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Professional Development Needs of Faculty Members at Al-Balqa Applied University in Light of the Requirements of Digital Transformation

Dr. Jamal Fawaz Al Omari¹

¹Department of Basic Sciences, Princess Rahma University College, Al-Balqa Applied University, AL-Ssalt, Jordan; Dr.jomari@bau.edu.jo.

ORCID iD:

<https://orcid.org/0000-0003-0077-8472>

Address for Correspondence:

Dr. Jamal Fawaz Al Omari, Department of Basic Sciences, Princess Rahma University College, Al-Balqa Applied University, AL-Ssalt, 19117. Jordan. P.O. Box 206. (dr.jomari@bau.edu.jo; 00962799097147)

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Abstract

The research aimed to identify the professional development needs of faculty members at Al-Balqa Applied University in light of the requirements of digital transformation, and to explore the opinions of the research sample about the most important professional needs at Al-Balqa Applied University according to the differences between the faculty members. Research variables: gender, academic qualification. A descriptive survey method was used to achieve the research objectives. A descriptive survey, using a questionnaire tool, was applied to a random cluster sample consisting of (225) faculty members. The research results showed that the professional development needs of faculty members at Al-Balqa Applied University considering digital transformation requirements were rated highly with an average of (3.83). The most important professional development needs at Al-Balqa Applied University are arranged in descending order as follows: The leadership domain came in first place to a large degree with an arithmetic mean of (3.90), and the personal domain came in second place to a moderate degree with an average of (3.76). The research results showed no statistically significant differences were seen at the level of significance (0.05) regarding the professional development needs of faculty members at Al-Balqa Applied University considering the requirements of digital transformation are due to the variables of gender and academic qualification. The research recommended reviewing the This reduces redundancy while enhancing precision faculty considering digital transformation, such as intelligence. Artificial intelligence, cloud computing, the Internet of Things, cybersecurity, programming languages such as Python, e-learning programs in university education, and electronic exam preparation programs.

Keywords

professional development needs, faculty members, Al-Balqa Applied University, digital transformation requirements

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Reviewers

Dr. Timothy Richards, Professor Emeritus, McKendree University, United States; Email: trichard@mckendree.edu.

Dr. Mohammad Waheeb Hussein, Hashemite University, Jordan; ORCID iD: 0000-0001-5935-9795; Email: mwaheeb@hu.edu.jo.

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1. Introduction

Technology is accelerating its pace towards innovations. The administrative employee is influenced by them, so individuals need renewed skills represented by training to employ these technological innovations in the administrative process, which makes him keep pace with scientific and technological development, to raise, improve, and renew the efficiency to improve the performance of administrators so that they can We ensure that he keeps up with the latest ideas, methods and approaches with the competencies and responsibilities associated with the profession., and this can only be accomplished by employing technological innovations in the administrative process (Hamayel, 2024)

Factors that contribute to this include studying the behavior of employees and how to influence them in a manner that fosters commitment and job satisfaction, and this is by satisfying their needs and fulfilling their desires in a way that ensures that their efforts are directed to serving... The objectives of the institution, so that it does not conflict with their personal desires and goals (Al-Balawi, 2020).

In view of the successive changes and transformations that the world is witnessing today, and the tremendous progress in means of communication, transportation, and digital information transfer systems between countries, thus penetrating all geographical borders, the entire world has become one global village. The dominant feature of the work environment has become the ability to manage, build, and process knowledge (Iqbal & Khan, 2011).

Identifying training needs is an essential part of the professional development process that aims to follow pre-planned scientific steps in designing training programs that lead to achieving the desired goals of the training process, in addition to achieving the largest possible investment of available material and human resources, to transform training and development programs into programs. Supporting the educational institution's plans and goals (Al-Balushi & Othman, 2019).

The trend towards digital transformation, which is the optimal use of human intelligence, is the focus of widespread attention in all societies, and in a way that works to rebuild society in general and create a more useful and useful field digital transformation requires a set of appropriate standards and conditions to achieve it, some of which are related to preparing scientifically and professionally qualified human resources with high efficiency and skill, and some of them are related to providing the appropriate climate for knowledge, enhancing the capabilities of individuals, building their discovery skills, and giving them the ability to solve problems and innovate solutions (Al-Rababa & Hayajna, 2017).

This is why many countries in the developed world, such as Japan, Germany, and America, give priority to preparing and qualifying human cadres, both personal and professional, in various specializations and fields (Al-Dakheel, 2014).

1- Professional Development Needs

First: The concept of professional development:

Professional development is called in-service training, and its primary goal is to provide ability to university workers to increase their knowledge through programs designed for this purpose. However, the modern view focuses on benefiting from the expertise present in the university or educational institution in general from educational leaders; to make it an ever-learn

Professional development is also defined as: "A set of goals that are translated into means and activities that the organization takes to plan and develop the future of its jobs by raising the efficiency and continuous adequacy of its employees to meet the current and future needs for continuous quantitative, qualitative and technical development in jobs by international quality standards and requirements" (Ahmed, 2016).

Second: Objectives of professional development and its importance:

One of the goals of professional development is to help leaders develop their human relations and increase cooperation between the university and society, making the university a center of radiance for the surrounding environment, developing the leaders' innovative capabilities, and increasing their abilities to innovate and innovate, which leads to their desire for the profession as a result of their success in their work, giving them positive values, and raising their morale (Hussin & Al Abri, 2015).

The term training needs refers to something that the trainee lacks and represents a need in the training process to master or achieve it. These needs vary depending on the field and specialization and may sometimes be imposed by new developments and emergency circumstances that require a person, to keep pace with the new situation, to be

familiar with some of the experiences and skills required by the current situation, such as what happened or is happening in circumstances of crises, disasters, and wars, which creates a situation that causes problems that require a quick solution (Al-Sulaymi, 2021).

Al-Zahrani (2019) states that the effectiveness of job training and its results depend on some basics, which are as follows:

- Knowing the required level and current performance level. Identifying training needs
- Determine appropriate training policies to achieve the desired performance.
- Identify and design training programs to achieve these policies.
- Return the impact of the training process.

Fifth: Benefits of professional needs:

Al-Dawoud (2021) explained that identifying these needs is a basis and includes ten benefits, which are: building training plans, defining training objectives, designing training programs directed towards achieving the objectives, improving the effectiveness of training, identifying problems and difficulties in employee performance, involving workers in community service, and helping trainers in designing programs that meet the needs of trainees, effectively planning training program activities, determining criteria for evaluating training programs, and raising the efficiency of university education in general. (Bayar, 2014).

Hamayel's study (2024) indicated that; Digital transformation and artificial intelligence (AI) tools are driving the higher education landscape towards radical changes. These transformations directly affect all stakeholders, including students, teachers, the learning environment, and the educational content provided, as well as policymakers and strategists. Studying global trends in higher education in light of digital transformation and AI tools is of paramount importance. This research aims to explore these trends, propose a set of guiding principles, and identify the most important AI tools that can help guide higher education institutions in the Arab world towards digital transformation. The researcher used the descriptive-analytical approach, relying on the analysis of studies, research, books, periodicals, and websites, as well as global technology research and consulting centers, to identify the most important guiding principles and AI-based software tools that higher education institutions can adopt in light of global digital transformations and the spread of AI tools. The study presented a set of guiding principles and artificial intelligence-based tools for higher education institutions in the Arab world that seek to align with global trends in higher education

Al-Farraj study (2024) explains the importance of artificial intelligence, as it showed. This research explores the role of artificial intelligence in the professional development of faculty members in emerging Saudi universities, with a focus on Shaqra and Hail universities. The study aims to explore the reality of artificial intelligence use in this context, identify the 'challenges and obstacles it faces, and build a proposed concept to improve its use in the development of faculty members skills. An analytical descriptive approach was used to answer the research questions, where a questionnaire was distributed to a sample of 371 faculty members in Shaqra and Hail universities in Saudi Arabia. The research revealed a moderate level of artificial intelligence use in the targeted universities and highlights its importance in developing professional knowledge and improving the quality of the teaching and research processes. The study also discusses challenges such as the need for training and support, and the weakness of the technological environment in the universities. The research proposes solutions .to enhance the role of artificial intelligence in professional development and highlights its scientific and practical significance

2-Digital Transformation

Today's world is witnessing tremendous cognitive development in all areas of life, and this is reflected in the educational system in all its dimensions. There is a mutual relationship between digital transformation and the education system, as each affects the other negatively or positively.

First: The concept of Digital transformation:

Many definitions address digital transformation, the most prominent of which are the following:

Digital transformation is defined as: production and services based on knowledge-intensive, which contribute to accelerating the pace of scientific and technical progress (Drummond, 2003).

Digital transformation is the economy in which cognitive development and scientific creativity have the greatest weight in its growth, and it is based on developing human resources (knowledge workers) scientifically and cognitively. To be able to deal with modern and advanced technologies, relieve the knowledge had by the human

element as an investment resource, as a strategic commodity, as a service, and as a source of national income (Al-Hashemi & Al-Gharawi, 2007).

So; To meet the needs of learners and prepare them to live effectively in the knowledge society, and to enable education to perform its tasks by the direction of the knowledge economy.

Secondly, The importance of digital transformation:

- It forces all institutions to innovate and innovate.
- It is based on giving, employing, and producing knowledge.

Accordingly, higher education institutions in Jordan have an important and vital role in achieving these aspirations, as they are specialized academic institutions that can effectively participate in formulating the objectives of this stage, planning them, and assisting and participating in their implementation, to reach the knowledge society (Abu Al-Haj, 2019).

The study by Al-Assaf and Al-Sayed (2022) aimed to find the reality of digital transformation in Jordanian universities from the point of view of administrators and faculty members. Its results showed that the estimates of faculty members in Jordanian universities for the degree of digital transformation were moderate and recommended the need to pay attention to institutional support for digital transformation in Jordanian universities. Al-Balawi's study (2020) aimed to find the reality of electronic administration for academic administrators at the University of Tabuk in the Kingdom of Saudi Arabia. The study used the descriptive analytical approach by applying a questionnaire to a sample of (115) academic administrators at the University of Tabuk. The study achieved several results, the most important of which is: that the reality of electronic administration at the University of Tabuk was average. (Al-Balawi, 2020)

Al-Zahrani's study (2019) presented a proposed training program for developing academic leaders at Umm Al-Qura University considering the national strategy for the transition towards a knowledge-based economy, by finding development requirements. The researcher used the descriptive approach and formed the study population by taking a cross-section of experts taking part in programs supporting knowledge. They numbered (48) experts to survey their opinions on the most important requirements for developing academic leadership to keep pace with the shift toward digital transformation. The study adopted a questionnaire to collect data. Among the most prominent results: The most important requirements for developing the administrative competence of leaders were the field of cognitive creativity to a high degree, and the most important requirements for developing the professional competence of leaders were the field of scientific research competence to a high degree.

As for Hamdan's study (2018), which aimed to identify the level of influence of administrative leadership on organizational development at King Abdulaziz University, from the point of view of its female administrative employees, the researcher used the descriptive analytical method, and the tool was a questionnaire that was distributed - electronically and on paper - to a random sample. Its size reached (290) administrative departments, and a questionnaire was retrieved from it, and the study reached several results, the most important of which are: There is a statistically significant effect of administrative leadership on organizational development with a correlation coefficient of (0.57).

The study by Al-Rashayda and Al-Rashayda (2017) sought to find the reality of professional development for faculty members at Mu'tah University and to try to determine their training needs. To achieve the goal, the descriptive approach was used, and the study sample consisted of (280) male and female employees. To achieve the aims of the study, the researchers developed a questionnaire for professional development and found the training needs of employees, and the validity and reliability of the tool were extracted. One of the most prominent findings of the study is that the fields of study (administrative and personal) received an average score.

1.1. Research Problem:

Digital transformation in universities by urging universities to do so, issuing legal legislation such as the e-learning system in universities and others, holding workshops to achieve this, and establishing learning and teaching technology centers; To keep pace with contemporary changes, the current reality indicates that there is a real gap between what exists and what is desired. This trend requires knowledge of the requirements for implementing digital transformation practices from the point of view of university employees, including faculty members and administrative staff. Al-Yahyaw (2011) emphasized the following: Administrative leadership of organizational processes related to knowledge management and technical transformation is suffering.

Digital transformation means investing in technological capabilities, new industries, and businesses. This requires qualified human resources characterized by special qualities such as creativity, productivity, adaptation to developments, excellence in an elevated level of education and training, the ability to communicate, creativity, problem-solving, and decision-making, in addition to flexibility and the ability to deal with computers.

The research problem can be articulated through the following two questions:

1. What are the professional development needs of faculty members at Al-Balqa Applied University about the requirements of digital transformation?
2. Are there any differences in the study sample members' perceptions of professional development needs at Al-Balqa Applied University based on the variables of gender and academic qualification?

1.2. Research objectives:

The research aims to achieve the following objectives:

1. Statement of the professional development needs of faculty members at Al-Balqa Applied University considering the requirements of digital transformation.
- 3- Proposing a mechanism to meet the professional development needs of the teaching staff at Al-Balqa Applied University.

1.3. Research Importance:

The importance of the research lies in the following.

Theoretical importance:

1. Enriching scientific knowledge and contributing to the efforts made to reach results and proposals that contribute to the professional development of administrators.
2. The importance of the topic it addresses and the need for it, as linking professional development to work, professional development, and renewed skills for work, which is what the current research addresses, is considered for the professional development of administrators and proposals for developing them.
3. Researchers, scholars, and those interested in educational studies in general, educational administration, and ability can receive help from developing this type of vocational education.

1.4. Practical importance:

1. Identifying the professional development needs of the teaching staff, the extent of benefit from it, and the impact of some variables on it.
2. Providing information to decision-makers to help them take appropriate action regarding developing teaching performance to work on developing and implementing action plans and strategies.
3. Providing information to college deans about the most important deficiencies in professional development for the faculty at Al-Balqa Applied University.
4. Enriching scientific research on the professional development of faculty in universities.

1.5. Research Limits:

The research is subject to the following limitations.

-Objective boundaries: The professional development needs of faculty members at Al-Balqa Applied University considering the requirements of digital transformation in the areas of leadership and personal skills.

-Human limits: Faculty members at Al-Balqa Applied University.

-Spatial limits of research: Al-Balqa Applied University.

-Time limits: The academic year 2024.

1.6. Research Terms:

The search includes the following terms.

Professional development:

[Al-Sulaimi \(2021\)](#) defines it as the development that occurs in working individuals during their life's journey, by benefiting from different experiences during their multiple experiences in their working lives.

It is defined procedurally as: the intended and organized change that is presented to the teaching staff at Al-Balqa Applied University to improve and modify their performance, to reach the highest levels of performance.

Professional Development Needs:

[Ahmed \(2016\)](#) defines it as a set of goals that are translated into means and activities that the organization takes to plan and develop the future of its jobs by raising the continuous efficiency and adequacy of its employees to meet the current and future needs of continuous quantitative, qualitative and technical development in jobs by international quality standards and requirements.

It defines procedurally the set of developments and changes required to be made; In employee information for employees at Al-Balqa Applied University.

Digital transformation requirements:

[Attia \(2021\)](#) cited the World Bank's definition of the knowledge economy as "how to use technology in administrative processes in institutions to improve their operational efficiency."

The requirements for digital transformation are defined procedurally: the degree of use of digital technologies such as artificial intelligence, cloud computing, and the Internet of Things in Jordanian universities, and this is measured by the response of the research sample to the tool used in the research. In the following two areas: leadership and personal skills.

Al-Balqa Applied University is a government university located in Salt, Jordan, which was founded in 1997, a distinctive state university in the field of bachelor's and associate degree Applied Education and at the associate degree program. And bachelor's and master's degrees in various university specializations, it is affiliated with the Ministry of Higher Education and Scientific Research.

2. Methodology

This current aspect deals with a presentation of the research procedures, which are the research methodology, the research community and its sample, the research tool and statistical methods through which the validity and reliability of the questionnaire were calculated, and the statistical treatment used in the research to answer the questions of this research and a presentation of them:

First - Research Methodology:

The researcher used the descriptive survey method. Using this method, the research described the professional development needs of faculty members at Al-Balqa Applied University in light of the requirements of digital transformation. It can be defined as the method that relies on collecting data directly from the study sample or a community to diagnose certain aspects without being limited to... Limit them.

Second - Research Community:

The research community consisted of all (1520) faculty members at Al-Balqa Applied University.

Third - Research Sample:

The selected sample was in a cluster-random manner, and the number of teaching staff reached (225). Table (1) shows the distribution of individuals in the research sample according to its variables:

Table 1. Distribution of the research sample members according to their variables

Variable	Category/level	Freq	Percentage
Gender	Male	123	55%
	Female	102	45%
Qualification	PhD	120	53%
	Master	115	52%

Total	225	100%
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Fourth -Research Tool:

In this research, the researcher used the questionnaire to measure the professional development needs of faculty members at Al-Balqa Applied University in light of digital transformation requirements. The questionnaire aimed to determine the degree of professional development needs of faculty members at Al-Balqa Applied University in light of digital transformation requirements. The tool consisted of (46) A statement in its final form, divided into two fields. The first field: Professional development needs in the field of leadership in light of the requirements of digital transformation and includes (20) items. The second field is professional development needs in the field of personal skills in light of the requirements of digital transformation and includes (20) variables. Independent subjects of study, type, and academic qualification.

Steps to develop the questionnaire:

- Reviewing the theoretical heritage and previous studies related to the professional development needs of faculty members at Al-Balqa Applied University in light of the requirements of digital transformation. Through reviewing the theoretical literature and previous studies, some aspects of the needs were identified.

Professional development for faculty members at Al-Balqa Applied University in light of the requirements of digital transformation, its most important dimensions and fields, and methods for measuring them.

- Reviewing several previous standards that addressed the subject of the professional development needs of faculty members at Al-Balqa Applied University in light of the requirements of digital transformation, where the expressions from those standards were benefited from, and were modified by the research objective.

In light of the above, the initial picture was formulated to identify the professional development needs of faculty members at Al-Balqa Applied University in light of the requirements of digital transformation to be reviewed by the arbitrators.

After it was judged, amendments were made to the wording of some phrases based on the opinions of the arbitrators. Some words were removed and modified.

Correcting the questionnaire according to the criterion approved for the research:

The researcher adopted a five-point grading of the research sample's responses to the questionnaire, which are: exceptionally large, large, medium, little, extraordinarily little, and have the following grades (5 – 4-3-2-1). The period between (5-1) is divided into five levels ($4/5 = 0.8$), meaning that the length of the period (cell) for each level is (0.8) by using the range equation according to the following equations Table (2) The approved study criterion :From 1 to 1.79 is very little, From 1.8 to 2.59 is little, From 2.60 to 3.39 med, 3.40 to 4.19 is highest, 4.20 to 5 is very highest.

Psychometric Properties of the Questionnaire

1- Validity of the study tool: Questionnaire of the professional development needs of faculty members at Al-Balqa Applied University considering the requirements of digital transformation.

The validity of the questionnaire was confirmed through clear validity, as the tool was judged by (5) expert arbitrators. The internal consistency of the questionnaire was also calculated through Pearson correlation coefficients, as shown in Tables (3) and (4). As for reliability, the researcher calculated the Cronbach coefficient and split-half coefficients, as shown in Table (5).

Virtual validity:

The questionnaire was presented in its initial form to a group of (10) arbitrators, to seek their opinions and benefit from their experiences in terms of the questionnaire achieving the objectives of the study and the soundness of its linguistic composition. After considering the comments and modifications, the questionnaire came out in its final form.

Internal consistency validity of the questionnaire:

Internal consistency validity was calculated through the scores of the rationing sample (survey) by finding the Pearson correlation coefficient between the scores of each item and the total score of the scale after deleting the score of the item from the total score of the scale. Table (2) shows this:

Table2. Correlation coefficients between the scores of each item and the total score of the dimension to which it belongs to the tool N = (37)

The first field				The second field			
R	N	R	N	R	N	R	N
**0.79	36	**0.81	24	**0.93	13	**0.83	1
**0.80	37	**0.92	25	**0.96	14	**0.87	2
**0.77	38	**0.88	26	**0.86	15	**0.73	3
**0.86	39	**0.93	27	**0.93	16	**0.88	4
**0.85	40	**0.90	28	**0.92	17	**0.93	5
**0.77	41	**0.91	29	**0.85	18	**0.92	6
**0.84	42	**0.93	30	**0.93	19	**0.93	7
**0.86	43	**0.93	31	**0.91	20	**0.92	8
**0.85	44	**0.95	32	**0.87	21	**0.93	9
**0.77							
**0.84	45	**0.91	33	**0.89	22	**0.91	10
	46	**0.88	34	**0.88	23	**0.90	11
		0.89**	35			**0.88	12

** Correlation coefficients at the level of (0.01) * Correlation coefficients at the level of (0.05)

It is clear from Table (2) that all questionnaire items have positive and statistically significant correlation coefficients at (0.01), which means that the tool has a high degree of validity.

Table 3: Correlation coefficients between the score of each field of the tool and the Total

Field	R
Professional development needs in the leadership	**0.86
Professional development needs in the field of personal skills	**0.85

It is clear from Table (3) that the values of the correlation coefficients are high and significant at the level of (0.01), which shows the validity of the study tool.

2- The reliability of the questionnaire using the Cronbach's Alpha coefficient and the split-half method.

The reliability of the study tool was calculated using the Cronbach's alpha coefficient and the split-half method to study the internal consistency of dimensions, as shown in Table (4), in addition to the split-half method, which is shown in Table (5).

Table 4: Reliability coefficients of the research tool using Cronbach's alpha coefficient and split half

N	Field	Cronbach's Alpha	split half
1	Leadership	.86	.081
2	Personal Skills	.87	0.83

Table (4) shows that the reliability coefficients are high and are greater than (0.70), which gives a good sign of the stability of the tool, and accordingly it can be used.

Scale Correction of the Research

The research used a five-point Likert scale for the research sample's response to the questionnaire tool to determine the degree of professional development needs of faculty members at Al-Balqa Applied University in light of the requirements of digital transformation, which takes (5, 4), 3, 2, 1). A high degree shows the presence of an exceptionally large degree, a large, a moderate, a little, and an extraordinarily little degree.

Fifth: Statistical Procedures:

To achieve the research objectives and analyze the data collected, a number of statistical methods were used using the Statistical Package for the Humanities and Social Sciences (SPSS) after the data was coded and entered into the computer. The statistical processing used in this research is:

1. To calculate the psychometric properties, the correlation coefficient (Pearson), Cronbach's alpha, and split half using the Spearman equation were used.
2. Descriptive statistics by calculating means, standard deviations, frequencies, and relative weight to answer the first study question.
3. T-test and Kruskal-Wells test.

This aspect deals with a presentation of the results reached by the current study, then discussing and interpreting these results and linking them to the results of previous studies included in this study.

3. Results and Discussion.

1. First - The Results of the Research: What are the professional development needs of faculty members at Al-Balqa Applied University about the requirements of digital transformation?

To answer this question, the researcher used the arithmetic means and standard deviations of the faculty members' responses to the research tool, and Table (6) shows the results related to:

Table 5. Results of the arithmetic mean and standard deviation of the research sample's response to the overall tool.

Field	Mean	Std	Ranking	Degree of Needs
Leadership Skills	3.90	0,82	1	Highest
Personal Skills	3.76	0,84	2	Highest
Overall	3.83	0.83	Highest	

Table (5) shows that the professional development needs of the faculty members at Al -Balqa Applied University in light of the requirements of digital transformation came in a medium degree with an average account (3 90) from faculty members' point of view the focus of professional development needs in the personal field in light of the requirements of digital transformation In the field of leadership skills at the first rank 3.90, a standard deviation 0,82, followed by the field of professional development needs in the personal field in light of the requirements of digital transformation, as the standard of the average arithmetic reached 3.76, a standard deviation 0,84 , and by presenting the results of the research sample responses to the total tool phrases.

The first field: The Needs of professional development in the leadership field in light of the requirements of digital transformation

Table (6) Results of the means average and standard deviation for the phrases of the field of professional development needs in the field of leadership in light of the requirements of Digital Transformation

No	Paragraph	Mean	Std	Ranking	Degree
1.	The university evaluates the job performance of the faculty	3.93	.92	1	highest
2.	The university administration encourages positive competition among faculty to achieve outstanding performance	3.92	.91	2	highest
3.	The university administration constantly reconsiders regulations and instructions to keep pace with cognitive changes	3.91	.90	3	highest

4.	The university provides faculty members with a list of weaknesses related to their level of performance	3.89	.91	4	highest
5.	The university administration is keen to select the teaching staff in light of clear and innovative criteria	3.88	.88	5	highest
6.	The university holds partnerships with other universities to exchange training experiences for faculty members	3.85	.76	6	highest
7.	The university administration is keen to improve work procedures on an ongoing	3.89	.78	7	highest
8.	The university administration determines the training needs of faculty members	3.88	.89	8	highest
9.	The university administration is keen to apply the principle of equality in providing professional development opportunities for all faculty	3.86	.88	9	highest
10.	The university adopts the constructive ideas of the faculty	3.85	.86	10	highest
11.	The university is keen to achieve job satisfaction for faculty members	3.88	.94	11	highest
12.	The university administration seeks to improve human relations among the faculty.	3.81	.84	12	highest
13.	The university administration is restructuring jobs to suit developments	3.80	.68	13	highest
14.	The university administration is interested in knowing work problems, their causes, and mechanisms for overcoming them	3.79	.79	14	highest
15.	The university administration is interested in helping the faculty to obtain academic and professional qualifications in their professional development	3.77	.89	15	highest
16.	The university administration delegates authority and powers to suit the capabilities of the teaching staff, and the tasks assigned to them	3.75	.75	16	highest
17.	The university administration is keen to involve the faculty in identifying their professional development needs	3.74	.86	17	highest
18.	The university administration is working to improve the level of performance	3.69	.89	18	highest
19.	The university administration establishes a culture of continuous motivation in the performance of the faculty	3.67	.90	19	Highest
20.	The university administration employs financial resources in a manner appropriate to improving the level of faculty performance	3.63	.86	20	Highest
21.	The university is keen to prepare the teaching staff to accept change and innovation	3.62	.87	21	Highest
22.	The university administration supports a creative work climate	3.69	.98	22	Highest
23.	The university administration is interested in rewarding outstanding performers	3.47	.81	23	Highest
Overall		3.90	0.83	Highest	

Table (6) shows that the needs for professional development in the field of leadership in light of the requirements of the knowledge economy came to a moderate degree, reaching mean 3.90, (STD), from the point of view of the faculty members.

The table also reveals that paragraph (1) achieved the highest average usage, which states, "The university evaluates the job performance of the teaching staff," as it reached mean 3.93, standard deviation .92, followed by paragraph (2), which states, "The university administration encourages positive competition among faculty to achieve outstanding performance." The positive response among the faculty to achieve outstanding performance was (mean = 3.92, standard deviation .91), which means a large degree of use from the faculty point of view.

The table also reveals that paragraph (3), which states, "The university administration constantly reconsiders regulations and instructions to keep pace with cognitive changes, where mean 3.91, standard deviation 0.91, The last paragraph ranked last. The university administration is interested in rewarding outstanding performers, which means 3.47, and a standard deviation 0.81. The researcher indicates that all the statements of this field were highly related to the professional needs of faculty members.

Second Field: Professional development needs in the personal field in light of the requirements of the field Digital Transformation

Table 7. Results of the arithmetic mean and standard deviation for the items of the professional development needs field in the personal field in light of the requirements of digital transformation.

No	Paragraph	Mean	Std	Degree
1.	Possessing digital skills	3.95	0.89	Highest
2.	The university administration encourages the shift from the manual system to the electronic system to develop administrative work	3.85	.86	Highest
3.	The university administration provides the necessary technical courses for faculty members	3.78	.89	Highest
4.	The university administration works to supervise the implementation of professional development programs and evaluate them on an ongoing basis with the aim of improving their outcomes	3.69	.90	Highest
5.	Knowledge of university work ethics and the government code of ethical conduct	3.67	0.80	Highest
6.	Knowledge of e-learning skills	3.66	0.84	Highest
7.	The university provides specialists to provide personal consultations to faculty members	3.63	.86	Highest
8.	The university administration works to provide the administrative units with everything new within their fields of work	3.61	.87	Highest
9.	The university administration is interested in training faculty on how to deal with modern technologies in preserving and retrieving information	3.59	.98	Highest
10.	Ability to create, publish and manage distinctive digital content.	3.58	0.95	Highest
11.	The ability to create, control and manage an effective digital service.	3.56	0.84	Highest
12.	The university administration constantly announces training opportunities available internally and externally	3.55	.81	Highest
13.	The ability to market digital services in a creative and useful way.	3.53	0.88	Highest
14.	Ability to efficiently use and maintain digital devices and technologies.	3.51	0.89	Highest
15.	The university administration follows closely the opinions and suggestions presented by the faculty to improve their personal performance	3.49	.86	Highest
16.	The university administration works to prepare periodic bulletins to educate employees	3.348	.89	Highest
17.	Persuasion methods in the university environment	3.47	0.85	Highest
18.	There is a general weakness in the technological environment to employ digital transformation and artificial intelligence.	3.46	0.83	Highest

19.	The university studies the causes of poor personal performance to help raise performance	3.45	.90	Highest
20.	The university administration holds meetings between faculty and technicians to plan professional development programs	3.44	.86	Highest
21.	The university administration is keen to measure the training return by receiving feedback from the faculty	3.43	.87	Highest
22.	Possessing the skills to adapt to the requirements of digital transformation	3.42	0.48	Highest
23.	Knowledge of electronic supervision methods	3.41	0.55	Highest
Overall		3.76	0.84	Highest

Table (7) shows that the needs for professional development in the personal field in light of the requirements of digital transformation came to a moderate degree, reaching (mean 3.76 STD= 0.98), from the point of view of the Faculty Members.

The table also reveals that paragraph (1) achieved the highest average usage, which states, "Possessing digital skills," as it reached (mean 3.95, with standard deviation 0.89), followed by paragraph (2), which states "The university administration encourages the shift from the manual system to the electronic system to develop administrative work, reaching (mean 3.85, standard deviation 0.85), which means a large degree of use from the faculty point of view."

Table 7 also shows that paragraph (23), which states, "Knowledge of electronic supervision methods," achieved the lowest usage averages, reaching (average = 3.41, standard deviation 0.55),

2- Answering the second research question: Are there any differences in the study sample members' perceptions of professional development needs at Al-Balqa Applied University based on the variables of gender and academic qualification

First: gender

To determine the differences between the teaching staff in the needs of professional development at Al-Balqa Applied University, due to the gender variable, a T-test was used for the two independent groups, and Table (8) shows this.

Table 8: Results of the t-test to study differences in professional development needs at Al-Balqa Applied University due to the variable: gender.

Filed	Mean		Std		T value	Significance level
	Male	Female	Male	Female		
Leadership	3.90	1.103	3.39	0.90	0.70-	0.487
Personal Skills	3.76	1.009	3.60	0.95	1.73-	0.088
Total	3.83	1.01	3.50	0.89	1.25-	0.215

It is clear from Table (8) that there are no statistically significant differences at the level of (0.05) in professional development needs at Al-Balqa Applied University, due to the gender variable, as the average among females is close to the average among males, and the value of T calculated at the degree of freedom(223) reached and that the calculated (t) value is smaller than the tabulated (t) value, which means that the gender variable has no effect on the professional development needs at Al-Balqa Applied University due to the gender variable.

Second: Academic Qualifications:

To know the differences in professional development needs at Al-Balqa Applied University that are attributed to the academic qualification variable: Master's, Doctorate; The researcher used the Kruskal-Walli's test, and Table (9) shows this.

Table 9. The results of the Kruskal-Wallis's test show the differences between members of the research sample in the professional development needs at Al-Balqa Applied University that are attributed to the academic qualification variable.

field	Mean		Kay Square	Significance level
	PhD	Master		
Leadership	68.65	60.24	1.015	0.602
Personal skills	69.45	60.04	1.071	0.585
Total	66.70	60.07	1.009	0.604

It is clear from Table (9) that there are no statistically significant differences at the level of (0.05) in the professional development needs at Al-Balqa Applied University, which is attributed to the academic qualification variable in the total degree and the sub-field, where the chi-square value cancels out at the degree of freedom (223), which means that the academic qualification variable does not affect the professional development needs at Al-Balqa Applied University from the point of view of the faculty.

Second: Discussing:

1- Discuss the results of the first question:

The results of the study revealed the professional development needs of faculty members at Al-Balqa Applied University considering the requirements of digital transformation, which came in at a moderate level (3.39) from the point of view of the faculty. The researcher attributes this result to the extent of the interest of those in charge of Al-Balqa Applied University in developing the administrative and personal skills of employees through training courses and support. "Those who work with everything new and work to achieve Vision 2030" in building an integrated Arab knowledge society, through the efforts of universities to lead the movement of social and cultural change to reach what is desired. This result can also be explained in what was shown by a study (Al-Rashayda and Al-Rashayda, 2017). This indicates that the administration of Al-Balqa Applied University pays attention to developing the skills of employees, and is keen to refine the employees' personalities, develop their talents, abilities, inclinations, experiences, and knowledge in line with modern life, and provide employees with modern tools of science and technology, in addition to that the university's status and reputation are represented by the excellence of the employees. And their competence in it and the extent of their knowledge, keeping pace and openness to technical and cognitive development, and the extent to which they meet the needs of their societies.

This result differs from the study (Al-Tuwaijri, 2020), which showed that the study sample's satisfaction with the short summer educational administrative courses offered by the Educational Center for Development and Professional Development was at a high degree. This result also differed from the study (Al-Fayez, 2016), which showed the trainees' satisfaction. A large degree of discussion sessions during training and

The results of the research revealed the need for professional development in the Leadership skills field considering the requirements of digital transformation, which was rated highly with an average of (3.90) from the point of view of the teaching staff. The results of the study also revealed the need for professional development in the personal field considering the requirements of digital transformation, which was rated highly with an average of (3.76) from the point of view of the teaching staff.

The research attributes this result to what was indicated in the study of the study (Al-Rashayda and Al-Rashayda, 2017), that the university is making great efforts to provide job security for its employees and is keen to establish specific foundations for selecting and selecting employees and to send them in various courses, in addition to its tireless efforts to structure jobs. In keeping with developments and with the increasing number of students, the university, by its nature as an open and unique social and administrative system, is a thorny device consisting of sub-organs that interact with each other to provide specific goals for each of them.

This result agreed with the study (Al-Rashayda and Al-Rashayda, 2017), which indicated that the fields of study (leadership and personal) obtained an average score, and differed with the study (Abu Karim, 2016), which indicated that the level of evaluation of the training course programs held at the Educational Leadership Training Center in... The College of Education at King Saud University, from the trainees' point of view, achieved an elevated level.

Looking at the paragraphs of the first field reveals a high average for its paragraph: "The university evaluates the job performance of the teaching staff." The researcher explains this high average to the extent of the university's keenness to pay attention to improving the skills of administrative workers and addressing deficiencies. This requires finding the strengths and weaknesses of the teaching staff, and this is achieved by evaluating and evaluating performance. The job confirmed this result.

There is a study by [Abu Karim \(2016\)](#), which showed the continuation of providing training programs, diversifying evaluation methods, and the participation of trainees to plan training programs. In the same field, the paragraph "The university adopts constructive ideas among the teaching staff" came with the lowest averages, and the researcher attributes this to the officials' fear of adopting New ideas for fear that they will negatively affect work, and this requires spreading the culture of creativity, adopting everything that is new, encouraging workers with creative ideas, and accepting all new ideas that may be creative and solve many difficulties, even at the very least discussing them, and this leads to leadership creativity, and this study agreed. [Al-Zahrani \(2019\)](#) indicated that the most important requirement for developing the leadership competency of leaders was the field of cognitive creativity to a high degree, and the most important requirement for developing the professional competence of leaders was the field of scientific research competency to a high degree.

Looking at the paragraphs of the second field reveals a high average for its paragraph: The university administration encourages the shift from the manual system to the electronic system to develop leadership work. The researcher explains this high average to the spread of information technology applications, the tremendous technological acceleration, the spread of computing and information and communications technology, and their employment in the personal field. Work in which technology is involved saves time and effort, so this is in line with the requirements of the times.

Second: Discussing the results of the Second question:

1. Gender variable:

The results of the study revealed that there are no statistically significant differences at the level of (0.05) for professional development needs at Al-Balqa Applied University, due to the variable: gender. The researcher explains this result logically by saying that the educational laws are uniform for both male and female workers and that the capabilities available to workers are the same as the capabilities available. For female workers and that training courses are often similar for everyone, the researcher interpreted this result to mean that male and female workers often have almost similar conditions in terms of academic qualification and a similar level of knowledge, which made it very difficult to find differences between them attributable to the gender variable.

2. The academic qualification variable

The results of the study revealed that there are no statistically significant differences at the level of (0.05) for professional development needs at Al-Balqa Applied University, which is attributed to the academic qualification variable. The researcher explains this result because the majority of the study sample members were holders of a bachelor's degree, which limited the emergence of differences between them that could be Attributable to academic qualification, this can be explained by the fact that a large percentage of participants were holders of a bachelor's degree. They have studied in similar academic programs and work in similar educational environments.

4. Conclusion:

1. The professional development needs of faculty members at Al-Balqa Applied University in light of the requirements of digital transformation came to a significant degree with an average of (3.83) from the faculty's point of view.
2. Professional development needs in the field of leadership in light of the requirements of digital transformation was rated highly with an average of (3.90) from the faculty's point of view.
3. Professional development needs in the personal field in light of the requirements of digital transformation came in at a moderate level, with an average of (3.76) from the faculty's point of view.
4. There are no statistically significant differences at the level of (0.05) regarding professional development needs at Al-Balqa Applied University, due to the variable: gender and academic qualification

5. Recommendations:

In light of the results of the current research:

1. Holding lectures and workshops from time to time to develop the necessary digital transformation skills for faculty members at Al-Balqa Applied University.
2. Working to encourage the faculty at Al-Balqa Applied University to increase their professional development through familiarity with publications related to digital transformation and monitoring what is found in the leadership field.
3. Reviewing the training programs at Al-Balqa Applied University to make them more relevant to the needs of the teaching staff.
4. Work to provide training programs to qualify teaching staff and improve their personal and leadership skills, provided that these training programs are based on the basic principles of professional development.
5. Conduct further scientific studies to decide the actual needs of faculty members at Al-Balqa Applied University.
6. The necessity of raising the level of the teaching staff at Al-Balqa Applied University in the English language by enrolling them in specialized courses.
7. Holding training courses in the fields of modern technology: artificial intelligence, cloud computing, computer programming, and the Internet of Things.

Third: Proposals for future studies:

1. Conduct a study similar to the current study targeting the professional development needs of faculty members in other universities and draw a comparison between its findings and the results of the current research.
2. Conduct a study aimed at assessing the professional development needs of faculty members, along with other variables, considering the requirements of digital transformation.
3. Conduct a study based on a program aimed at developing the professional development needs of faculty members.
4. Conduct a study targeting the obstacles to the professional development needs of faculty members considering the requirements of digital transformation.

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