



## Digital leadership among Arab School Principals within the Israel from the Principals and Teachers Point of View

Dr. Souad Abu Rukon, Dr. Nassar Tarabiy Dr. Ihab Massarwa

Ministry of education

[Souad38@gmail.com](mailto:Souad38@gmail.com), [nassart1@gmail.com](mailto:nassart1@gmail.com), [Ihab10.1975@gmail.com](mailto:Ihab10.1975@gmail.com)

### Abstract

The aim of this study was to identify the degree of digital leadership employment among Arab school principals within the ISREAL from the point of view of principals and teachers, and ways to improve it, as well as to know the impact of variables (gender, job title, educational qualification, years of experience, type of school) in that degree, a mixed approach (quantitative, qualitative) was used, a questionnaire and interview were used to collect the necessary data to achieve the objectives of the study, the study sample consisted of (572) principals and teachers, selected by an accessible method, The results of the study showed that the degree of digital leadership employment among Arab school principals within the ISREAL from the point of view of principals and teachers was moderate, The results, further, indicated that there were significant statistical differences at ( $\alpha=0.05$ ) in sample's estimates of the degree of employment of Arab school principal's digital leadership due to job title variable in favor school principals, educational qualification in favor of graduate studies, and type of school variable in favor of private schools, and didn't show any significant statistical differences due to (gender, years of experience).

The results of the study came up with a set of proposed ways to improve the degree of school principals' practice of digital leadership: ways related to the school infrastructure, ways related to preparation and qualification, ways related to school planning, and ways related to supervision and follow-up. In the light of the results of the study, the researcher concluded a set of recommendations, the most important of which are: inviting decision-makers to develop policies, regulations and regulations related to the employment of digital technology, defining a system for training programs and evaluating workers for the application of modern technology in school leadership, with a focus on the professional development needs of school leaders in light of the dimensions of leadership. Digital, and the need to pay attention to the infrastructure of schools and provide them with the devices, tools and software necessary to raise the level of employment of school principals with digital leadership in their schools.

**Keywords:** Digital leadership, Ways to Improve, Arab School Principals, Teachers, ISREAL.



## **BACKGROUND AND IMPORTANCE OF THE STUDY**

### **INTRODUCTION**

The sources of knowledge in developed societies have varied, and the intellectual, economic, scientific and informatics achievements have multiplied, which led to the expansion of the responsibilities of any country seeking to reach the ranks of developed countries, and its growth in all fields, so that contemporary countries have become distinguished from each other by effective management and practiced leadership behavior, as they represent the appropriate means to achieve comprehensive development in various fields, this is why it has become an urgent need for any educational institution to possess distinguished leaders who are able to keep pace with contemporary educational developments and rapid societal changes in light of technological development, and the knowledge explosion that all countries and societies of the world are witnessing, and dealing with it wisely and rationally in order to achieve the desired educational goals.

The modern technological development that all societies are witnessing has led to changes in the administrative, industrial, economic, political and social systems, and in the daily life of the individual, as the world in light of the era of commerce, industry and the accelerating digital society has become in need of a new leadership with a scientific vision and a new approach commensurate with this digital age and the technological society that is accelerating development, change and development (Al-Taie & Al-Hadrawi, 2019).

Digital leadership is one of the contemporary management concepts that described and clarified the role of leadership, so it was necessary to distinguish between two closely related categories of leadership, the first: leadership in the digital age; which points out that leadership in any organization or sector is an integral part of the broad shifts towards a more knowledgeable and developed society, as most leaders in various fields are familiar with all modern constraints, and are keen to provide opportunities related to information and communication technology and use them effectively. The second is digital leadership, which refers to leadership in the main sectors of society. Many leadership innovations have emerged in the basic information and communication technology sectors, such as: using Internet portals to facilitate communication between all workers in those sectors (Collin et al, 2015).

In view of the school administration in the digital age, the school principal must understand the basics of digital leadership, and understand that digital transformation is not only related to technology, but is related to the competencies possessed by the digital leader, the strategy of employing digital tools and contemporary technical culture and the competencies of using them efficiently and effectively, as well as how to use them to create a competitive advantage, by understanding the behavioral, economic, and social transformations created by contemporary technological means such as: mobile phone, social networks,



electronic clouds, and big data, and using these major transformations to raise the level of individual and institutional performance, and distinguish it; digital transformation refers to the changes associated with the application of digital technologies in all areas of human society (Ellis, 2009).

Digital leadership requires the school principal to play new roles that are no less important than other roles, as the success of the school principal in performing his role by practicing the use of technology in his school enhances his success in other roles. Technology, if properly invested and employed, works to reduce the burdens placed on him, as it provides him with digital tools and media that shorten his time, and save effort in completing the tasks entrusted to him, in a manner that guarantees his accuracy and speed. In order for the school principal to be able to carry out his work as a digital leader, he must possess a set of skills, summarized by Shaheen (2011) as follows: Realizing the relationship between information and communication technology and empowerment, and having adequate knowledge in determining the times when digital media should be invested and employed as an alternative to traditional procedures, the ability to harmonize with different digital media, and ensure that they are used in the most appropriate manner in exchanging information, including: e-mail, electronic conferences, appreciating and encouraging creativity and technological innovation, having the ability to use technology in school work, being trained and motivated to use it, appreciating the value of supporting electronic support systems, keen to invest in the opportunities provided by communication and information technology and the Internet, and building virtual work teams, preserving and motivating talent, mastering communication and remote communication skills with the various parties to the educational process, and individuals with multiple individual differences, in addition to openness to multiple cultures.

The interest in digital leadership, the adoption of the use of digital media and its accessories, and its employment in school work in a meaningful way and in accordance with a clear vision and strategic plan, has its basic justifications, as Sheninger (2019) referred to several reasons that justify schools adopting digital leadership, which are as follows: Providing a stimulating learning environment for students, helping them achieve success and excellence through teamwork, fluency in technology, and high productivity, and enabling them to master the skills of the twenty-first century, including: learning and creativity skills such as critical thinking and problem solving, communication skills, innovation and creativity, digital culture skills such as information culture, media culture, information and communication technologies culture, career and life skills such as flexibility and adaptation, initiative and self-direction, social interaction and multicultural interaction, productivity and accountability, leadership and responsibility, as well as providing students with the opportunity to actively participate in the educational process.



Mahmoud (2015) indicated that the trend towards employing digital leadership in school work requires a number of changes, including: investing in the human capital of educational institutions, in addition to the technical developments resulting from the information and communication technology revolution, the business and Internet revolution, globalization, and the challenges it imposed on educational institutions, so schools need leaders and teachers who are able to keep pace with these matters by having skills that enable them to deal with them to achieve the desired educational goals.

The main objective of the educational-learning process is to motivate teachers and encourage them to possess knowledge of all kinds, by motivating them and increasing their desire to develop themselves, and working to raise the level of their possession of professional skills and competencies, which enables them to help students in understanding basic scientific concepts and terms such as: Internet and technology due to their importance in their scientific and practical lives; Incentives in education play an important role in guiding learners and guiding them towards acquiring educational material in a fun and interesting scientific way (Karabenick & Conley, 2011).

Technological developments that the world is witnessing today, and what is observed of its techniques in societies, have created the need for a new leadership with a scientific vision and a new approach that is compatible with the requirements of this digital era. Therefore, the concept of digital leadership emerged to represent a meeting point between two branches of science, namely: leadership, and the science of technology, and accordingly digital leadership is defined as "the process of social influence by means of advanced information technology to bring about a change in attitudes, feelings, thinking, behavior and performance with individuals, groups and institutions, which can occur at any level of the organization's hierarchy" (Avolio, Kahai & Dodge, 2000).

In light of the technological progress, the role of the school principal is no longer limited to managing the various school affairs, but rather he has to take into account the educational process and its development from all aspects, including the local community aspects and its development, and the absorption of modern concepts for his role in leading the process of renewal and development of the educational and learning process in his school to achieve the maximum possible quality, effectiveness and efficiency, and providing all possible facilities and activities for teachers and his endeavor to enroll them in specialized courses and inform them of all that is new in terms of variables in light of technical progress and rapid societal changes in this century to improve their job performance because of its positive repercussions on the academic achievement of students (Al-Saud, 2009).

In view of the emergency conditions facing education that require full readiness to deal with them immediately and the negative effects that resulted from the spread of the Corona pandemic, which led to the closure of schools and universities to resort to the option of distance



education to ensure the continuity of student learning, as distance education has become the ideal solution, and it is almost the only one to absorb what is sweeping global health, and it has become one of the forms of education that school teachers must master, so it was necessary for school leaders to reconsider the strategies, methods and methods by which they perform their work, and work to find new alternatives that enable it to perform its tasks to the fullest, and it should reconsider the qualification and training of its cadres, reconsider the leadership techniques it uses, and harness technologies and technology to serve their work, hence the idea of this study.

### **STUDY ISSUE AND QUESTIONS**

The researcher, through his work as deputy principal of one of the Arab schools affiliated to the Northern District within the ISREAL, noticed the lack of some school principals of competencies and technical skills that would enable them to perform their job tasks to the fullest, especially in light of the emergency conditions imposed on them by the Corona pandemic. Through research and investigation through knowledge sources and the Internet, it became clear that there are few studies that looked at employing digital leadership among school principals, and ways to improve it. In addition, the study by each of: (Abu Hayya, 2021; Al-Zahli, Al-Kharousi, & Al-Shuaili, 2021) focused on the degree of school principals employing digital leadership. The study by (Abu Hayya, 2021) showed that the average degree of employability was high, while the study by (Al-Zahli et al., 2021) showed that the degree of digital leadership employment among school principals was significant, which constituted the controversy in their results. As for the study by (Zhong, 2017), it came for the purpose of revealing indicators of digital leadership in general education schools in light of the standards of the International Society for Technology in Education Standards for Administrators (ISTE-A). Hence, the problem of this study is to reveal the degree of digital leadership employment among Arab school principals within the ISREAL from the point of view of principals and teachers, as well as to identify ways of improvement. More specifically, the study attempted to answer the following questions:

1. What is the degree of digital leadership employment among Arab school principals within the ISREAL from the point of view of principals and teachers?
2. Are there statistically significant differences at the level of statistical significance ( $\alpha = 0.05$ ) in the respondents' responses about the degree of digital leadership employment among Arab school principals in the northern district within the ISREAL due to the variables (gender, job title, academic qualification, years of experience, and school type)?



## **STUDY OBJECTIVES**

This study sought to achieve the following objectives:

- Recognizing the degree of digital leadership employment among Arab school principals within the ISREAL from the point of view of principals and teachers to work on improving that degree because of its positive effects on the course of the teaching-learning process and its outcomes of students.
- Detecting whether there are statistically significant differences at the level of statistical significance ( $\alpha = 0.05$ ) in the responses of principals and teachers to the degree of digital leadership employment among Arab school principals in the northern district within the ISREAL due to the variables (gender, job title, academic qualification, and years of experience and type of school).
- Identifying ways to improve the degree of digital leadership employment among Arab school principals in the Northern District within the ISREAL from the point of view of principals and teachers, due to the benefits of this study for all members of the school community.

## **STUDY IMPORTANCE**

The importance of this study stems from its attempt to reveal the degree of digital leadership employment among Arab school principals in the northern district within the ISREAL. The importance of the study appears as follows:

### **Theoretical importance:**

- It is hoped that this study will enrich the theoretical aspect in the field of digital leadership among Arab school principals to work on improving the use of digital leadership by Arab school principals, due to its positive effects on the performance of school principals, the productivity of teachers and the performance of their students, and in the hope that this study will enrich the Arab library with the information it provides about the concept of digital leadership.

### **Applied importance:**

- The applied importance of the current study lies through its findings, which may contribute to directing the attention of decision makers, educational policy makers and supervisors in the Ministry of Education if it is adopted in order to improve practices related to digital leadership by principals of Arab schools in the Northern District within the ISREAL, in a way that reflects positively on them and their performance, and the performance of their teachers and students. Also, this study may contribute to directing the attention of decision-makers in the Ministry of Education to the need to provide all means that school principals can follow to get rid of the challenges that may hinder their employment of digital



leadership. It is hoped that this study will benefit school principals, supervisors, teachers, parents, students, researchers and graduate students.

- The benefit of researchers and graduate students towards conducting more studies similar to the current study and in the light of some other demographic variables, in light of the results of this study.

### **CONCEPTUAL AND PROCEDURAL DEFINITIONS**

The current study included the following conceptual and procedural definitions:

**Digital leadership:** It is “the mobilization of leadership resources and structural leadership, to persuade members of society to gain access to new information and communication technologies and resources that can help achieve the goals of education” (Bounfour, 2016, 134).

**Procedurally;** It is defined as the practices and behaviors of Arab school principals in the Northern District within the ISREAL through the use of digital tools while performing their job duties such as social media, communication via web applications such as Zoom and video conferencing, and digital educational games such as Padlet, Wordwall and other digital tools that appear every day as a result of successive technical developments to achieve the educational goals sought by the school. It is measured in this study by the total score obtained by the respondents on the tool prepared by the researcher for this purpose.

**Ways to improve the employment of digital leadership:** It is defined procedurally as the solutions proposed by the sample members of school principals and teachers in the Arab schools in the Northern District within the ISREAL to reduce or overcome the challenges facing the employment of Arab school principals in the Northern District within the ISREAL of digital leadership in their schools, revealed by interviews conducted with a sample of principals and teachers, measured by frequencies and percentages reflected by their responses to these methods.

**The ISREAL:** It is the dividing line between the territories occupied in 1948 and the territories occupied in 1967. By Arabic schools, the researcher means all schools that are located within the Palestinian territories occupied in 1948, specifically in the northern district.

### **STUDY LIMITS**

The limits of the study are as follows:

**Objective limit:** It is represented in the degree of practicing digital leadership among Arab school principals in the northern district within the ISREAL, and ways to improve it.



**Human limit:** This study was limited to a sample of male and female principals, male and female teachers in the Northern District within the ISREAL.

**Spatial limit:** The current study was applied in Arab schools affiliated to the Ministry of Education in the Northern District within the ISREAL.

**Time limit:** This study was implemented during the first semester of the academic year 2022/2023 AD.

### **STUDY DETERMINANTS**

The generalization of the results of this study depends on the objectivity and seriousness of the responses of the study sample, the instruments used to collect data, and their acceptable psychometric characteristics (validity and reliability).

### **METHODS AND PROCEDURES**

#### **STUDY METHODOLOGY**

The descriptive survey approach and the qualitative approach were adopted due to their suitability for the purposes of this study.

#### **STUDY POPULATION**

The study population consisted of all male and female principals, male and female teachers working in the Ministry of Education in the Northern District within the ISREAL, who numbered (23035) individuals; of whom (428) are male and female principals, and (22,607) are male and female teachers.

#### **STUDY SAMPLE**

The members of the study sample were selected from the study population using the available method. They numbered (572) respondents; of whom (227) were male and female principals and (345) male and female teachers. Table (1) shows the distribution of the study sample according to its variables.

**Table (1): Distribution of the study sample according to its variables**

Variable	Variable levels/categories	Number	Percentage
Gender	Male	217	37.9
	Female	355	62.1
	<b>Total</b>	572	100
Job title	School principal	227	39.7
	Teacher	345	60.3
	<b>Total</b>	572	100



Variable	Variable levels/categories	Number	Percentage
Qualification	Bachelor or less	55	9.6
	Graduate	517	90.4
	<b>Total</b>	572	100
Years of experience	Less than 10 years	104	18.2
	10 years or more	468	81.8
	<b>Total</b>	572	100
School type	Public	374	65.4
	Private	198	34.6
	<b>Total</b>	572	100

A purposive sample of (20) principals and teachers was also selected, in order to obtain their views on ways to improve the degree of Digital leadership employment among Arab school principals within the ISREAL.

### **STUDY INSTRUMENTS**

In collecting the necessary data to achieve the objectives of the study, the researcher used two instruments: a questionnaire, which consisted of two parts, the first part included the respondent's personal data, and the second part to measure the degree of digital leadership employment among Arab school principals within the ISREAL; The second instrument is the interview, where an in-depth interview was conducted with (20) principals and teachers, including (10) principals and (10) teachers with experience and competence, to get their views on ways to improve the degree of digital leadership employment among Arab school principals within the ISREAL. Here is an overview of both instruments:

#### **First: the first instrument**

The study instrument was developed by referring to theoretical literature and previous studies, as the instrument consisted in its initial form of (49) items distributed over four areas: (school planning, school technical infrastructure, supervision and follow-up, and teacher training and qualification).

In order to verify the validity of the content of the instrument, it was presented in its initial form to a group of arbitrators, with the aim of expressing their opinions on the items of the questionnaire in terms of the clarity and soundness of the linguistic wording, their belonging to the domain to which they belong, and any notes or modifications they deem appropriate. After taking into account the observations of the arbitrators, the instrument consisted in its final form of (48) items distributed over four areas: (school planning, school technical infrastructure, supervision and follow-up, and teacher training and qualification).



In order to verify the validity of the construction of the study instrument, it was applied to an exploratory sample consisting of (30) male and female principals and male and female teachers from the target study community and from outside the study sample, in order to calculate the values of the Pearson correlation coefficients of the items to the instrument and the domain to which they belong, and the values of the inter-correlation coefficients between the domains of the instrument, as shown in Table (2).

**Table (2): Pearson correlation coefficients of the items to the domain to which they belong, and to the instrument as a whole (n = 30)**

Item number	Correlation coefficient to:		Item number	Correlation coefficient to:	
	Domain	Instrument		Domain	Instrument
1	0.7	0.64	25	0.79	0.64
2	0.74	0.58	26	0.69	0.47
3	0.79	0.65	27	0.65	0.48
4	0.77	0.7	28	0.69	0.65
5	0.63	0.65	29	0.76	0.61
6	0.62	0.7	30	0.44	0.28
7	0.63	0.62	31	0.66	0.71
8	0.78	0.72	32	0.54	0.55
9	0.81	0.79	33	0.55	0.66
10	0.73	0.75	34	0.5	0.42
11	0.77	0.7	35	0.66	0.6
12	0.86	0.71	36	0.74	0.64
13	0.83	0.62	37	0.52	0.56
14	0.76	0.67	38	0.88	0.74
15	0.68	0.53	39	0.83	0.63
16	0.91	0.73	40	0.76	0.65
17	0.9	0.82	41	0.9	0.71
18	0.86	0.79	42	0.85	0.73
19	0.54	0.54	43	0.64	0.67
20	0.69	0.71	44	0.79	0.77
21	0.48	0.58	45	0.83	0.66
22	0.77	0.86	46	0.71	0.56
23	0.68	0.71	47	0.83	0.7
24	0.74	0.79	48	0.82	0.68



It is noted from Table (2) that the values of the correlation coefficients of the items of the school planning domain to their domain ranged from (0.62) to (0.81), and to the instrument ranged from (0.58) to (0.79), and that the values of the correlation coefficients of the items of the domain of technical infrastructure to their domain ranged from (0.68) to (0.91), and to the instrument it ranged from (0.53) to (0.82). And that the values of the correlation coefficients of the items in the domain of supervision and follow-up ranged from (0.44) to (0.79), and to the instrument it ranged from (0.28) to (0.86), and that the values of the correlation coefficients of the items of teacher training and qualification ranged from (0.64) to (0.90), and to the instrument ranged from (0.56) to (0.77). It is noted that the previous values of construct validity did not fall below a standard of (0.20), which indicates the quality of the construction of the scale's items (Al-Kilani & Al-Sharifin, 2011, 431).

Pearson correlation coefficients were also calculated for the correlation of domains to the instrument as a whole, in addition to calculating the values of Pearson's inter-correlation coefficients of domains to each other, as shown in Table (3).

**Table (3): Pearson correlation coefficients values of domains correlation to the instrument as a whole, and Pearson correlation coefficients values of domains to each other**

Relationship	Statistical	School Planning	School Technical Infrastructure	Supervision and follow-up	Teacher training and qualification		
School Technical Infrastructure	Correlation coefficient	0.7					
	Statistical significance	0					
Supervision and follow-up	Correlation coefficient	0.79				0.67	
	Statistical significance	0				0	
Teacher training and qualification	Correlation coefficient	0.64				0.66	0.59
	Statistical significance	0				0	0
Overall instrument	Correlation coefficient	0.89	0.87	0.86	0.86		
	Statistical significance	0	0	0	0		



It is noted from Table (3) that the values of Pearson correlation coefficients of the correlation of domains to the instrument as a whole ranged from (0.86) to (0.89), and that the values of Pearson correlation coefficients of the correlation of domains to each other ranged from (0.59) to (0.79), which indicates the quality of the construction of the items of the instrument.

For the purposes of verifying the reliability of the internal consistency of the instrument, Cronbach's  $\alpha$  equation was used, depending on the data of the instrument application to the exploratory sample which consisted of (30) male and female teachers, as shown in Table (4).

**Table (4): The values of internal consistency reliability coefficients for the questionnaire measuring the degree of digital leadership employment among school principals and its domains**

The instrument and its domains	Reliability of internal consistency	Number of items
School Planning	0.91	9
School Technical Infrastructure	0.92	9
Supervision and follow-up	0.92	19
Teacher training and qualification	0.94	11
<b>Overall instrument</b>	-	48

It is noted from Table (4) that the value of internal consistency reliability of the questionnaire domains measuring the degree of digital leadership employment among school principals ranged from (0.91) to (0.94); these values indicate the quality of the instrument construction and its validity for the purposes of this study.

### **Second: The second instrument: the interview**

An interview consisting of an open question was developed in order to identify ways to improve the degree of digital leadership employment among Arab school principals in the Northern District within the ISREAL. The question was:

**What are the ways to improve digital leadership employment among principals of Arab schools in the northern district within the ISREAL?**

### **STUDY VARIABLES:**

The study included the following variables:



**First: Intermediate variables, including:**

- **Gender:** It has two categories (male and female).
- **Job title:** It has two categories (school principal, teacher).
- **Academic qualification:** It has two levels (Bachelor's degree or less, postgraduate studies).
- **Years of experience:** It has two categories (less than 10 years, 10 years and more).
- **School type:** It has two categories (public and private).

**Second: The main variables, including:**

- The degree of practicing digital leadership among principals of Arab schools in the Northern District within the ISREAL.

## **STUDY OUTCOMES**

*Outcomes of the first question: "What is the degree of digital leadership employment among Arab school principals within the ISREAL from the point of view of principals and teachers?"*

To answer this question, the arithmetic means and standard deviations of the degree of digital leadership employment among Arab school principals within the ISREAL from the point of view of principals and teachers were calculated, taking into account the descending order of domains, according to their total arithmetic means, as in Table (5).

*Table (5): The values of the arithmetic means and standard deviations of the study sample's estimates of the degree of digital leadership employment among Arab school principals and its domains, arranged in descending order*

Order	Domain Number	Scale and its domains	Arithmetic mean	Standard deviation	Degree of employment
1	2	School Technical Infrastructure	3.65	0.89	Moderate
2	1	School Planning	3.64	0.87	Moderate
3	3	Supervision and follow-up	3.6	0.87	Moderate
4	4	Teacher training and qualification	3.59	0.9	Moderate
<b>Overall score of the instrument</b>			3.62	0.86	Moderate

It is noted from the results in Table (5) that the degree of digital leadership employment among Arab school principals within the ISREAL from the point of view of principals and



teachers as a whole was moderate, with an arithmetic mean (3.62) and a standard deviation (0.86). The domains came according to the following order: the technical infrastructure of the school ranked first, followed by the domain of school planning in the second order, then the domain of supervision and follow-up in the third order, and finally the domain of teacher development and qualification in the fourth order.

For more information, the arithmetic mean and standard deviations of the estimates of the study sample were calculated on the items of each domain separately, as they were as follows:

### 1. The domain of technical infrastructure of the school

*Table (6): The values of the arithmetic means and standard deviations of the study sample's estimates about the degree of digital leadership employment among Arab school principals on items in the domain of (technical infrastructure of the school), arranged in descending order*

Rank	Item number	Items	Arithmetic mean	Standard deviation	Degree of employment
		The school principal shall:			
1	11	Coordinate with the concerned authorities to provide permanent internet connection within the school.	3.7	0.93	High
2	13	Coordinate with the concerned authorities to carry out the necessary maintenance of technology tools in the school.	3.68	0.96	High
3	17	Provide computer laboratories equipped with all computer requirements and accessories.	3.67	0.93	High
4	15	Collaborate with the Country Council to provide indigent students with tablets to ensure the continuity of their learning.	3.66	0.96	Moderate
4	12	Communicate with the Ministry of Education to provide the school's needs of technology tools such as computers, interactive whiteboards, LCD projectors and others.	3.66	0.98	Moderate
6	14	Provide the digital software necessary for school work.	3.65	0.96	Moderate



Rank	Item number	Items	Arithmetic mean	Standard deviation	Degree of employment
		The school principal shall:			
6	16	Provide the necessary financial resources for the success of the implementation of classroom activities through educational platforms.	3.65	0.93	Moderate
8	18	Provide school subscriptions to internet computer applications (scientific applications, search engines, forums, etc.).	3.61	0.95	Moderate
9	10	List all the technology tools available in the school to show teachers how to use them.	3.6	0.91	Moderate
<b>Total degree of the domain</b>			<b>3.65</b>	<b>0.89</b>	<b>Moderate</b>

It is noted from the results in Table (6) that the arithmetic mean is confined between (3.60) and (3.70), as item (11) came, and item (10) came in the last rank.

## 2. The domain of school planning

*Table (7): The values of the arithmetic means and standard deviations of the estimates of the study sample about the degree of digital leadership employment among Arab school principals on items in the domain of (school planning), arranged in descending order*

Rank	Item number	Items	Arithmetic mean	Standard deviation	Degree of employment
		The school principal shall:			
1	1	Adopt a common vision based on integrating technology into school work.	3.77	0.91	High
2	2	Develop a strategic plan to achieve the shared vision of integrating technology into school work.	3.69	0.91	High
3	5	Ask the teachers to provide him with the semester study plan for the curriculum electronically.	3.67	0.97	High
4	4	Relies on digital media in planning school work instead of relying on paper planning.	3.65	0.93	Moderate



Rank	Item number	Items	Arithmetic mean	Standard deviation	Degree of employment
		The school principal shall:			
4	7	Plan for e-learning in light of the digital media available in the school.	3.65	0.92	Moderate
6	6	Establish working groups of teachers to plan for the implementation of distance education.	3.6	0.94	Moderate
7	3	Provide teachers with electronic classroom planning models to simulate.	3.58	0.94	Moderate
8	8	Hold brainstorming sessions through educational platforms with teachers to determine future directions in the field of e-learning.	3.56	0.97	Moderate
9	9	The school principal engages teachers electronically in planning school work.	3.55	0.99	Moderate
<b>Total degree of the domain</b>			3.64	0.87	Moderate

It is noted from the results in Table (7) that the arithmetic mean is confined between (3.55) and (3.77), as item (1) came in the first rank, and item (9) came in the last rank.

### 3. The domain of supervision and follow-up

*Table (8): The values of the arithmetic mean and standard deviations of the estimates of the study sample about the degree of digital leadership employment among Arab school principals on the items of the domain (supervision and follow-up), arranged in descending order*

Rank	Item number	Items	Arithmetic mean	Standard deviation	Degree of employment
		The school principal shall:			
1	37	Encourage teachers to educate themselves on technology to support their professional practices.	3.69	0.94	High



Rank	Item number	Items	Arithmetic mean	Standard deviation	Degree of employment
		The school principal shall:			
2	23	Make sure that teachers are able to use electronic educational platforms.	3.65	0.91	Moderate
2	27	Follow up the students' results electronically in preparation for their approval.	3.65	0.92	Moderate
4	33	Share the school's successes in implementing the strategic plan to integrate technology into the school with his classmates.	3.64	0.95	Moderate
5	21	Make sure that students have computers or tablets to use for distance education.	3.63	0.95	Moderate
5	22	Make sure that teachers are ready for e-learning.	3.63	0.94	Moderate
5	24	Follow up on the entry (teachers and students) to the educational platform through digital media.	3.63	0.92	Moderate
5	28	Make sure that the school exams run properly through the digital applications.	3.63	0.92	Moderate
9	31	Constantly improve the way technology is used in schools to support student learning.	3.62	0.95	Moderate
10	20	Make sure that the semester plan covers the subjects of the textbook.	3.59	0.93	Moderate
10	29	Maintain an updated electronic cumulative record to document teachers' performance.	3.59	0.97	Moderate
12	26	Make sure that the teacher is ready to plan his class.	3.58	0.93	Moderate
13	32	Share the best practices in the use of technology in his school with the leaders of other schools, exchanging experiences.	3.57	0.94	Moderate



Rank	Item number	Items	Arithmetic mean	Standard deviation	Degree of employment
		The school principal shall:			
13	25	Follow up on the implementation of the classroom session as planned by the teacher electronically.	3.57	0.94	Moderate
13	35	Evaluate the performance of his employees using computer programs.	3.57	0.99	Moderate
16	19	Keep track of the teacher's class planning electronically.	3.56	0.94	Moderate
16	30	Communicate continuously with parents through social media to inform them of the results of their children.	3.56	0.94	Moderate
18	34	Record the teachers' class visits electronically.	3.52	1	Moderate
18	36	Follow teachers as they implement beta tests for students through the platform.	3.52	0.96	Moderate
<b>Total degree of the domain</b>			3.6	0.87	Moderate

It is noted from the results in Table (8) that the arithmetic mean is confined between (3.52) and (3.69), as item (37) came in the first rank, and item (36) came in the last rank.

#### 4. The domain of teacher training and qualification

*Table (9): The values of the arithmetic mean and standard deviations of the study sample's estimates about the degree of digital leadership employment among Arab school principals on the items of the domain (training and qualification of teachers) arranged in descending order*

Rank	Item number	Items	Arithmetic mean	Standard deviation	Degree of employment
		The school principal shall:			
1	46	Trains teachers on how to computerize the curriculum.	3.66	0.97	Moderate
2	40	Seek to enable teachers to possess distance education skills.	3.65	0.97	Moderate



Rank	Item number	Items	Arithmetic mean	Standard deviation	Degree of employment
		The school principal shall:			
3	48	Provide teachers with the latest technological developments to support distance education.	3.62	0.96	Moderate
4	43	Use social media such as Facebook and WhatsApp to spread digital knowledge among school staff.	3.6	0.99	Moderate
5	42	Train teachers in the skill of setting and formulating educational goals.	3.59	0.94	Moderate
6	47	Offer some presentations on how to use the educational platform and its windows.	3.58	0.99	Moderate
7	44	Provide teachers with some teaching methods that enhance students' interaction with them through the platform.	3.57	0.95	Moderate
8	38	Call on teachers to educate themselves technologically to support their professional practices.	3.56	0.95	Moderate
9	41	Train teachers to make specification tables for tests.	3.54	0.97	Moderate
9	45	Hold brainstorming sessions via electronic platforms to determine future trends in the field of distance education.	3.54	0.96	Moderate
9	39	Provide teachers with an explanation via the platform on how to create electronic tests.	3.54	0.97	Moderate
<b>Total degree of the domain</b>			3.59	0.9	Moderate



It is noted from the results in Table (9) that the arithmetic mean is confined between (3.54) and (3.66), as item (46) came in the first rank, and items (39, 45, 41) came in the last rank.

**Outcomes of the second question: “Are there statistically significant differences at the level of statistical significance ( $\alpha = 0.05$ ) in the respondents' responses about the degree of digital leadership employment among Arab school principals in the northern district within the ISREAL due to the variables (gender, job title, academic qualification, years of experience, and school type )?”**

To answer this question, the arithmetic means and standard deviations of the degree of digital leadership employment among Arab school principals within the ISREAL from the point of view of principals and teachers were calculated according to the variables (gender, job title, educational qualification, years of experience, and school type), as shown in the table (10).

**Table (10): The values of the arithmetic means and standard deviations of the degree of digital leadership employment among Arab school principals and its domains according to the study variables**

Variable	Variable levels/categories	Statistical	Domains				Over all scale
			School planning	School technical infrastructure	Supervision and follow-up	Teacher training and qualification	
Gender	Male	Arithmetic mean	3.67	3.66	3.61	3.58	3.63
		Standard deviation	0.85	0.87	0.85	0.88	0.84
	Female	Arithmetic mean	3.62	3.65	3.6	3.59	3.61
		Standard deviation	0.88	0.9	0.89	0.92	0.88
Job title	School principal	Arithmetic mean	4.24	4.22	4.2	4.2	4.21



Variable	Variable levels/categories	Statistical	Domains				Overall scale
			School planning	School technical infrastructure	Supervision and follow-up	Teacher training and qualification	
	Teacher	Standard deviation	0.49	0.46	0.48	0.48	0.46
		Arithmetic mean	3.24	3.28	3.21	3.18	3.23
		Standard deviation	0.84	0.91	0.85	0.89	0.84
Qualification	Bachelor or less	Arithmetic mean	2.93	2.93	2.91	2.82	2.9
		Standard deviation	1.09	1.1	1.14	1.16	1.1
	Graduate	Arithmetic mean	3.71	3.73	3.67	3.67	3.7
		Standard deviation	0.81	0.83	0.81	0.83	0.8
Years of experience	Less than 10 years	Arithmetic mean	3.12	3.11	3.12	3.07	3.1
		Standard deviation	1.02	1.06	1.05	1.09	1.03
	10 years or more	Arithmetic mean	3.75	3.77	3.71	3.7	3.73



Variable	Variable levels/categories	Statistical	Domains				Overall scale
			School planning	School technical infrastructure	Supervision and follow-up	Teacher training and qualification	
		Standard deviation	0.79	0.8	0.79	0.82	0.78
School type	Public	Arithmetic mean	3.35	3.38	3.32	3.29	3.34
		Standard deviation	0.84	0.88	0.84	0.88	0.83
	Private	Arithmetic mean	4.17	4.17	4.13	4.14	4.15
		Standard deviation	0.66	0.64	0.67	0.65	0.64

It is noted from the results in Table (10) that there are apparent differences between the arithmetic mean due to the different levels of the study variables (gender, job title, academic qualification, years of experience, and type of school). In order to verify the significance of the apparent differences between these media, a five-way analysis of variance was performed as shown in Table (11).

**Table (11): Results of the five-way variance analysis of the respondents' estimates about the degree of digital leadership employment among Arab school principals in the Northern District within the ISREAL, according to variables**

Variance source	Squares sum	Degrees of freedom	Squares average	F value	Statistical significance
Gender	0.499	1	0.499	1.093	0.3
Job Title	52.298	1	52.298	114.521	0
Qualification	3.776	1	3.776	8.268	0
Years of Experience	1.314	1	1.314	2.878	0.09



Variance source	Squares sum	Degrees of freedom	Squares average	F value	Statistical significance
School Type	22.56	1	22.56	49.401	0
Error	258.475	566	0.457		
Total	338.922	571			

It is clear from the results in Table (11) that there are no statistically significant differences attributable to the study variables (gender, years of experience), while there are differences attributable to the variable (job title) in favor of the school principal, and differences attributable to the variable (educational qualification) in favor of postgraduate studies, and differences due to the school type variable, in favor of private schools.

In order to verify the significance of the apparent differences, the values of the Pearson coefficients were calculated for the relationship of the domains of the degree of digital leadership employment among Arab school principals in the northern district within the ISREAL between each other, followed by a Bartlett Sphericity test according to the variables of the study to determine the most appropriate analysis of variance to be used (5-way multivariate analysis of variance, or 5-way analysis of variance), as in Table (12).

**Table (12): The results of the Bartlett Sphericity test on the domains of the degree of digital leadership employment among Arab school principals in the northern district within the ISREAL, according to the variables**

Correlation according to variables	Statistical	School Planning	School Technical Infrastructure	Supervision and follow-up	Teacher training and qualification
School Technical Infrastructure	Correlation coefficient	0.93			
	Statistical significance	0			
Supervision and follow-up	Correlation coefficient	0.94	0.94		
	Statistical significance	0	0		
Teacher training and qualification	Correlation coefficient	0.93	0.92	0.95	
	Statistical significance	0	0	0	
<b>Overall Scale</b>	Correlation coefficient	0.97	0.97	0.98	0.98



Correlation according to variables	Statistical	School Planning	School Technical Infrastructure	Supervision and follow-up	Teacher training and qualification
	Statistical significance	0	0	0	0
<b>Bartlett Sphericity Test</b>					
Chi <sup>2</sup> approximate	Degree of freedom	Statistical significance			
52804.208	1128	0			

It is clear from the results in Table (12) that there is a statistically significant relationship between the areas of the degree of digital leadership employment among Arab school principals in the Northern District within the ISREAL, combined according to the study variables, which necessitated the use of five-way multivariate analysis of variance for the domains combined according to the study variables, as in the table (13).

**Table (13): Results of the five-way multivariate analysis of variance of the domains of the degree of digital leadership employment among Arab school principals in the northern district within the ISREAL from the teachers' point of view, combined according to the variables**

Impact	Multi-test Type	Multi-test value	F	The proposed degree of freedom	The degree of freedom of error	Statistical significance
Gender	Hotelling's Trace	0.012	1.729	4	563	0.142
Job Title	Hotelling's Trace	0.226	31.74	4	563	<b>0</b>
Qualification	Hotelling's Trace	0.019	2.629	4	563	<b>0.034</b>
Years of Experience	Hotelling's Trace	0.018	2.464	4	563	<b>0.044</b>
School Type	Hotelling's Trace	0.09	12.705	4	563	<b>0</b>

It is clear from the results in Table (13) that there is a statistically significant effect due to the variables (job title, educational qualification, years of experience, and type of school) on all domains combined. To determine which of the domains had the effect of the study variables,



a five-way analysis of variance was conducted on each domain separately according to the study variables, as in Table (14).

**Table (14): Results of the five-way variance analysis of the domains of the degree of digital leadership employment among Arab school principals in the northern district within the ISREAL, individually, according to the variables of the study**

Variable	Dependent	Squares sum	Degrees of freedom	Squares average	F value	Statistical significance
Gender	School Planning	1.245	1	1.245	2.641	0.11
	School Technical Infrastructure	0.44	1	0.44	0.844	0.36
	Supervision and follow-up	0.486	1	0.486	1.013	0.32
	Teacher training and qualification	0.122	1	0.122	0.239	0.63
Job Title	School Planning	54.311	1	54.311	115.163	<b>0</b>
	School Technical Infrastructure	44.414	1	44.414	85.202	<b>0</b>
	Supervision and follow-up	55.932	1	55.932	116.612	<b>0</b>
	Teacher training and qualification	54.97	1	54.97	107.581	<b>0</b>
Qualification	School Planning	3.411	1	3.411	7.234	<b>0.01</b>
	School Technical Infrastructure	3.226	1	3.226	6.189	<b>0.01</b>
	Supervision and follow-up	3.476	1	3.476	7.248	<b>0.01</b>
	Teacher training and qualification	5.129	1	5.129	10.038	<b>0</b>
Years of Experience	School Planning	1.272	1	1.272	2.698	0.1
	School Technical Infrastructure	2.842	1	2.842	5.451	0.06



Variable	Dependent	Squares sum	Degrees of freedom	Squares average	F value	Statistical significance
	Supervision and follow-up	0.699	1	0.699	1.457	0.23
	Teacher training and qualification	0.876	1	0.876	1.714	0.19
School Type	School Planning	22.139	1	22.139	46.944	<b>0</b>
	School Technical Infrastructure	21.885	1	21.885	41.983	<b>0</b>
	Supervision and follow-up	21.288	1	21.288	44.384	<b>0</b>
	Teacher training and qualification	25.016	1	25.016	48.958	<b>0</b>
Error	School Planning	266.928	566	0.472		
	School Technical Infrastructure	295.044	566	0.521		
	Supervision and follow-up	271.476	566	0.48		
	Teacher training and qualification	289.206	566	0.511		
Total	School Planning	349.306	571			
	School Technical Infrastructure	367.851	571			
	Supervision and follow-up	353.357	571			
	Teacher training and qualification	375.319	571			

It is clear from the results in Table (14) that there is no statistically significant difference in any of the domains due to the variables (gender and years of experience), while there is a statistically significant difference due to the variable (job title) in favor of school principals.



The results also showed that there is a statistically significant difference due to the educational qualification variable in favor of postgraduate studies, and a statistically significant difference due to the type of school variable in favor of private schools.

## **RECOMMENDATIONS AND OUTCOMES DISCUSSION**

This chapter includes a discussion of the results of the study, and their interpretation in light of the order of the questions, in addition to presenting some recommendations related to the results:

***Outcomes discussion of the first question: “What is the degree of digital leadership employment among Arab school principals within the ISREAL from the point of view of principals and teachers?”***

The results of the question showed that the degree of digital leadership employment among Arab school principals within the ISREAL from the point of view of principals and teachers as a whole was moderate. The domains came according to the following order: the technical infrastructure of the school ranked first, with a moderate degree of employment, followed by the domain of school planning in the second rank, with a moderate degree of employment, then the domain of supervision and follow-up in the third rank, with a moderate degree of employment, and finally the domain of teacher development and qualification in the fourth rank, with a moderate degree of employment.

The researcher attributes this result to the fact that digital leadership has suddenly entered the school administration in the Arab society, and the transition to it has become rapid due to the COVID-19 pandemic that has invaded various countries of the world, and has led schools to shift to distance learning through digital platforms and applications, which made it imperative for school principals to be able to acquire the technical and technical skills necessary to deal with these digital platforms and applications to keep pace with this sudden transformation. However, the study sample believes that the technical readiness and technological readiness in Arab schools within the ISREAL are not at the required level, in addition to the fact that the budgets allocated by the Ministry of Education for these schools are few and do not meet the purpose, which stands as an obstacle for the administrations of those schools to provide the necessary equipment and digital applications (hardware, software, computer Internet subscriptions). In addition, some of the principals of Arab schools lack the technical and technical skills and the English language skills necessary to employ digital media in schools, which contributed to the estimates of the total score on the instrument being moderate.

The researcher may attribute the advent of the technical infrastructure of the school in the first rank, with a moderate degree of employment, perhaps to the fact that the technical infrastructure of the school is directly related to the availability of material capabilities and



budgets allocated to the school, which stands as an obstacle to the administrations of those schools in providing a lot of equipment (digital devices and software), and limit the effectiveness of their use of them during the performance of their job duties, and make them decline significantly. In addition, such budgets limit the role of school principals and their ability to provide school subscriptions to computer Internet applications (scientific applications, search engines, forums, etc.). In addition, the preoccupation of the administrations of those schools in communicating with the concerned authorities and local councils to provide the necessary smart computers, digital tools and software to ensure the continuity of students' learning affected the degree of their digital leadership employment in their work, as the school environment lacks such equipment (physical and software), which was reflected in the responses of the study sample, as their estimates were moderate in this domain.

It is possible to attribute the advent of Item (11), which stipulates “coordination with the concerned authorities to provide permanent connection to the Internet within the school,” in the first rank, and with a large degree of employment, followed by item (13), which stipulates “coordinating with the concerned authorities to carry out the necessary maintenance of technology tools in the school,” and with a large degree of employment. Perhaps this is due to the great role of the school principal, as he is a leader in his school, and he is responsible for providing sufficient needs of the school in terms of digital equipment and software to ensure the continuity of students' learning, especially in light of the circumstances imposed by the Corona pandemic, which required them to communicate continuously with the concerned authorities to provide the school's needs of such equipment and supplies, taking into account the need to connect it to an internet network that meets the needs of all school workers, including principals, teachers and students. In addition, these circumstances forced them to communicate continuously with those authorities to conduct continuous maintenance of technology tools in the school, as they realize the importance of these tools and their important role in ensuring the continuity of the students' learning process, especially in light of the schools' tendency towards distance learning. Therefore, they are keen to provide the necessary maintenance for these technological tools through their continuous communication with the maintenance department in the educational district to provide the appropriate technological environment in their schools, which is equipped with all digital tools and software, through their diligent communication with those concerned in the Ministry of Education and local councils, which was reflected in their responses, so their estimates came at a high degree. The lowest estimate was for item (10), which states: “Limit all technology tools available in the school to explain to teachers the mechanism of their use.” The arithmetic mean value for it was (3.60), with a standard deviation of (0.91), and with a moderate degree of employment. Perhaps this is due to the nature of the conditions imposed by the Corona pandemic, which required them to list the digital or technological tools and materials available in his school very accurately so that he could discover the deficiencies in them so that he could coordinate with



the Ministry of Education and the Qatari councils in order to work on providing these deficiencies for their importance in school work as their unavailability hinders the work of the school principal and the teachers, and makes it incomplete, and therefore the school principal is keen to provide these digital and technological tools and materials in order to explain to the teachers and those working with him the mechanism of their employment so that the process of education and access to the educational platforms is easy to ensure the continuity of students' learning in his school in a more efficient and effective manner.

As for the domain of school planning, it came in second rank, with a moderate degree of employment. Perhaps this is due to the fact that school principals already possess planning skills, as they are teachers before they are principals, but they lack school planning skills in the technical and technological field and the digital world, and this is probably due to the lack of sufficient training for school principals in these skills. Therefore, they face difficulty in identifying digital tools in planning for e-learning and suggesting models in the electronic planning of the classroom class to be used by teachers. Therefore, they employ these skills while performing their job duties and duties because they possess these skills.

The advent of Item (1), which stipulates "the adoption of a common vision based on the integration of technology in school work," can be attributed to the first rank, and with a great degree of employment, followed by item (2), which stipulates "developing a strategic plan to achieve the common vision of integrating technology into school work," with a large degree of employment. The researcher can attribute this to the nature of the stage that the Arab community is going through in the northern region within the ISREAL, like the rest of the world, as a result of the spread of the Corona epidemic, as this stage required school principals to turn to e-learning in line with the policies of the state and the Ministry of Education to ensure the continuity of student learning, which contributed to the principals employing digital media in this field in a large way through their adoption of a common vision of integrating technological means in their school work, which emerged from the national plan of the Ministry of Education that calls for the integration of technology in school work, as the Ministry of Education worked to remove information and communication technology lessons from schools as stand-alone lessons, and called for the adoption of a common vision for integrating information and communication technology in school work, which was reflected in the responses of the study sample, as their estimates came to a high degree. In addition, the conditions experienced by Arab schools within the ISREAL during the period of the Corona pandemic imposed many challenges on school principals, which motivated them to develop a strategic plan in order to achieve the vision of their schools emanating from the vision of the Ministry of Education, which focuses on integrating information and communication technology into school work. The reason for this may be due to the awareness of school principals of the importance of involving male and female teachers in the strategic planning



process for the process of integrating digital and technological tools into education. The conditions imposed by the Corona pandemic on schools, and the remnants that resulted from it, formed a motive for the principals of Arab schools to benefit from the experiences of teachers in order to develop the education process, as teachers believe that their principals involve them in developing strategic plans digitally as it ensures the integration of digital leadership into the teaching-learning process. The lowest estimate was for item (9), which states “the school principal involves teachers electronically in planning school work,” as the arithmetic mean value for it was (3.55), with a standard deviation of (0.99), and with a moderate degree of employment. This can be attributed to the fact that the principal of the school believes that the teaching burden resulting from the existence of the pandemic and the large number of tasks assigned to them made him involve teachers in planning school work according to their circumstances, and he may have been satisfied with his previous perception of their opinions through previous plans.

As for the advent of the domain of supervision and follow-up, it is in the third rank, with a moderate degree. Perhaps this is due to the obstacles that the school principal may face, represented by the interruption of communication with the teachers on the platforms as a result of the continuous interruption of the Internet, and thus the teachers’ failure to enter the platforms at the specified time, in addition to other technical problems, not to mention the preoccupation of principals in the period of the COVID-19 pandemic with other basic matters that took their priorities more than supervision and follow-up, represented in exams and their management, school plans, and students’ access to educational platforms.

As for the advent of Paragraph (37), which states that “the principal encourages teachers to educate themselves technologically to support their professional practices,” in the first rank, with a high degree of practice. Perhaps this is because school principals understand the importance of technology in the teaching process. Therefore, they encourage male and female teachers to invest in it optimally because of the information it provides that can contribute significantly to improving and developing their professional practices. This was followed by Item (23), which states that “it shall ensure that teachers are able to use electronic educational platforms,” with a moderate degree of employment. Perhaps this is because the school principal is aware of the importance of these educational platforms and their prominent role in the student learning process. Therefore, he is keen to monitor the ability of teachers to use them in their professional practices, as the teacher has become in dire need of these platforms to follow up student learning and follow up on global changes and developments in the ongoing learning and teaching process, especially in light of what the Corona pandemic has produced and what it imposed on schools in terms of shifting towards the distance education pattern. Hence, teachers, as part of the study sample, believe that the school principal must verify the ability of teachers, especially newly appointed teachers, to use educational platforms in order to increase



their digital awareness. The lowest rating was for item (36), which states that “he follows up on teachers while they apply experimental tests for students through the platform,” with a moderate degree of employment, preceded by item (34), which states that “the class visits of teachers are recorded electronically” with the same rank, and with a moderate degree of employment. Perhaps this is due to the many job burdens placed on the principal of the school, as the principal of the school has a lot of work, and he has very great responsibilities in light of the spread of the Corona pandemic, and its consequences, which does not enable him to follow up on the teachers’ conduct of experimental tests, and to write down his visit to them electronically, which was reflected in his performance towards the teachers during their application of the tests through the educational platform, as well as his recording of the classroom visits of the teachers electronically, so the estimates for the two items came with a moderate degree.

As for the coming of the domain of teacher training and development in the last rank, and within a moderate degree of employment; this can be attributed to the fact that some principals lack training and development skills, and they also assume that teachers, especially newly appointed ones, are familiar with computer skills, accessing educational platforms, and giving lessons, which made this not a priority for principals, which was reflected in the responses of the study sample, so their estimates in this domain were moderate. Perhaps this is due to the fact that the rapid growth of digital technologies and the information revolution directly affect the teaching and learning process, and this requires those in charge of educational institutions to reconsider the foundations for selecting, planning and building curricula, academic content and learning methods to suit the requirements of technical progress and the knowledge explosion, so it was necessary for the staff of the school community, who wanted to catch up with the technical age and keep pace with it, to help school principals to deal with its technologies, and to qualify them to face the rapid changes in this era.

Item (46), which stipulates “training teachers on how to computerize the curriculum,” came first, followed by item (40), which states “strive to enable teachers to possess distance education skills.” The lowest estimate was for items (39, 45, 41), which stipulated that “the principal provides teachers with an explanation via the platform on how to create electronic tests”, “to hold brainstorming sessions through electronic platforms to determine future directions in the field of distance education”, "Training teachers to make specification tables for exams", all of which came with a moderate degree of employment. Perhaps this is due to the poor possession of the principals and principals of Arab schools within the ISREAL, the knowledge and technical skills related to computerizing the curricula and building school tests. Therefore, they face difficulty in training teachers to transform the curriculum electronically, in addition to that this may be due to their awareness of the importance of educational platforms and their important role in facilitating the process of communication with teachers, therefore,



they strive to hold brainstorming sessions through these platforms with teachers to find out about the latest technical developments to benefit from them in the field of e-learning, despite the many burdens placed on the shoulders of school principals, and their preoccupation with providing the necessary equipment to ensure the continuation of the students' learning process in light of the circumstances imposed by the Corona pandemic, hence the estimates of the sample members of the principals and teachers for the role of their principals in this aspect to a moderate degree.

***Outcomes discussion of the second question: “Are there statistically significant differences at the level of statistical significance ( $\alpha = 0.05$ ) in the respondents' responses about the degree of digital leadership employment among Arab school principals in the northern district within the ISREAL due to the variables (gender, job title, educational qualification, years of experience, and school type)?”***

The result of the question indicated that there were statistically significant differences at the level of significance ( $\alpha = 0.05$ ) between the arithmetic means of the respondents' estimates about the degree of digital leadership employment among Arab school principals in the northern district within the ISREAL due to the variable (job title) in favor of the school principal. Perhaps this result can be attributed to the fact that school principals see that they practice digital leadership in their schools despite the limited budgets allocated to schools, and this may be due to the principals' enrollment in training programs and completions in the field of employing digital tools in administrative work, as they had an impact on the emergence of this result, so the differences came in their favor.

The result of the question indicated that there were statistically significant differences at the level of significance ( $\alpha = 0.05$ ) between the arithmetic means of the sample members' estimates of the degree of digital leadership employment among Arab school principals in the northern district within the ISREAL due to the variable (educational qualification) in favor of postgraduate studies. This may be due to the fact that principals and teachers who hold higher academic degrees have sufficient knowledge of the mechanism of employing digital tools and contemporary technology in school work, as principals and teachers who hold master's or doctoral degrees possess the necessary knowledge and skills to employ digital media in school as a result of their educational and cognitive experiences, and their continuous access to scientific research in this field and their writing, as well as their study of some educational courses at the university related to this, which enabled them to possess the skill of evaluation, so you find them more able to evaluate the degree of employment of digital leadership in schools than those who hold a bachelor's degree or less.

The results of the question also indicated that there were statistically significant differences at the level of significance ( $\alpha = 0.05$ ) between the arithmetic means of the respondents' estimates of the degree of employing Arab school principals in the northern



district within the ISREAL of digital leadership due to the school type variable in favor of private schools. Perhaps this is due to the lack of qualified and trained human cadres to employ digital media and tools in public schools compared to private schools, and this is due to the weak budgets allocated by the Ministry of Education for general education schools, and therefore the lack of courses held for the cadres working in them in the field of applying digital leadership. On the contrary, private schools seek leadership and keep abreast of digital developments, and this is due to the sudden shift as a result of the spread of the Corona pandemic and the shift of schools towards distance learning, as digital technologies have become an important element in the school, and it has become necessary to provide technical and digital innovations with their latest versions, such as creating digital platforms available to students and school teachers, and this depends on the budgets allocated to those schools, as the budget of general education schools is limited compared to the budget allocated to private schools, which was reflected in the responses of principals and teachers, so the estimates came in favor of favor of workers in private education schools, as they are keen to employ digital leadership, seek continuous development for all school workers, keep abreast of technical developments, and employ them in the classroom.

The results did not show that there were statistically significant differences at the significance level ( $\alpha = 0.05$ ) between the arithmetic means of the sample members' estimates of the degree of employment of Arab school principals in the northern district within the ISREAL of digital leadership, due to the study variables (gender, years of experience). This may be due to the fact that the sample members of principals or teachers, whether they are male or female, watch the implementation of digital leadership by school principals. They notice the same practices that school principals perform towards employing digital leadership in their schools, as they strive to employ it to ensure the continuity of the learning process, especially in light of the challenges posed by the Corona pandemic, and the shift of schools towards distance learning. Or perhaps this is due to the fact that school principals deal with teachers with long and short experience in the same way, as the school principal is keen to ensure that teachers' practices are the same in the field of employing digital media in the educational-learning process by entering educational platforms, teaching students and conducting tests, while the teacher watches the school principal while he employs these media in school work, which was reflected in the respondents' responses towards the school principal's employment of digital leadership, they came close regardless of their gender or years of experience.

### **RECOMMENDATIONS:**

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

- Inviting decision makers to set policies and regulations related to the employment of digital technology and define a system for training programs and employee evaluation for the application of modern technology in school leadership, with a focus on the



professional development needs of school leaders in light of the dimensions of digital leadership.

- The need to pay attention to the infrastructure of schools and provide them with the devices, tools and software necessary to raise the level of employing digital leadership among school principals in their schools.
- Encouraging school principals to continue the strategic planning of school work electronically.
- Inviting school principals to follow up and supervise teachers electronically to ensure the proper functioning of the educational process.
- Holding training courses for school principals to enable them to acquire the skills necessary for them to be trainers in charge of training teachers in their schools.
- Adopting the solutions proposed by principals and teachers to improve the degree of principals' digital leadership employment in Arab schools while performing their job duties.
- Inviting researchers to conduct more studies on the same topic and from other aspects different from what the current study dealt with by looking at its results and recommendations, by linking digital leadership employment with some administrative concepts such as motivation, organizational climate and job performance, on different samples, and in the light of other demographic variables such as: the location of the school, the number of training courses in the use of digital tools.

## REFERENCES

1. Abu Hayya, N. (2021). *The degree of practicing digital leadership among UNRWA school principals in the southern governorates of Palestine and ways to improve it*. Unpublished master's thesis, Al-Aqsa University, Gaza, Palestine.
2. Al-Saud, R. (2009). *Educational Administration: Concepts and Horizons*. Amman: Wael for printing, publishing and distribution.
3. Al-Taie, Y. & Al-Hadrawi, B. (2019). The impact of digital leadership on the adoption of organizational culture among employees working in the Directorate of Education, Al-Najaf Governorate, Iraq. *Journal of Economic, Administrative and Legal Sciences*, 3(6), 19-39.
4. Al-Zahli, R., Al-Kharousi, H. & Al-Shuaili, S. (2021) The degree to which school principals in the Sultanate of Oman employ digital leadership from the point of view of the principals themselves. *Journal of Al-Quds Open University for Educational and Psychological Research and Studies*, 12(33), 79-93.



5. Avolio, J., Kahai, S & Dodge, G. (2000). E-leadership Implications for theory, research, and practice. *The Leadership Quarterly*, 11(4), 615-668.
6. Bounfour, A. (2016). *Digital Futures, Digital Transformation*, Progress in IS. Springer International Publishing, Cham.
7. Collin, J., Hiekkänen, K., Korhonen, J., Halén, M., Itälä, T., & Helenius, M., (2015). *IT Leadership in Transition-The Impact of Digitalization on Finnish Organizations*. Research rapport, Aalto University. Department of Computer Science, 5-8.
8. Ellis, C. (2009). *New Managers Skills: Based on the most attended American Society courses*. (Translator: Youssef, Mohamed Abdel Hafeez). Riyadh: Obeikan Research and Development Company.
9. Karabenick, S & Conley, A. (2011). *Teacher Motivation for Professional Development. Ann Arbor: Math and Science Partnership—Motivation Assessment Program II*, University of Michigan, United States of America.
10. Mahmoud, M. (2015). *A proposed vision for the application of electronic leadership in pre-university education institutions in the light of some contemporary global changes*. A paper presented to the first international conference of the Faculty of Education, Al-Baha University: Education is Future Prospects, 12-15 April, Egypt.
11. Shaheen, S. (2011). Towards a strategic plan to prepare the electronic citizen in the Libyan society as a step to prepare the leaders of the electronic administration. *Journal of Modern Directions in Libraries and Information*, 16(35), 43-88.
12. Sheninger, E. C. (2019). *Digital leadership: Changing paradigms for changing times* (2nd ed.). Thousand Oaks, California: Corwin.
13. Zhong, L. (2017). Indicators of Digital Leadership in the Context of K-12 Education. *Journal of Educational Technology Development and Exchange (JETDE)*, 10(1), 6-15.