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Evaluating electronic training programs in Jordanian universities in light of the Corona pandemic: a comparative study between public and private universities

Eman Jamil Abdelrahman
Department of Educational Sciences, Salt College of Human Sciences, Al-Balqa Applied University, Al-Balqa, Jordan

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ABSTRACT

This study aimed to evaluate the effectiveness of e-training programs in Jordanian universities during the COVID-19 pandemic, comparing public and private institutions. A descriptive-analytical approach was employed, utilizing both interviews and a questionnaire. The researcher developed a 20-item questionnaire and conducted interviews with faculty members to identify obstacles to e-training and suggest potential improvements. The study sample comprised 1,070 faculty members, with 765 from public universities and 305 from private universities. Additionally, intentional interviews were conducted with 50 faculty members. The results indicated that the overall effectiveness of e-training programs was rated as moderate, with no significant differences observed between public and private universities. The primary obstacle identified was insufficient funding for e-training, particularly during the pandemic. This study aims to assist university administrations in considering e-learning systems as effective alternative training methods. Furthermore, it seeks to explore new dimensions and skill sets for faculty members. Based on these findings, the research proposes strategies to enhance e-training, including improved budgeting and evaluation methods.

Corresponding Author:

Eman Jamil Abdelrahman
Department of Educational Sciences, Salt College of Human Sciences, Al-Balqa Applied University
Al-Balqa, Jordan
Email: emanj2002@bau.edu.jo

1. INTRODUCTION

The university is at the top of the educational ladder and is the main pillar in developing the skills of faculty members because of its effective role in improving their performance and pushing them forward in light of the pandemic. Thus, it has to teach and train them [1], [2] and focus on the skill aspects and try to develop them by providing training programs that raise their efficiency [3] to practice their basic roles (teaching, scientific research, and community service), all of which serve the university [4], [5]. Therefore, universities must hone their knowledge and skills, develop their values and their attitude towards employing technology [6]. While e-training is an old experience for developed societies that rely on public universities on the e-training system, it is a new and surprising experience for everyone, who was forced to plan it as soon as possible to prevent the spread of the Corona epidemic. Hence, the trend towards e-training to solve the current crises [7], being a new technological method, an advanced form of training, and a renewed method for highly efficient professional development programs [8], [9]. The process of creating an interactive environment focuses on applications that utilize internet technology, networks, and multimedia. This approach enables trainees to achieve the objectives of the training process through their interaction with

various resources. It aims to facilitate this interaction in the shortest possible time, with minimal effort, and at the highest quality levels, all while eliminating constraints related to time and location [10], [11]. Furthermore, e-training in light of the COVID-19 pandemic is one of the most important priorities for developing the capabilities of faculty members in universities to absorb modern electronic systems that help them perform their tasks [12] through electronic programs such as Microsoft Teams and Zoom [13].

Burns [14] defines e-training as a process in which learning takes place electronically, in a more contemporary way in particular, and relies on the approach of taking advantage of web-based systems and content management systems to make training activities available on the desktop using the internet. It is also a fertile field commensurate with the conditions of the pandemic because of its flexibility in training without being restricted to time and place, and a system that contains many diverse sources that provide a great deal of interaction [15], [16]. The field of e-training is witnessing growth and great interest [17]. It is heavily employed in developing the capabilities of faculty members, which must be studied more deeply and ways developed to provide it as an integral part of e-learning [18], which brings to faculty members many benefits such as self-reliance and self-confidence. It contributes to the development of their abilities for life [17], [19], which is a very good combination of electronic classroom management [20], overcoming the challenges posed by traditional training [21]. As such, many of the challenges that have faced this process have emerged in some developing countries due to the lack of the necessary technological infrastructure and the spread of electronic illiteracy among universities [22], and more needs to be done to improve the delivery of online courses during the Corona pandemic [23], [24]. It is important to note that the researcher has identified a set of studies related to the current topic. Study by Jiménez *et al.* [25] addressed a proposed pedagogical model to meet the requirements of education in the 21st century at Artemisia University in Cuba, focusing on identifying the training needs of faculty members to implement this model. The results showed that the participants, although not fully reflecting on the topic, recognized their educational shortcomings.

The study by Jin *et al.* [26] addressed the opportunities and challenges related to e-learning programs in Chinese universities during the COVID-19 pandemic. Electronic questionnaires were distributed to a sample of 854 male and female students, and the results revealed the presence of multiple challenges such as security risks, the importance of aligning learning methods, and service quality. However, the study indicated the presence of important opportunities such as the benefit achieved from e-learning, ease of use of electronic platforms, positive faculty behavior, and compatibility of technology with educational tasks. As for the study by Alqoot [27], it designed an distance training programmed was conceived according to the general design educational model (ADDIE) via the Zoom online platform to develop skills in educational and training design (ETD) skills. The results showed the effectiveness of the distance training programmed in developing the training and educational design skills of the faculty. Study by Alrmamnh *et al.* [28] aimed to evaluate the reality of distance learning in the United Arab Emirates using a descriptive analytical approach. A random sample of 228 participants was included; the results revealed a positive assessment of the reality of distance training, especially with regard to trainers' skills, program content, and training environment.

On the other hand, study by Kareem [29] focused on evaluating the programs of the Educational Leadership Training Center at the College of Education at King Saud University from the perspective of trainees. The study relied on the descriptive approach using questionnaires and personal interviews. It recommended providing continuous training programs and diversifying evaluation methods. In study by Hasan and Islam [30], the researchers examined the opinions of private university professors in Bangladesh on the application of e-learning during the COVID-19 pandemic. The study included a sample of 22 private universities, and the results showed that e-learning contributed positively to improving teaching effectiveness, accuracy of student attendance, and enhancing interaction between professors and students. As for the study by Coman *et al.* [31], it investigated how Romanian universities adapted to providing distance education during the pandemic. Data were collected through a semi-structured online questionnaire that included 762 students. The results showed that Romanian universities were not sufficiently prepared to use the Internet effectively in education.

Furthermore, study by Al-Jamal and El-Desouky [32] addressed the evaluation of the effectiveness of an electronic training program based on comprehensive quality standards to develop active learning skills among computer teachers. The sample included 40 teachers, who were divided into two groups: an experimental group that underwent electronic training, and a control group that underwent traditional training. The results showed statistically significant differences in favor of the experimental group. Finally, study by Usun [33] reviewed the strategies for evaluating programs in distance education using the literature review approach, where it dealt with 13 evaluation strategies that were analyzed and explained the frequency of their use in collecting data related to evaluating educational programs. The study concluded that goal-oriented and system-based evaluation strategies are the most appropriate for distance education initiatives.

The current study gains its importance for several reasons. Shedding light on the digital applications widely used in distance e-learning in the fields of management, with a focus on evaluating e-learning programs in Jordanian universities during COVID-19 pandemic. Seeking to anticipate future developments in

light of the rapid growth of e-learning and addressing crises through digital intelligence in the educational process. Providing support to faculty members in identifying their training needs, which enhances their self-efficacy and evaluates the current status of e-learning in universities. Since 2019, the rapid spread of the COVID-19 pandemic has forced Jordanian universities to take several precautionary measures, including relying on e-learning as an alternative to traditional face-to-face training, with the aim of continuing to develop faculty members' competencies [34].

The results of the study by Kulibekov *et al.* [35] showed the ineffectiveness of some online training courses in universities. Study by Farouk [36] revealed challenges in using technological skills, especially during the Corona crisis. Then, Johnson *et al.* [37] clarified the need to provide faculty members with practices related to remote work. Study by Al-Ansary [38] indicated technical problems related to slow or disconnected network, which negatively affects the effectiveness of e-learning. Lastly, Eiraldi *et al.* [39] confirmed the need to design high-quality remote training studies that focus on training in non-traditional environments. Hence, the importance of the current study, which aims to explore the reality of evaluating e-learning programs in Jordanian universities during the COVID-19 pandemic, while making a comparison between public and private universities by answering the main questions related to the subject:

i) What is the reality of e-training programs in Jordanian universities in light of the Corona pandemic as seen by faculty members?
ii) Are there statistically significant differences at the level of significance (α=.05) in the perceptions of faculty members about the reality of e-training programs in Jordanian universities in light of the Corona pandemic due to the different type of university (public and private)?
iii) What are the obstacles to the application of e-training programs in Jordanian universities in light of the Corona pandemic, as seen by faculty members?
iv) What is the proposed vision for the development of e-training programs in Jordanian universities in light of the Corona pandemic as seen by faculty members?

2. METHOD

This research is based on a mixed-methods design, combining quantitative and qualitative descriptive approaches. It is also based on the descriptive-analytical approach, which is considered the most appropriate for evaluating e-learning programs in Jordanian universities. This approach includes the use of various tools for collecting data, such as questionnaires and interviews, which allows the researcher to collect comprehensive and in-depth information about the topic under study.

2.1. Research locale and participants

The study population consisted of all 32 faculty members working in Jordanian public and private universities, and 11,002 faculty members. Intentional interviews were conducted on 50 faculty members who benefited from the training, and the questionnaire was distributed to a random sample of 1,070 faculty members, 765 in public universities, and 305 in private universities.

2.2. Instruments

After reviewing previous studies, the researcher developed two tools. The first tool is the questionnaire to collect data and information, which includes two parts: the first part is demographic data, including (type of university; the second part is to measure the reality of e-training and to measure statistical differences, amounting to 20 items, and according to their three areas (before the implementation of electronic training programs, during the implementation of electronic training programs, and after the implementation of electronic training programs).

The second tool is conducting interviews with faculty members to collect data and information through two questions: i) open question to reveal the obstacles to the application of e-training programs; and ii) open question to present the proposed future vision for the development of e-training programs. To verify the validity of the instruments, it was presented to a committee of arbitrators and experts in the field, numbering 15 arbitrators with competence and experience in the science of educational administration in Jordanian universities, and the directives and suggestions of the members of the committee were taken. The linguistic wording of some paragraphs was modified when eight arbitrators agreed on that.

2.3. Data gathering procedure

For the questionnaire, a sample of 40 faculty members, both from within and outside the study community, was selected to assess the reliability of the tool. The retest method was used and Cronbach's alpha coefficient was calculated, which ranged between .96 and .99, indicating that the questionnaire has a high degree of reliability. To ensure the reliability of the interviews, the researcher used a precise information

extraction strategy, where an independent researcher analyzed the interviews and identified the main ideas presented. The researcher's findings were then compared using Holsti's reliability formula, which showed an agreement rate of 85%, reflecting a high level of reliability in the interview analysis.

The questionnaire was distributed, and intentional interviews were conducted. Respondents were invited to participate in the survey and were assured that their responses would be treated with the utmost confidentiality. Participants who completed the items and submitted the instrument indicated their willingness to take part in the survey. A five-point Likert scale was utilized to score the two study tools, assigning each item a score based on the following response options: strongly agree, agree, neutral, disagree, and strongly disagree, which are numerically represented as 1, 2, 3, 4, and 5, respectively. The scoring was categorized into the following statistical hierarchy: low level (1-2.33), medium level (2.34-3.67), and high level (3.68-5.00). The interview responses were analyzed by organizing the answers in Excel, followed by calculating frequencies and percentages.

2.4. Data analysis

The research used descriptive statistics in analyzing the data. Arithmetic averages and standard deviations were extracted, the T-test, and the qualitative content analysis method was used. The items in the questionnaire that were stated negatively were reversely coded.

3. RESULTS AND DISCUSSION

3.1. Results of the first question

To answer the first question "What is the reality of e-training programs in Jordanian universities in light of the Corona pandemic as seen by faculty members?", the arithmetic averages and standard deviations on the paragraphs of each area were calculated separately in Tables 1 to 3.

3.1.1. Before starting the implementation of electronic training programs

The arithmetic means and standard deviations were calculated for the items in the field before starting the implementation of electronic training programs separately, as presented in Table 1. The table indicates that paragraph 6 ranked first with an arithmetic mean of 4.04, while paragraph 4 ranked last with an arithmetic mean of 2.46. The overall arithmetic mean of the field was 3.50, which is classified as average. According to the researcher, this is due to the lack of interest by those in charge of training in involving trainees in formulating the objectives of training programs and identifying their training needs. Universities emerge as essential centers for civilizational progress, as they play a pivotal role in the development witnessed by the world. They have become a major source of e-learning for other educational institutions. To achieve this role efficiently, faculty members must be trained to formulate objectives and develop policies and strategies to implement virtual education, including synchronous and asynchronous learning, in addition to integrating metaverse technologies to enhance interaction between students. These goals can be achieved by organizing conferences, seminars and workshops, and launching e-learning initiatives that focus on developing electronic curricula, improving the use of information and communication technology, and benefiting from digital media in the educational process. These measures contribute to shifting the educational process from focusing on memorization to enhancing creativity, developing different thinking skills and problem solving, and providing teachers with the skills necessary to deal with modern technologies. This in turn supports and expands the concept of self-learning. It is worth noting that these results differ from those reported in previous study [31].

Table 1. Arithmetic averages and standard deviations for a field before the implementation of electronic training programs

Rank	Number	Paragraphs	Mean	Standard deviation	Level
1	6	The desire of the trainees to engage in training programs is taken into account before their selection.	4.04	1.077	High
2	5	The returns of training are predicted on the university, job and trainee.	3.74	.942	High
3	3	The objectives of the training programs take into account the requirements of the Corona pandemic for several years.	3.66	.945	Medium
4	1	A comprehensive analysis of the requirements for designing training programs is carried out.	3.57	1.057	Medium
5	2	The needs of trainees are identified during the planning of training programs.	3.55	1.033	Medium
6	4	Interns are involved when formulating the objectives of training programs.	2.46	1.312	Medium
		Before implementing e-training programs	3.50	.652	Medium

3.1.2. During the implementation of electronic training programs

The arithmetic means and standard deviations were calculated for the items in the field during the implementation of electronic training programs separately, as seen in Table 2. The table reveals that paragraph 12 ranked first with an arithmetic mean of 3.84, while paragraph 11 ranked last with an arithmetic mean of 2.77, both of which fall within the average level. The overall arithmetic mean of the field was 3.50, which is also average. According to the researcher, this level is attributed to the increasing interest that distance training has received from educational and training institutions. Public and private universities, as well as training centers, have begun offering their programs remotely due to the fact that this style is characterized by reducing financial costs, using time efficiently, and increasing its effectiveness when combined with direct training. This method also allows reaching a wider audience within diverse geographical areas. In addition, advances in software and electronic technology have provided great opportunities for distance education and training.

In the context of the COVID-19 pandemic, many training institutions have adopted this style as an effective alternative, similar to what educational institutions have done in adopting distance education. This shift has led to an increase in demand for e-learning platforms, with global companies such as Microsoft and Google providing specialized training programs and tools that could be the cornerstone of future training courses. The researcher points out that this shift may prompt a re-evaluation of the standards and criteria for accrediting distance education and training programs. Moreover, distance training, when managed efficiently, can be more effective than traditional training, as modern technologies have contributed to significantly enhancing its quality. These results are consistent with what was stated in the study by Alqoot [27], but differ from the results of the study by Al-Jamal and El-Desouky [32].

Table 2. Arithmetic averages and standard deviations for a field during the implementation of electronic training programs

Rank	Number	Paragraphs	Mean	Standard deviation	Level
1	12	The content of the training programs is commensurate with the objectives of the training program.	3.84	.930	High
2	7	Trainees are provided with the required information about the training programs.	3.71	.932	High
3	13	The mechanism of implementing training programs is monitored to avoid errors.	3.69	1.000	High
4	9	The content of the programs contributes to the professional growth of the trainees.	3.59	.969	Medium
5	8	Trained candidates have the appropriate experience with e-training.	3.53	1.221	Medium
6	10	The methods of training programs take into account the individual differences between trainees.	3.38	1.003	Medium
7	11	Trainers use electronic training methods that attract the trainees' attention.	2.77	1.193	Medium
		During the implementation of electronic training programs	3.50	.524	Medium

3.1.3. After the implementation of electronic training programs

The arithmetic means and standard deviations were calculated for the items in the field after the implementation of electronic training programs separately, as shown in Table 3. The table indicates that the arithmetic means ranged between 2.42 and 3.45, where paragraph 16 came in first place with an arithmetic mean of 3.45, while paragraph 15 came in last place with an average of 2.42. The general arithmetic mean of the field was 2.97, which is classified as an average level, and is the lowest among all the fields studied. This classification is attributed, according to the researcher, to the fact that the application of distance training has great potential and enjoys the support of institutions wishing to adopt it. This support includes preparing faculty members and trainers through specialized training courses that provide them with the skills and knowledge necessary for the effective application of this training style. However, to achieve the desired goals of distance training, it must be accepted and adopted by the trainees themselves, as individual attitudes and the level of acceptance play a decisive role in adopting and using technology sustainably.

Distance training is flexible, allowing sessions to be held at times that suit the trainees' circumstances, enabling larger groups to participate, and reducing the burden of transportation and commitment to specific training schedules and locations. Moreover, distance training contributes to reducing financial costs compared to traditional training methods, and enhances trainees' technological skills. These results are consistent with the findings of the study by Alqoot [27], but differ from the results of the study by Jin *et al.* [26].

3.2. Results of the second question

To show the statistical differences between the arithmetic averages, the "T" test was used, and Table 4 illustrates this. Table 4 shows that there are no statistically significant differences (α=.05) due to the impact of the type of university in all fields and in the overall grade. The researcher attributes this result to the unprecedented state of challenge facing the education systems in the world in an unprecedented manner

following the suspension of studies in universities and the massive closure of them suddenly in line with the tremendous health efforts to confront the epidemiological situation to contain the spread of the emerging Coronavirus, and the concerted government and private efforts to provide distance education by integrating technologies into education to ensure the continuation of students' learning; Achieving quality education and education equity for all categories of students and enhancing their learning opportunities, which calls for more attention in developing the skills of faculty members and their professional competencies to integrate technology into the education process effectively, and building academic bodies requiring universities to develop programs for training and developing faculty members with a focus on the good employment of e-learning. This finding is consistent with the results of previous studies [26], [28], and differed with the results of the study by Coman *et al.* [31].

Table 3. Arithmetic averages and standard deviations for a field after implementation of e-training programs

Rank	Number	Paragraphs	Mean	Standard deviation	Level
1	16	The trainees' reactions and impressions are limited to (trainers, content, methods, technical equipment).	3.45	1.136	Medium
2	17	The cost of training programs is measured against the return.	3.37	1.027	Medium
3	14	The suitability of training programs with the target groups is determined.	3.32	1.136	Medium
4	20	The results are followed up after the end of the training.	3.09	1.269	Medium
5	19	Feedback systems are activated to identify strengths, weaknesses and opportunities for improvement.	2.63	1.087	Medium
6	18	The achievement of the training objectives is ensured by transferring the impact of the training to the trainees (knowledge, skills, and behavior).	2.50	1.325	Medium
7	15	The performance of a group of participating trainees is compared with the performance of a group that has not received training.	2.42	1.156	Medium
		After the implementation of the electronic training programs	2.97	.720	Medium

Table 4. Arithmetic averages, standard deviations and "T" test for the impact of the university type on the reality of e-training programs

Fields of study	University type	Number	Mean	Standard deviation	Value "T"	Degrees of freedom	Statistical significance
Before implementing e-training programs	Government	765	3.50	.667	-.131	1068	.896
	Private	305	3.51	.613			
During the implementation of electronic training programs	Government	765	3.51	.521	.441	1068	.659
	Private	305	3.49	.534			
After the implementation of the electronic training programs	Government	765	2.96	.720	-.303	1068	.762
	Private	305	2.98	.722			
Reality as a whole	Government	765	3.31	.564	-.037	1068	.970
	Private	305	3.32	.563			

3.3. Results of the third question

To answer the third question "What are the obstacles to the application of e-training programs in Jordanian universities in light of the Corona pandemic, as seen by faculty members?", the frequencies and percentage were extracted. Table 5 presents the findings from interviews with faculty members, highlighting the primary obstacles to the implementation of e-training. The most significant challenge identified was "the limited budget allocated for e-training programs, particularly during the pandemic," which received the highest frequency and percentage among the combined obstacles. The researcher attributes this finding to the fact that e-training programs in distance learning require substantial financial investment, especially at the outset, as they necessitate equipment, devices, communication tools, and training resources.

Additionally, the lack of direct interaction between faculty members and students can lead to feelings of boredom. This separation can also hinder social connections among students, making it difficult for them to get to know their peers. Moreover, evaluating students can be challenging due to concerns about credibility, which increases the likelihood of distractions. The fairness of the training experience is compromised by the uneven access to necessary technology, time, and support for remote participation. Furthermore, parents often struggle to engage actively in their children's education, particularly at the university level, due to the high skill requirements involved. This finding aligns with the results of study by Alqoot [27], but contrasts with those of Al-Jamal and El-Desouky [32].

Table 5. Frequencies and percentage of obstacles to the application of e-training programs

Categories	Iteration	Percentage
Poor budget for e-training programs, especially during the pandemic.	50	16
High costs of remuneration for specialized trainers, software production, communication networks, hardware and equipment.	43	14
Poor interest in measuring the impact of training on faculty members.	42	13
Limited participation of experts specialized in planning e-training programs.	39	12
The difficulty of technical support for e-training programs during the pandemic.	36	11
Not linking the incentive system to the number of courses obtained by faculty members.	35	11
Limited use of electronic applications supporting e-training.	29	9
Lack of objectivity when nominating trainers specialized in electronic training programs.	22	7
Low speed of home communication networks for trainees while receiving e-training programs.	21	7
Total	317	100

3.4. Results of the fourth question

To answer the fourth question "What is the proposed vision for the development of e-training programs in Jordanian universities in light of the Corona pandemic as seen by faculty members?", the frequencies and percentage were extracted. Table 6 presents the findings from interviews with faculty members, highlighting the key proposed strategies for enhancing e-training. The most frequently mentioned suggestion was "the importance of measuring the impact of training on faculty members," which received the highest frequency and percentage among the combined proposals. The researcher attributes this emphasis to the fact that the training process for faculty members involves comprehensive preparation and professional development through a series of integrated activities designed to foster positive attitudes, abilities, knowledge, skills, methods, and programs. This preparation is essential for faculty members to effectively fulfill their roles and responsibilities. The educational preparation of faculty members in universities is a fundamental requirement for improving the quality of university education, enhancing faculty efficiency, and enabling them to carry out their educational missions in accordance with modern educational theories and requirements. However, the researcher notes that the focus on developing faculty performance has been limited, often remaining at the level of discussion without substantial action. Many university professors have not had adequate opportunities for training and qualification in education or teaching, placing the onus on universities to ensure proper educational preparation for their faculty to meet institutional goals and fulfill their missions.

The researcher believes that the preparation of faculty members in Jordanian universities has become a critical requirement within their fields of specialization, yet it remains insufficient given the universities' educational, research, and community service roles. This inadequacy underscores the need for specific preparation in the electronic domain, as successful education relies on teachers possessing the necessary skills and competencies related to scientific and educational instruction through e-learning. This is an integral part of their professional development, aimed at enhancing their skills and abilities in teaching, research, and community service through the use of electronic platforms. This finding aligns with the results by Alrmamnh *et al.* [28], but contrasts with those of Coman *et al.* [31].

Table 6. Frequencies and percentage of the proposed vision for the development of e-training programs

Categories	Iteration	Percentage
Attention to measuring the impact of training on faculty members.	42	14
Benefiting from the experiences of developed countries in the field of e-training during the Corona pandemic.	40	14
Improving the quality and efficiency of e-training by rehabilitating trained specialized technicians.	37	13
Linking the incentive system to the number of courses obtained by faculty members.	35	12
Financial support from local community institutions to public universities.	31	11
Preparing electronic training programs that can be replicated and developed to save costs in the long run.	30	10
Using electronic applications that support e-training.	29	10
Supporting faculty members to come up with creative ideas in the field of e-training.	23	8
Providing laptops with advanced technical specifications for faculty members.	23	8
Total	290	100

4. CONCLUSION

The outbreak of the COVID-19 has imposed unprecedented challenges on societies, not only on the healthcare sector and the well-being of the population, but also on the economic, social and educational levels. In this context, Jordan as a country has sought to transform these challenges into opportunities that enhance adaptation and cooperation, and enhance resilience and recovery. The results obtained from the

applied tool constitute only the first stage of the process of identifying e-learning needs. It is necessary to enrich these results with the university's policies for the optional period, reports of the results of the methodological work of previous periods, the results of the annual evaluations of faculty members, in addition to the classroom controls that have been implemented for faculty members. Moreover, this process must be fed and repeated periodically to ensure that it is constantly updated.

In terms of the applicability of the results, the shortcomings identified represent a starting point for developing a continuous e-learning strategy that meets the real needs of e-learning for faculty members. In light of the findings of the study, it recommends the following recommendations: i) The need to allocate a sufficient budget to spend on the requirements of training programs for faculty members by the university administration; ii) The need to provide financial resources and infrastructure to support distance training programs, especially those related to communication networks and the Internet, organizations concerned with e-training, and supporting bodies that can be used to develop e-training in Jordanian universities; iii) The need to provide training experts in electronic affairs who are able to develop the performance of faculty members with high efficiency from inside and outside the university, especially those who have international participation and experiences in developing faculty members; and iv) The need to move towards a university leadership that adheres to a strategic map that includes simultaneous proposals that complement each other to activate e-training emanating from the environmental analysis of training and the vision and mission of training.

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AUTHOR CONTRIBUTIONS STATEMENT

This journal uses the Contributor Roles Taxonomy (CRediT) to recognize individual author contributions, reduce authorship disputes, and facilitate collaboration.

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Eman Jamil Abdelrahman	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

C : **C**onceptualization
M : **M**ethodology
So : **So**ftware
Va : **Va**lidation
Fo : **Fo**rmal analysis
I : **I**nvestigation
R : **R**esources
D : **D**ata Curation
O : Writing - **O**riginal Draft
E : Writing - Review & **E**diting
Vi : **Vi**sualization
Su : **Su**pervision
P : **P**roject administration
Fu : **Fu**nding acquisition

CONFLICT OF INTEREST STATEMENT

There are no conflicts of interest, whether political, personal, religious, ideological, academic, or intellectual, that could affect this study.

DATA AVAILABILITY

The data that support the findings of this study are available on request from the corresponding author [EJA]. The data, which contain information that could compromise the privacy of research participants, are not publicly available due to certain restrictions. Derived data supporting the findings of this study are available from the corresponding author on request.

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BIOGRAPHY OF AUTHOR

Eman Jamil Abdelrahman has a Ph.D. in educational management 2009 from Yarmouk University. She received the title of professor in 2020 from Al Balqa Applied University. She was appointed at the University of Al Balqa Applied University since 2009, Department of Educational Sciences, Salt College of Human Sciences. Professor Eman research interests lie in educational leadership, educational evaluation, quality management, e-management, human resources management, higher education, and inclusive education. She can be contacted at email: emanj2002@bau.edu.jo.