

## *Original Paper*

# The Degree of Activation at Secondary School Principals in Ramallah and Al-Bireh Governorate for Technology in The Educational Process from The Point of View of Technology Teachers

Dr. Yousef Fahmi Harfoush\*

<sup>1</sup> Palestinian Ministry of Education, yousef.f1981@hotmail.com

Received: October 27, 2023    Accepted: December 07, 2023    Online Published: December 26, 2023

doi:10.22158/wjeh.v6n1p37

URL: <http://dx.doi.org/10.22158/wjeh.v6n1p37>

### ***Abstract***

*The current study aimed to reveal the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers, and to achieve the objective of the study, a questionnaire was developed consisting of (20) items distributed over three areas, and its validity and stability were verified, and then distributed to the study sample consisting of (165) teachers. It was selected in a simple random way, and the descriptive analytical approach was used in this study, and the results showed that the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers came with an average degree, as the arithmetic average of the tool as a whole was (3.28), and the results of the study showed that there were no statistically significant differences between the average scores of respondents on the total degree attributed to the gender variable, and years of experience, and in light of the results of the study, The researcher recommended a number of recommendations.*

### ***Keywords***

*Educational Technology, Public Secondary Schools, Ramallah and Al-Bireh Governorate*

## **1. Introduction**

The world is witnessing at the present time rapid developments at all levels: economic, scientific, cultural and social within the framework of information technology and its link to the information explosion through the development of the means of communication and its dynamics, and the rapid change of the

field of knowledge, and posing major challenges to societies to adapt to the data of the twenty-first century, perhaps the most important of which is the educational system, as the development of the educational system in our time has become a continuous necessity, and includes all its elements in an integrated manner, in order to achieve the desired goals that are compatible with the requirements of the age that we live it, which requires working to prepare a generation capable of thinking skills, capable of continuous self-learning in order to achieve sustainable development in light of the continuous changes we are experiencing (Sorour, 2011).

The expansion of the use of technology and e-learning is one of the national goals of education, and in application of that, many countries around the world have worked to pursue the development of this field, and to take advantage of modern technologies in the educational field, by expanding the use of computers and smart devices imposed by the changes of the times, and information networks that allow learning in the event of difficulty in providing face-to-face learning, as is the case in the present and what was imposed by the Corona pandemic, which required every teacher to enjoy as much as From culture to technology that allows him to understand what is going on around him (Salam, 2009).

The development of information technology had the greatest impact in the education sector in particular, where the use of technological technology in the educational process to change many aspects and methods of education used within schools, where there are two models of the method of education: the traditional method and the modern electronic method that changed the features of the classroom environment and increased interaction between students in exchanging information and obtaining it easily without the need to be in the same place or inside the classroom as was the case in the traditional method In education for years, it has also facilitated the process of communication between the students themselves on the one hand and between the teacher and the student on the other hand with the diversity of means used in them (Robertson, 2010).

Based on the above, it is clear the importance of using and activating the principals of secondary schools in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers, because of its active role in improving education processes, which contributes to the development of the educational system as a whole so that it keeps pace with contemporary global educational trends.

## **2. Study Problem**

The world today is witnessing tremendous progress in the technological field, which has witnessed an important and pivotal role in all aspects of life that we live in general, and in the education sector in particular, where the use of technology in the educational process has changed many of the methods of education used within schools, either for rapid scientific progress or as a result of the Corona pandemic, which imposed on us the use of technology mainly in the educational process, which changed the features of the classroom environment and increased interaction between students in exchanging and obtaining information. Without being in the classroom (Solomon, 2020).

Due to the importance of technological competencies for each individual in the educational situation, especially as it aims to evaluate the skills and attitudes necessary to make teachers able to master education according to previously defined products, the results of a number of studies have indicated that there are a number of teachers who lack some experience in the field of using technology in education, especially modern programs such as the study of Gulbahar and Guvan. 2008) and the study of Al-Maamari and Al-Masrouri (2013).

The researcher believes that through his knowledge of the practices implemented by managers in the educational field, there is a weakness in their interest in using and activating technology in the educational process or the lack of motivation for some of them to use or activate it, in addition to the lack of acceptance by some of them of the educational developments that imposed on them the use of technology, as well as the positive advantages of using modern technology and what it offers to students to increase their motivation towards education.

Therefore, the researcher decided to reveal the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers, specifically this study sought to try to answer the following main question: What is the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers?

### 3. Objective of the Study

- 1) Identify the degree to which secondary school principals in Ramallah and Al-Bireh governorate activate technology in the educational process.
- 2) Detecting the significance of statistically significant differences - if any - in the averages of the estimates of the study sample on the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers due to the variables (gender, years of experience).
- 3) Learn how to activate the principals of secondary schools in Ramallah and Al-Bireh Governorate for technology in the educational process.

### 4. Study Questions

The study sought to answer the following two questions:

**The first question:** What is the degree to which secondary school principals in Ramallah and Al-Bireh governorate activate technology in the educational process from the point of view of technology teachers?

**The second question:** Are there statistically significant differences at the level of significance ( $0.05 \geq \alpha$ ) in the average responses of the study sample members to the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers due to the variables (gender, years of experience)?

### **The importance of the study**

The importance of the study lies in the following:

#### **Theoretical significance:**

- 1) The importance of this study is evident firstly in the fact that it deals with the issue of the use of technology in the educational process and the importance of this in keeping pace with the rapid scientific developments and keeping pace with the knowledge explosion and the information revolution resulting from the development of technology used in education in general, and secondly, the use of technology in the educational process has become urgent in light of the spread of the Corona pandemic, but technology has become the only means of communication between members of the school community.
- 2) This study opens new doors for researchers on the subject of the use of modern technology in education in all its aspects to conduct further studies to enhance or deny the results of this study.

### **5. Applied Importance**

- 1) The use of each of those in charge of the educational process to provide factual information to decision-makers in the Palestinian Ministry of Education in the technological field of the need to apply modern technology in the educational process, and also benefit new researchers to benefit from its literature or build the tool.
- 2) The results of the study may be useful in forming an integrated framework that can be relied upon in diagnosing the strengths and weaknesses in knowing the difficulties of using technology in the educational process faced by school principals in Ramallah and Al-Bireh governorate, and in contributing to the process of overcoming these difficulties.
- 3) Provide a set of guidelines for managers in improving their attitudes towards the use of technology in the educational process and employing it in the education process with all its applications.

#### **Limitations of the study:**

The results of this study are determined by the following:

**Human limits:** The study was limited to a sample of public school principals in Ramallah and Al-Bireh governorate.

**Time limits:** The study tool was applied during the academic year 2022/2023.

**Spatial boundaries:** The study was limited to public schools in the Ramallah and al-Bireh governorate in the West Bank.

**Limitations of the study:** The generalization of the results of the study is determined in the light of the psychometric characteristics (honesty and stability), and the objectivity of the response of the study sample members to the paragraphs of the tool.

#### **Study terms and procedural definitions:**

The study adopts the following definitions of its terms:

**Educational technology:** knowledge, skills and trends in the field of educational technology, necessary for the human element to reach the degree of mastery in the performance of his job duties (Al-Sharif,

2002).

**The researcher defines educational technology procedurally as:** an integrated process based on the application of science and technological knowledge in computers and means of communication, which must be owned and practiced by managers to carry out their administrative, technical and research work efficiently, effectively and perfectly, to achieve educational goals.

**The researcher defines the degree of use of technology in education procedurally:** the degree to which school principals practice technological competencies in the educational process, which is measured by the degree obtained by the sample members through the tool prepared for this purpose.

**Public schools:** “Any educational institution run by the Ministry of Education and Higher Education, or a government ministry or authority,” and public schools under the Al-Quds Al-Sharif Directorate are supervised by the General Endowments Department in Jerusalem (The Ministry of Education and Higher Education, 2013, 6).

**Ramallah and Al-Bireh Governorate:** It is one of the governorates of Palestine, located in the West Bank, north of Jerusalem, and includes one directorate of education affiliated to the Palestinian Ministry of Education and Higher Education, and includes the adjacent cities of Ramallah and Al-Bireh and seventy-five communities (Palestinian Central Bureau of Statistics, 2017).

**Background of the study, educational literature and associated previous studies:**

Educational technology is one of the most important products of the era that many schools seek to benefit from it as an important source of education in the educational fields, so it was necessary for officials and those in charge of education and education to benefit from this technology by qualifying students, teachers and the educational system, and taking advantage of modern media and communication, hence the idea of computer-based education and Internet networks to transfer expertise and experiences (Salam, 2009).

In this regard, the researcher presents three axes: (the role of technology in the field of education, technological competencies, and the benefits of technology in the educational process).

**First: The role of technology in the field of education:**

**The importance of the role of technology in the field of education as reported by Suleiman (2020) can be defined as follows:**

- 1) Technology acts as a mentor who instructs the teacher of the scientific subject to switch from traditional methods of teaching. Technology with all its advanced means can radically change the educational level of the teacher and how to develop his personal abilities in explaining and urging him to give a greater and easier opportunity to understand and receive the student of the scientific material, and this in turn will be reflected in the development of the student's intellectual abilities, refining his talents and enjoying the study materials.
- 2) Stimulating the discovery of new talents and developing capabilities in various educational subjects through the use of modern technological means with various applications and modern programs such as

the Internet, which helps the student to participate in various academic activities and exchange information.

3) Technology provides a wealth of information that both teachers and students need. The Internet has become a vast sea containing abundant information such as dictionaries, maps and other information sources that are difficult to obtain by traditional methods of search. Which in turn saved time, effort and costs.

4) The use of the modern method of education based on studied foundations and research proven by experiments is the so-called educational technology, which in its comprehensive sense includes the methods, tools, materials and devices used in a particular educational system for the purpose of achieving predetermined educational goals. It is clear from this that educational technology does not mean just the use of modern machines and devices, but it means the adoption of the systems method, which is to follow an approach, method and method of work that proceeds in organized steps and uses all the possibilities offered by technology according to teaching and learning theories.

5) The intervention of technology in the treatment of scientific materials received by students has become a must, as well as training them to use them and try to make them a means for the student after graduating from school, because the labor market imposes on them the use of modern technological means at work.

#### **Second: Technological Competencies:**

**Philbman (2014) pointed out that the most important technological competencies that school principals and faculty members must possess are the following:**

- General competencies, including: (competencies related to computer culture, competencies related to computer skills, and competencies related to information culture).
- Competencies of dealing with programs and services of the World Wide Web (Internet), such as: proficiency in the English language, dealing with the basic services on which the network's educational applications are based, e-mail service, search, conversation, file transfer, mailing lists, creating educational pages and sites, publishing and updating them from time to time.
- Competencies of preparing the headquarters electronically: It includes a number of basic competencies, such as planning, design and development, evaluation, and course management on the network.

#### **Third: The benefits of technology in the educational process:**

**Smart learning systems gain their importance through their ability to present educational decisions about how the learning process passes, as well as to gain information about the learner's personality, and field studies have shown as mentioned in (Abdul Jaber, 2010) and (Siegel, 2007) that smart learning systems are highly effective through:**

1) These systems provide flexibility in the presentation of the educational material, a greater ability to respond to the needs of students, and adapt to the teacher's teaching style through diversity in the contents of the curriculum and giving general outlines to it, and leaving the details to the student as much as he can implement under the supervision of the teacher.

- 2) Smart learning systems provide the appropriate environment for the active participation of students in the process of private learning that is based on the efforts of the learner, which leads to a high level of cognitive achievement of students, through the models in the system that have the ability to look at students' locations and the schedule of the learner's activity, and retrieve the necessary learning resources.
- 3) Increase students' self-confidence and willingness to try to move to higher levels of thinking.
- 4) Smart learning provides the best professional development for students, and professional learning leads to sustainable development for future developments.
- 5) Expand lesson plans and schedules, plan tests and set assignments, and analyze the teaching process.

#### **Previous studies:**

**This part included a presentation of previous studies related to the administrative and technical difficulties faced by public school principals in Palestine. The previous studies were divided into Arab and foreign studies, followed by presenting them in chronological order from the oldest to the newest, as follows:**

Al-Ajrami (2012) conducted a study aimed at identifying the availability of e-learning competencies among technology teachers in schools in Gaza governorates in light of the variables of experience, stage of study, and specialization. The study used the descriptive analytical approach, and represented the study community with all technology teachers in the schools of the Ministry of Education in Gaza governorates, numbering (411) teachers, and the study tool was a questionnaire prepared to survey the opinions of the sample and collect data, and it was distributed to a sample selected by stratified random method and consisting of (82) teachers, and the study found that teachers have competencies in using the Internet and computer. The results showed no statistically significant differences due to the variable of gender, experience, educational stage, and training courses.

Abu Shammala and Jabour (2013) conducted a study. A study aimed at determining the degree of practice of teaching competencies necessary for the use of digital learning units from the point of view of ICT teachers at the secondary stage in Gaza governorates, and its relationship to some variables. The descriptive analytical approach was used, and a questionnaire was distributed to a sample of (84) teachers, and the study found that the degree of practice of teaching competencies necessary to use digital learning units from the point of view of information technology teachers at the secondary stage was great, and the order of The degree of practice of teaching competencies necessary for the use of digital learning units is as follows (use of digital learning units, presentation of digital learning units, planning for the use of digital learning units, selection of digital learning units, collection of digital learning units), and there are no statistically significant differences in the degree of practice of teaching competencies necessary for the use of digital learning units due to variables (gender, specialization in high school, and number of years of service).

He conducted Al Maamari and Al Masroori (2013). A study aimed at revealing the degree of availability of ICT competencies among social studies teachers in post-basic education in some Omani governorates,

in addition to knowing the impact of gender, specialization and teaching experience variables. To achieve the objectives of the study, the descriptive approach was used, through the preparation of a questionnaire consisting of (47) statements distributed on (4) axes: basic competencies for computer operation, competencies for using global network resources (Internet), and competencies for employing information and communication technology in teaching and evaluating social studies, which was applied to the study sample consisting of (142) teachers of social studies in post-basic education schools in the following governorates: Muscat, North Batinah and South Sharqiya. The results showed that the degree of availability of ICT competencies among social studies teachers is average, and the results showed that there were no statistically significant differences between males and females.

Krishnakumar (2011) conducted a study aimed at investigating the attitudes of higher education teachers towards e-learning and the use of the Internet in education, and the study proceeded from the theory that there is no difference in teachers' attitudes towards the use of e-learning, and the descriptive survey approach was used, and a random sample was selected consisting of (255) teachers, and the study found that the percentage of teachers who use the Internet in education is (89%), and the study also found that teachers who are used to using the computer have Positive attitudes towards the use of the Internet and e-learning more than those who are not used to using it.

In a study conducted by Kennedy (2002), it aimed to identify the extent to which primary school teachers employ technological competencies in the teaching process in the Coventry area in the United Kingdom, where (45) technological competencies must be met by the primary school teacher were identified. It was based on the visit of each male and female teacher from the study sample, which numbered (94) teachers and to monitor the technological competencies that they employ in the classroom, and the study found that teachers are more employable to these competencies than The results also showed that teachers with (1-4) years of experience are more likely to employ technological competencies than teachers with (4-7) years of experience or (more than 7) years.

## **6. Commenting on Previous Studies**

It is clear from what has been reviewed from previous studies, that the issue of the use of technology in the educational process has received the attention of Arab and foreign researchers as a result of the development that the world is witnessing in all areas of life, in addition to the necessity imposed at the present time to use technology in light of the Corona pandemic, as it focused on multiple aspects of those uses, some of which focused on identifying the most important organizational and material obstacles in the way of administrative creativity, and identifying appropriate proposals to overcome these obstacles, including This presented a proposed vision for the use of technology in the educational process in public secondary schools in Ramallah and Al-Bireh governorate, and revealed the most prominent obstacles in the use of technology in education.

Through these studies, the following were identified:



- These studies vary in their objectives depending on the different views of researchers on the problem.
- Most of the previous studies rely on the questionnaire as a tool to achieve their objectives as they are the most appropriate for the nature of the study research.
- Previous studies were similar in their procedures in terms of the sample and the method of its selection, the tool and how it was built, its validity and stability, and the method used.

As for the current study, it is similar to previous studies in its presentation of the issue of the use of technology in the educational process in public schools in Ramallah and Al-Bireh governorate, and this study was distinguished by its treatment of the subject of exploring the degree of use of technology in the educational process in light of the current circumstances and the administrative and technical difficulties they face, and ways to confront this phenomenon effectively, and therefore this study differed with it in the study community, and its place.

## 7. Study Methodology and Procedures

### Study Methodology:

To achieve the desired objectives of this study, the researcher followed the descriptive analytical approach to suit the nature of this study.

### Study Population:

The study population consisted of all (1625) secondary school teachers in Ramallah and Al-Bireh governorate in the West Bank for the year 2022/2023, according to statistics from the Palestinian Ministry of Education.

### Study sample:

A simple random sample was selected, the number of its members is (165) teachers, and constitutes (10%) of the original population of the study, and Table 1 shows the distribution of the sample members whose responses were analyzed according to their demographic variables.

**Table 1. Distribution of Respondents Analyzed by Demographic Variables**

Variables	Levels	Number	Percentage
Sex	male	84	%50.9
	female	81	%49.1
	<b>Total</b>	<b>165</b>	<b>100%</b>
Years of Experience	5 years and below	61	%37
	From (5-10) years	68	%41.2
	10 years and above	36	%21.8
	<b>Total</b>	<b>165</b>	<b>100%</b>

### Study Tool:

For the purpose of identifying the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process, the researcher developed the study tool, which is (Istibana), using theoretical literature and previous studies on the subject, such as: the study of Al-Maamari and Al-Masroori (2013), and the Kennedy study (Kennedy, 2002), and the questionnaire prepared by the researcher consisted of two parts: The first part contains the general information of the respondents, while the second part included three areas distributed over (20) items aimed at knowing The degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process, which is: Infrastructure, the impact of the use of technology on students, the employment of technology applications), and the paragraphs of the questionnaire were prepared to respond to them according to a five-point gradation, which is a very large degree, a large degree, an average degree, a low degree, and a very small degree, and verbal responses were given numerical values: 5, 4, 3, 2, 1. The following equation was used to judge the results and determine the degree of appreciation:

Upper Scale (5) - Minimum Scale (1) / (3)

$$\frac{5 - 1}{3} = 1.33$$

And then add (1.33) to the answer at the end of each category.

If the arithmetic mean value is (1-2.33), the estimate is low.

If the arithmetic mean value is (2.34-3.67), the estimate is with an average degree

If the arithmetic mean value is (3.68-5), the estimate is high

### Authenticity of the tool:

To verify the authenticity of the study tool, the truthfulness of the content was adopted, as the questionnaire was presented in its initial form to a number of arbitrators, numbering (11) arbitrators from faculty members in Palestinian universities with experience in educational administration and scientific research, and they were asked to evaluate the degree of suitability of the paragraphs of the questionnaire to what was developed to measure, and their belonging to the field in which they were included, whether by deletion, proposing the appropriate amendment, merging, or reformulating, and clarifying some phrases that they believe are inappropriate from the point of view The researcher has taken all the observations, specifically paragraphs (5, 8, 9, 11) of the tool, so that the study tool consists in its final form of (20) paragraphs distributed over three areas, namely: infrastructure, the impact of the use of technology on students, and the employment of technology applications.

### Stability of the instrument:

To ensure the stability of the study instrument, the internal consistency method was used according to Cronbach's alpha coefficient, according to Cronbach's alpha equation. Where its stability ratio was (0.88), which is an acceptable value for scientific research purposes.

Table 2 shows the stability coefficients for the fields of study, which are as follows:

**Table 2. Values of Stability Coefficients Using Cronbach's Alpha Equation for Each Domain and for the Instrument as a Whole**

domains	Number of paragraphs	Alpha Cronbach
The impact of technology use on students	5	0.88
Infrastructure	7	0.89
Employing technology applications	8	0.87
<b>Total Grade</b>	20	0.88

**Study variables:**

The study included the following variables:

**The dependent variable:** The estimates of the study sample members to the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers.

**Independent (intermediate) variables, including:**

**Gender** (male, female).

**Years of experience** (5 years or less, and from (6-10) years, and 11 years or more).

**Statistical processing:**

To answer the study questions, the following statistical methods were used:

**To answer the first question:** arithmetic averages and standard deviations were used.

**To answer the second question:** the t-test and the One Way ANOVA analysis were used.

**Presentation and discussion of the results of the study:**

**First:** The result of the first question, which reads: "What is the degree to which secondary school principals in Ramallah and Al-Bireh governorate activate technology in the educational process from the point of view of technology teachers?"

To answer this question, arithmetic averages and standard deviations were used for all areas of the questionnaire, which measure the degree to which secondary school principals in Ramallah and Al-Bireh governorate activate technology in the educational process from the point of view of technology teachers, for each field and for each paragraph, and tables (2, 3, 4, 5, 6, 7, 8) show the results of this as follows:

**Table 3. Arithmetic Averages and Standard Deviations of the Responses of the Study Sample to Areas The Degree of Activation of Technology by Secondary School Principals in Ramallah and Al-Bireh Governorate in the Educational Process from the Point of View of Technology Teachers According to Arithmetic Averages**

Domain	Arithmetic mean	Standard deviation	Grade
The impact of the use of technology on students	3.34	0.68	Medium

Infrastructure	3.29	0.86	Medium
Employing Technology Applications	3.24	0.74	Medium
Total Grade	3.28	0.62	Medium

The results indicate that the average degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers on the total score was (3.28) and a standard deviation of (0.62), which is of an average score.

The researcher attributes this result to modernity in the use and application of technology, especially that we have become forced to use it, whether in light of the Corona pandemic or global technological development, which technology has imposed itself in various aspects of life, and that the technology infrastructure in our Palestinian schools has not reached the required limit to use technological applications in the educational process.

The arithmetic averages and standard deviations of the estimates of the study sample members were calculated on each individual tour, as follows:

**The first field: infrastructure:** to indicate the degree of appreciation of the paragraphs of the infrastructure field. Arithmetic averages and standard deviations were used, and Table 4 shows this.

**Table 4. Arithmetic Averages and Standard Deviations of the Study Sample's Estimates of the Degree of Activation of Technology by Secondary School Principals in Ramallah and Al-Bireh Governorate in the Educational Process from the Point of View of Technology Teachers Related to the Field of Infrastructure by Arithmetic Averages**

Paragraph number	Paragraph	Arithmetic mean	Standard deviation	Grade
4	Computers and accessories (printer, LCD) are available at school	3.81	1.27	High
1	The principal provides the necessary materials and software on the devices to activate them in the school.	3.44	0.98	Medium
3	The school principal has been providing technological devices since the beginning of the school year	3.36	1.22	Medium
5	The school principal regularly maintains the technological devices in the school.	3.06	1.21	Medium
2	The school principal provides an appropriate internet speed in the school for use when necessary.	2.82	1.08	Medium

Total Grade	3.26	0.86	Medium
-------------	------	------	--------

It is clear from Table 4 that the averages of the first field: the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process in the field of infrastructure on the total score (3.26) and standard deviation (.860), which is of an average degree, and that the highest arithmetic average (3.81) is for paragraph (4), which states: “Computers and accessories (printer, LCD) are available. sufficient in school”, and that the lowest arithmetic average (2.82) is for paragraph (2), which states “The school principal provides an appropriate speed for the Internet in the school for use when necessary” and is of a low score. The researcher attributes this to the fact that most of the infrastructure funding depends on donations from the local community and municipalities, and there are differences in funding sources, which are generally few due to overcrowding of classrooms and the large number of students, in addition to the fact that most of the existing classrooms are regular halls and are not suitable for the effective use of modern technology and do not meet the required purpose. This study differs in its results with that of Krishnakumar (2011).

**The second field: the field of the impact of the use of technology on students:** To show the degree of estimation of the paragraphs of this field, arithmetic averages and standard deviations were used, and Table 5 shows this.

**Table 5. Arithmetic Averages and Standard Deviations of the Estimates of the Study Sample to the Degree of Activation of Secondary School Principals in Ramallah and Al-Bireh Governorate for Technology in the Educational Process from the Point of View of Technology Teachers Related to the Field of Impact of Technology Use on Students according to Arithmetic Averages**

Paragraph number	Paragraphs	Arithmetic mean	Standard deviation	Grade
9	The principal promotes the application of technology in the school to increase student engagement within the classroom.	3.45	0.74	High
6	Principals encourage the use of technological requirements that increase student intake in the classroom.	3.68	0.74	High
10	The Director encourages the implementation of technological programs that increase students' academic achievement.	3.34	0.94	Medium
8	The school principal provides technological applications that increase student discipline in the classroom.	3.27	0.90	Medium

7	The school principal engages parents in the use of technology by students.	3.18	0.84	Medium
12	Technological applications reduce the number of times students go out of the toilet during class.	3.05	0.93	Medium
11	The use of technology reduces the number of student absences	3.01	0.93	Medium
Total Grade		3.28	0.68	Medium

It is noted from the previous table, which expresses the arithmetic averages and standard deviations of the responses of the study sample members on the field of the impact of the use of technology on students, that the arithmetic mean of the total score is (3.28) and a standard deviation of (0.68), and this indicates that the field of impact of the use of technology on students came with an average degree, and that the highest arithmetic average (3.45) is for paragraph (9), which states: "The principal promotes the application of technology in the school to increase student engagement in the classroom." And that the lowest arithmetic average (2.84) is for paragraph (11), which states "The use of technology reduces the number of student absences", which is of an average degree, and this is explained by the lack of students' possession of technological skills in school, and the lack of acceptance by some students of the methods of presenting educational materials using modern technology, in addition to the fact that the use of technology has become urgent. The results of the study differ with that of Al-Maamari and Al-Masroori (2013).

**The third area: employing technology applications:** to indicate the degree of estimation of the paragraphs of this field, arithmetic averages and standard deviations were used, and Table 6 shows this.

**Table 6. Arithmetic Averages and Standard Deviations of the Estimates of the Study Sample to the Degree of Activation of Secondary School Principals in Ramallah and Al-Bireh Governorate for Technology in the Educational Process from the Point of View of Technology Teachers Related to the Field of Employing Technology Applications According to Arithmetic Averages**

Paragraph number	Paragraphs	Arithmetic mean	Standard deviation	Grade
20	The principal is able to deal with the school's electronic portals.	3.62	0.93	Medium
17	The school principal employs technology applications to serve student activities.	3.53	1.10	Medium
19	The school principal encourages the use of technological applications to create positive motivation towards the teaching profession that contributes to the strengthening	3.40	0.87	Medium

	of teachers.			
16	The school principal meets the psychological predispositions and desire of teachers when applying technology in school.	3.26	1.03	Medium
13	The school principal has sufficient skills in employing technological applications in the educational process.	3.22	1.02	Medium
18	The use of technological applications increases the process of communication and communication between teachers and the local community.	3.18	0.85	Medium
14	The school principal facilitates the process of teachers receiving training on the use of technological applications in education.	3.10	1.07	Medium
15	The school principal includes an area for technological applications in the school plan before the beginning of the school year.	2.88	1.04	Medium
Total Grade		3.27	0.62	Medium

It is noted from the previous table, which expresses the arithmetic averages and standard deviations of the responses of the study sample members on the field of employing technology applications, that the arithmetic mean of the total score (3.27) and standard deviation (0.62) and this indicates that the area of influence on teachers came with an average degree.

The results in Table 6 indicate that the highest arithmetic average (3.62) is for paragraph (20), which states: “The principal can deal with the school’s electronic portals”. The lowest arithmetic average (2.88) is for paragraph (15), which states: “The school principal shall include an area for technological applications in the school plan before the beginning of the school year”, which is of medium grade.

This is due to the nature of the work of principals, which requires them to be able to deal with the school’s electronic portals, in addition to the fact that many Palestinian schools still adopt paper methods, and teachers in the summer vacation are difficult to oblige them to attend training courses, and teachers sometimes fear failure to use modern technology and conduct activities related to the educational material, in addition to the academic load of teachers that burdens them, which leads to their feeling of indifference to the development of their performance, and the results of this study differ with the Kennedy study (Kennedy, 2002).

**Second: The result of the second question, which reads:** “Are there statistically significant differences at the level of significance ( $0.05 \geq \alpha$ ) in the averages of the responses of the study sample to the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers attributed to variables (gender, years of experience)?”

**Variable: Gender:** The arithmetic averages of the response of the sample members to the degree of responses of the study sample to the degree of activation of the principals of secondary schools in Ramallah and Al-Bireh governorate for technology in the educational process were calculated from the point of view of technology teachers according to the gender variable and Table 7 shows that.

**Table 7. Results of the “T” Test for Independent Samples of the Estimates of the Sample Members to the Degree of Responses of the Study Sample Members to the Degree of Activation of Secondary School Principals in Ramallah and Al-Bireh Governorate for Technology in the Educational Process from the Point of View of Technology Teachers according to the Gender Variable**

Domain	Sex	Number	Arithmetic mean	Standard deviation	“t”	Significance level
Infrastructure	female	84	3.35	.876	-1.277	.205
	male	81	3.32	.702		
The impact of technology use on students	offemale	84	3.35	.679	-.218	.832
	male	81	2.96	.793		
Employing technology applications	female	84	3.34	.717	-2.024	.046
	male	81	3.11	.629		
Total Grade	female	84	3.35	.618	-1.471	.145
	female	81	3.35	.876		

Table 7 shows that the value of the level of statistical significance calculated on the total score was (0.145), which is higher than the value of ( $\alpha \leq 0.05$ ), which indicates that there are no statistically significant differences between the averages of the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers according to the gender variable.

This is due to the fact that the nature of the director’s work is subject to the same organizational and administrative level and therefore the nature of their work is the same in the educational sector, in addition to the fact that the use of technology is not limited to one gender without another, as both sexes can develop themselves and train themselves to activate technology in the educational process regardless of the nature of the sex, and this is what drives towards various modern trends that call for gender equality in various fields.

**Variable: Years of Experience:** The arithmetic averages of the respondents’ response to the degree of activation of technology by secondary school principals in Ramallah and Al-Bireh governorate in the educational process were calculated from the point of view of technology teachers according to the years



of experience variable and Table 8 shows that.

**Table 8. Arithmetic Averages and Standard Deviations of the Respondents' Response to the Degree of Activation of Technology by Secondary School Principals in Ramallah and Al-Bireh Governorate in the Educational Process from the Point of View of Technology Teachers According to the Years of Experience Variable**

Domain	Years of Experience	Number	Arithmetic mean	Standard deviation
Infrastructure	5 years and below	61	3.57	.702
	From (5-10) years	68	3.49	.791
	10 years and above	36	3.16	.912
The impact of technology use on students	5 years and below	61	3.43	.484
	From (5-10) years	68	3.39	.650
	10 years and above	36	3.31	.733
Employing technology applications	5 years and below	61	3.41	.668
	From (5-10) years	68	3.45	.584
	10 years and above	36	3.16	.803
Total Grade	5 years and below	61	3.47	.461
	From (5-10) years	68	3.44	.490
	10 years and above	36	3.21	.686

It is noted from Table 8 that there are apparent differences between the arithmetic averages of the estimates of the areas of the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers for the variable of years of experience, and to find out the significance of the differences, One-Way Anova analysis was used for the response of the sample members according to the variable of years of experience as shown in the following Table:

**Table 9. Results of the Single Variance Analysis Test for the Estimates of the Sample Subjects to the Degree of Activation of Technology by Secondary School Principals in Ramallah and Al-Bireh Governorate in the Educational Process from the Point of View of Technology Teachers According to the Years of Experience Variable**

Domain	Contrast source	Sum of squares	of Degrees of freedom	of Mean of squares	Value "P" Calculated	Significance level
Infrastructure	Between groups	2.872	2	1.436	1.943	.149
	Within groups	65.797	163	.739		
	Total	68.669	165			

The impact of technology use on students	Between groups	.212	2	.106	.225	.799
	Inside groups	41.920	163	.471		
	Total	42.132	165			
Employing technology applications	Between groups	1.572	2	.786	1.429	.245
	Within groups	48.943	163	.550		
	Total	50.514	165			
Total Grade	Between groups	1.275	2	.637	1.659	.196
	Within groups	34.181	163	.384		
	Total	35.455	165			

It is clear from Table 9 that the value of P for the total score (1.659) and the level of significance (0.196) is greater than the level of significance ( $\alpha \leq 0.05$ ), meaning that there are no statistically significant differences to the degree of activation of secondary school principals in Ramallah and Al-Bireh governorate for technology in the educational process from the point of view of technology teachers according to the variable of years of experience.

This is due to the fact that teachers of different years of experience have a clear perception towards activating school principals for technology in the educational process, in addition to their awareness of the importance of activating technology in advancing the educational process, and the importance of achieving the desired goals, and reaching excellence and creativity, in addition to that activating technology is related to personal and professional traits more than years of service.

## 8. Study Recommendations

In light of the findings of this study, the researcher recommends the following:

- The need for school principals to continue to play their role in activating technology in the educational process and its reflection on the community.
- Creating a new plan by the Ministry of Education in the use of technology to form positive attitudes among school principals towards the use of technology in the educational process.
- Giving the directorates of education a greater role in activating technology during training courses for school principals, so that they are enlightened about the importance of activating technology, and methods of enhancing it.
- Modernizing the infrastructure by providing a group of schools with tablets, laptops and advanced technologies to display advanced electronic content and teach innovative educational curricula.
- Holding courses and workshops related to the operation of technological tools and devices, and how to use them for research and educational purposes.

- Allocating a budget that enables school principals to keep pace with technological development away from the bureaucracy approved in the Ministry of Education.
- Providing high-level communication networks, characterized by flexibility in content, accuracy and speed, relying on modern technology that provides opportunities for constructive dialogue and fruitful cooperation between all key parties to the process (administrators, teachers, students, parents) on the one hand, and on the other hand, strengthening the school's partnership with the surrounding local community (institutions and individuals).

## References

- Abdul-Jabbar, H. (2010). *The effectiveness of using self-learning based on computer expert systems in teaching geography on cognitive achievement and the development of critical thinking and economic values among first grade secondary students* (Unpublished PhD thesis). Faculty of Education, Sohag University, Egypt.
- Abu Shamala, F., & Jabour, S. (2013) The degree of practicing the teaching competencies necessary to use digital learning units from the point of view of ICT teachers at the secondary stage in Gaza governorates, presented to participate in the four school day entitled (Educational Technology: A Call to Break from the Norm). Palestine: 13-05-2013.
- Al-Ajrami, S. (2012). The availability of e-learning competencies among technology teachers in schools in Gaza governorates in light of some variables. *An-Najah University Journal*, 26(8), 203-252. <https://doi.org/10.35552/0247-026-008-001>
- Al-Maamari, S., & Al-Masrouri, F. (2013). The degree of availability of ICT competencies among social studies teachers at the post-basic education stage in some Omani governorates. *International Journal of Educational Research, United Arab Emirates University*, (34), 60-93.
- Gulbahar, Y., & Guven, I. (2008). A survey on ICT usage and the perceptions of social Studies teachers in Turkey. *Educational Technology & Society*, 11(3), 37-51.
- Kennedy, J. M. (2002). Perceived Technological Competencies of Elementary Teachers in UK schools. *Dissertation Abstract International*, 55(3), 48-A.
- Krishnakumar, R. (2011). Attitude of Teachers' of Higher Education towards e-Learning. *Journal of Education and Practice*, 4(2).
- Maamari, S., & Masroori, F. (2013), The Degree of Availability of ICT Competencies among Post-Basic Social Studies Teachers in Some Omani Governorates. *International Journal of Educational Research, United Arab Emirates University*, (34), 60-93.
- Palestinian Central Bureau of Statistics. (2017). *Final Results of the Census, Population Report, Ramallah and Al-Bireh Governorate, Ramallah, Palestine*.
- Philipman, G. (2014). The extent to which faculty members at Taif University are able to acquire technical skills and knowledge and the degree to which they practice them. *International Journal of Specialized Education*, 4(3), 30-73.

- Robertson, D. (2010). Enhancement of Student Engagement in the Learning Process through Active and Collaborative Learning. *Clarendon College Clarendon. Texas, USA Vision*, 3, 8-10
- Salam, M. T. (2009). *E-learning as an entry point for the development of education Arab and international experiences*. Cairo: Modern Library House for Publishing and Distribution.
- Sharif, K. (2002). *The extent to which faculty members in Saudi universities possess technological competencies and the extent to which they practice them and the difficulties they face* (unpublished master's thesis). Yarmouk University, Irbid: Jordan.
- Siegel, D. (2007). *The Mindful Brain*. New York, New York: W.W. Norton and Company.
- Suleiman, E. (2020). *The use of modern technology in education*. The Second International Scientific Conference of the Iraqi Academics Syndicate, Strategic Development Center and Salahaddin University / College of Education, Erbil, 10-11 February 2020.
- Surur, A. (2011). *The effectiveness of a three-dimensional enrichment model based on e-learning applications in developing mathematical thinking skills among eighth grade students*. Second International Conference on E-Learning and Distance Education, National Center for E-Learning, Riyadh, 21-24 February 2011.
- The Ministry of Education and Higher Education. (2013). *Statistical Yearbook for the academic year 2012/2013 Statistics of schools and kindergartens*. Ramallah, Palestine. P. 6