmetic mean of (3.27) and a standard deviation of (0.84). The arithmetic mean for all items ranged between (4.03-2.72). Paragraph No. (20), which reads (The lack of necessary infrastructure prevents the activation of e-learning platforms for the professional development of teachers) came in first place, with a high rating, with a mean of (4.03) and a standard deviation of (1.05). This result may be due to the lack of seriousness in the electronic training phase for teachers in our educational institutions. Therefore, we find a weakness in the preparation by officials. Also, the lack of availability of infrastructure among the requirements for electronic training for all teachers. As there is a weakness in the Internet and their lack of knowledge of the latest technologies in the field of electronic training.

While Paragraph No. (1), which reads (E-learning platforms, teachers should avoid feeling shy when asking their questions and expressing their opinions) came in last place, with an average rating, with an arithmetic

mean of (2.72) and a standard deviation of (1.19). This result indicates that training through e-learning platforms provides a safe environment for teachers and makes them feel reassured and comfortable while participating in e-training together. So that the teacher deals with a type of training that achieves security and ease in obtaining information. Also, trainees' information and opinions are treated confidentially, allowing others to freely share their opinions.

Results related to the second question: Are there statistically significant differences at the level of significance (α ≤ 0.05) in teachers' estimates of activating the use of e-learning platforms in electronic professional development due to the variables (academic qualification and years of experience)?

To answer this question, a two-way ANOVA was used for teachers' estimates of the activation of the use of e-learning platforms in electronic professional development due to the variables (academic qualification and years of experience). Table (3) shows this.

Table (3) The arithmetic means and standard deviations of teachers' estimates of activating the use of e-learning platforms in e-professional development according to the variables (scientific qualification and years of experience)

Variable	Category	.No	AM	SD
Qualification	Bachelor's degree + diploma	256	3.16	0.83
	Postgraduate	90	3.57	0.81
Experience	years and under 5	72	3.19	0.96
	years 10-6	54	3.09	0.88
	10 years and more	220	3.34	0.78

Table (3) shows that there are apparent differences in the arithmetic means and standard deviations in teachers' estimates of activating the use of e-learning platforms in electronic professional development according to the variables (academic qualification and years of experience). To demonstrate the significance of the statistical differences between the means, a two-way ANOVA was used. As shown in Table (4).

1Table (4) Two-way ANOVA for the impact of variables (academic qualification and years of experience) on teachers' estimates of activating the use of e-learning platforms in electronic professional development

source variance	TSS	DF	MS	Calculated F value	.Sig
Qualification	11.077	1	11.077	16.500	.000*
Experience Years	3.136	2	1.568	2.336	.098
Error	229.606	342	.671		
Total	3938.540	346			

The results presented in Table (4) indicate that there are statistically significant differences at the level (α ≤ 0.05) due to the effect of the variable (academic qualification) on teachers' estimates of activating the use of e-learning platforms in electronic professional development. After reviewing the arithmetic means and standard deviations, it was found that the difference was in favor of the (postgraduate studies) category. This result may be due to the fact that teachers undergo electronic professional development programs through available e-learning platforms. It leads to refining and developing their skills in a way that is commensurate with their academic qualifications.

The results presented in Table (4) also indicate that there are no statistically significant differences at the level (α ≤ 0.05) due to the effect of the variable (years of experience) on teachers' estimates of activating the use of e-learning platforms in electronic professional development. This can be attributed to the desire of teachers. Regardless of their experience in developing their professional competencies electronically and mastering training skills in the digital age. The fact that the topic of electronic professional development affects their profession. They have an excellent desire to acquire it, especially in light of the current situation and the health pandemic that has swept the world and led to the shift to e-learning and distance learning.

Recommendations and suggestions:

In light of the study results, the researcher recommends the following:

1- The necessity to pay attention to identifying the training needs of teachers in light of the requirements of the digital age. Also, to identify weak points and working to address them by the concerned authorities.

2- The necessity for the training authorities concerned with teacher training to provide an interactive electronic educational and training environment that attracts the interest of teachers to employ information technology in training. Because this will contribute to increasing the efficiency and effectiveness of training systems in developing teachers professionally, which will be reflected in the quality of their performance.

3- The necessity to begin work on taking the necessary measures to gradually shift from traditional training to electronic training. Through a transitional period in which integrated training is adopted, which combines traditional training and electronic training in preparation for the transition to complete electronic training

for teachers. In an effort to achieve electronic professional development based on the data of the digital age and at the same time capable of meeting the requirements of education in the digital age.

4- Conducting more qualitative studies on electronic professional development programs for teachers, their effectiveness in developing teachers professionally, and how to make the most of e-learning platforms in light of the digital age.

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