

# E-Learning Strategies in Developing Research Performance Efficiency: Higher Education Institutions

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**Abstract:** The study aimed to identify E- Learning strategies and their relation to the efficiency of research performance in foreign and Palestinian universities (University of Ottawa, Munster, Suez Canal, Al-Azhar, Islamic, Al-Aqsa). The analytical descriptive approach was used for this purpose, and relying on the questionnaire as a main tool for data collection. The study society is from the senior management, where the number of senior management in the universities in question is 206. The random stratified sample was selected and (SPSS) was used for statistical data analysis. The study found a significant relationship between E-Learning strategies and the efficiency of research performance in universities. It also reached the participation of senior management in the research that develops the university performance in the Palestinian universities. The senior management indicated that they do not care to follow the policies of implementing the development of scientific research. While the senior management in foreign universities indicated that they are interested in following up the policies of implementing the development of scientific research. The study also showed that senior management in Palestinian universities does not care about providing the appropriate budget for E- Learning. The study recommended that the senior management of Palestinian universities should provide an E- Learning budget and encourage employees to continue using E- Learning strategies. The administration in the Palestinian universities should adopt and support outstanding research, and the need to encourage interest in the implementation of policies for the development of scientific research.

**Keywords:** Research Performance, Performance Efficiency, E- Learning Strategies, Universities, Palestine.

## 1. INTRODUCTION

E- Learning is a modern term, a product of science and technology in the field of education. It involves the planning, implementation, evaluation and development of E- Learning, educational and non-educational institutions. There are specialized centers in curriculum design and development, for the labor market. E- Learning seeks to achieve goals and functions that contribute to solving educational and scientific problems, developing them through active educational programs, employing them on the Internet, providing feedback, and reaching educational efficiency in educational and research performance.

Education technology provides academics with the expertise needed to develop their performance. It helps academics to keep abreast of new academic matters and scientific research. Their use is supported by helping the teacher overcome temporal and spatial boundaries, saving time and effort in delivering skills, knowledge, E- Learning contributes to changing the role of teacher and learner. The learner has become a scholar and an explorer of knowledge. Scientific research is the second goal that universities seek to achieve. It is a societal necessity that contributes to the presence of universities in society through it.

E- Learning is a means of education that aims to interact through the use of computer technology, which stimulates

the development of skills, enhance creativity using modern electronic methods, and provides E- Learning content to all students both inside and outside the university, and contributes to the learning process in an easy and enjoyable way For the learner, achieves the principle of equal educational opportunities, aims to increase the efficiency, quality, and flexibility of education.

One of the objectives to be achieved from E- Learning is what Abo Khatwa (2013) provides: a rich, multi-source learning environment, redefining roles, creating incentives, promoting communication between the learning process, modeling education, , With the preparation of a generation of teachers and students able to deal with modern technology skillfully.

It can be said that the importance of E- Learning is reflected in improving the quality of higher education and its development through the improvement of methods and teaching techniques to cope with the general development of modern international technology, and education is required to search for methods and educational models to meet many challenges. Universities because of its ability to deliver the content of educational programs, activities and courses online. E- Learning strategies vary in order to suit learners' abilities, diversity of goals, and decisions. The strategies used are defined through E- Learning, namely how education

is provided to learners. E- Learning includes the design of different learning strategies that help achieve the objectives. E- Learning strategies include a number of procedures; to provide E- Learning content that helps learners to achieve educational goals with great skill and professionalism. It can be said that the importance of E- Learning is reflected in improving the quality of higher education and its development through the improvement of methods and teaching techniques to cope with the general development of modern international technology, and education is required to search for methods and educational models to meet many challenges. Universities because of its ability to deliver the content of educational programs, activities and courses online. E- Learning strategies vary in order to suit learners' abilities, diversity of goals, and decisions. The strategies used are defined through E- Learning, namely how education is provided to learners. E- Learning includes the design of different learning strategies that help achieve the objectives. E- Learning strategies include a number of procedures; to provide E- Learning content that helps learners to achieve educational goals with great skill and professionalism. The increasing efficiency of research performance is linked to the ability of universities to employ E- Learning to improve research. There are scientific studies that have proved that employing E- Learning strategies in an effective manner can contribute effectively to the development of the educational process and enhance the communication between the parties to the educational and research process. And the wide spread of communications and information technology from the variables affecting universities, which reflected their effects on university performance. Despite the growing growth of E- Learning, there are many challenges facing its application in Palestinian and foreign universities, which need special budgets, experts, content development, and information security protection. Although the experience of Palestinian universities is adopting E- Learning strategies compared to foreign universities, E- Learning strategies that contribute to increased educational and research performance.

## 2. THEORETICAL FRAMEWORK

### First- E- Learning Strategies

The process of education is a part and an important element for the progress of any institution. This process comes through the effectiveness or influence of individuals and employees in the institution through values and systems, which are able to bring organizational change constantly, and also improve the performance of the institution depending on the use of expertise and human skills, (Jad Al-Rab, 2015), with the spread of modern technologies in the era of technological development emerged methods and tools that helped to raise the efficiency of university education and research, e-learning has become an important part to raise the educational process, prompting many universities and research centers interest in the different strategies of education, support, and adapted in the optimal use in the

educational process. The Junghoon study (2007) illustrates strategies that promote e-learning:

1. Establish supportive strategies based on the type of university.
2. Evolution of E- Learning system quality.
3. Strengthen the support system for academics and learners.
4. The development of a common knowledge system between universities and industry.
5. Strengthening international cooperation for E- Learning.

(Catherine and Chen, 2016) concluded that there are five positive learning strategies in this area and that the use of computer skills in education improves the credibility of education, and students prefer to use computer literacy skills.

While the study (Lamushi, 2016.) To the following:

1. Effective E- Learning begins with effective planning, and the vital part of this planning includes educational strategies.
2. Most of the strategies used in the traditional environment can be used as an E- Learning environment.
3. E- Learning project strategies are the most appropriate student-centered learning strategies, whose studies have confirmed their impact and effectiveness in development.

While (El-Banna and Sorour, 2009) study showed that there is a statistically significant direct effect of self-efficacy in the internet on the efficiency of research performance and a statistically significant direct effect of general self-efficacy on the efficiency of research performance (Radwan, 2013):

1. The results of the study confirm the availability of material aspects such as databases, laboratories, and financial support through research chairs.
2. Despite the importance of the human element there is a clear lack in this element, whether it is the existence of the researcher is efficient in terms of preparation and training, as well as in the management of the movement of scientific research in universities.
3. The great need for emerging universities is noted for many of the ingredients of research success.

El-Baz (2015) also found that information technology, knowledge management and distance training are key strategic ingredients for building organizational learning. It also found the ability of universities to cope with the rapid changes in teaching and scientific research. Distance training in universities reduces training time, and there are many weaknesses in the availability of technology. The study (Al-Otaibi, 2010) found the following results:

1. There is a positive impact on the application of the principles of TQM on the efficiency of academic performance in Saudi universities.

2. The study showed that there is a positive effect to follow the educational process on the efficiency of academic performance in Saudi universities.
3. The study showed that there is a positive impact of human resources development on the efficiency of academic performance.

From the above, the areas of E- Learning strategies and research performance can be identified as shown in the following table (1):

**Table 1:** Areas of E- Learning strategies and research performance

E- Learning Strategies	Requirements for E- Learning
Planning, organization, skill, interaction, feedback, problem solving, goals.	Plans, strategies
Learning strategies for online student activities, E- Learning strategy, online learning strategy, multimedia presentation strategy.	Techniques (Logistics)
Strategies (E- Learning contracts, e-discussion, e-lecture, E- Learning, self-orientation, web exploration, project strategies, e-collaboration strategy, e-simulation, e-strategy).	Human resources, financial resources, infrastructure.

The concept of E- Learning strategies can be summarized as follows:

**Table 2:** The concept of E- Learning strategies

Author	The Concept
(Katharine& Others, 2016)	The e-learning strategy seeks to promote transformative approaches to teaching and learning, curricula that have a positive impact on students, faculty, employers, and other stakeholders, connect learners, create a sense of belonging, and enable them to participate through the core value of collaboration across a wide range of communities through dialogue and electronic interaction.
(Cengiz, 2015)	Explain that it is a pattern or plan to integrate the main objectives of online learning through the mentor to access digital content to help organize the learning process through e-learning.
(Michelle,B & others, 2015)	Is to provide online programs, to further improve students' success in e-learning.
(Uikar, 2014)	It is seen as goals, outcomes, vision, mission, values, organization performance indicators, and specific goals that assist in e-learning and demonstrate the value of e-learning.
(Al-Dossari, 2014)	It is defined as mental processes or skills that help the learner to recognize and acquire different forms of knowledge, information or performance, and enable him to organize information in memory, integrate it, study learning materials, organize the study process, the environment, and understand what he learns with e-learning.
(Ahmad, 2012)	Demonstrated as a set of requirements that have made e-learning the strategic choice, namely the need for continuing education, flexible, communication, and openness to others, and relies on making education unrelated to place or time of learning, which is based on learning, self-learning and effective.

As for the analysis of the concept of e-learning strategies, after introducing the definition (Uikar, 2014) which is the objectives and results, vision, mission, values, performance indicators of the organization, and specific objectives help in e-learning, and demonstrate the value of e-learning.

**The researchers believe that E- Learning strategies can be defined as:**

An integrated curriculum that uses a variety of methods, tools, and programs related to improving and developing the educational process, which contributes to the process of increasing the efficiency of performance in universities, achieving their goals, in addition to improving the knowledge, and access by the learner and teacher, which helps him to create, which in turn leads To attract, attract customers, loyalty to universities, and its reflection on the culture of society.

**The objectives of e-learning strategies are as follows (Quality Program, 2012):**

- Helps faculty members and their assistants prepare teaching material for students, compensate for lack of experience in each other, and provide them with advanced skills.
- Addresses the lack of academic and training cadres in some educational sectors through virtual classrooms, and achieves full interaction, directly with teacher and learner.
- It works on a variety of tools. The new educational system assumes different learners in tendencies, attitudes, preparations, and desires, and thus provides different ways to access the information and tools in a variety that suits the difference in the qualities of the learners.
- Helps to achieve equal educational opportunities, where the learner can overcome the obstacles of time and distance if the adoption of education on the Internet, as E- Learning is able to provide.

- Helps students search for information by communicating with peers, searching databases online, and through social media.

To achieve these goals, there is a set of requirements to reach the objectives of E- Learning, as follows:

1. To amend the education policy at the university level, so that technology is an essential tool in scientific education at all stages, which contribute to communication between faculty members and students.
2. Providing physical, human and infrastructure requirements, preparing appropriate electronic programs and courses, and training the elements of the educational system. Dr. Mr. Jad Al-Rab addressed these requirements in the writing of university administration and higher education institutions - development strategies and improvement curricula (2010).
3. Conduct research, studies, and experiences in the field of E- Learning, comprehensive evaluation, and continuous improvement.

#### **Second: The efficiency of research performance**

Knowledge is the basis for the creation of new opportunities, as it becomes clear that the results of research conducted by universities must be used to create new tools and better conditions for future life (Jad Al-Rab, 2015), and since the process of university development is not limited to quantitative growth, Decisions should be taken to increase the performance of scientific research, develop strategies that contribute to the coordination between universities and scientific research centers, and contribute to financial support for all pillars of scientific research such as magazines, libraries, periodicals, consultations, training courses and scholarship.

#### **Concept of research performance efficiency:**

The development of research performance in universities has become an urgent requirement, as contemporary progress has produced a square whose facets are the university, scientific research, technology, and society, and without a correlation between them is not right for one party to perform, and being properly without interaction with the other party (Hottenrott & Thorwarth, 2011). The definition of university research performance is defined by Hamid, 2013, as the sum of the activities of a faculty, department, college, or university in order to contribute to development and scientific progress, which can be measured in several ways, including: , Quote, or peer appreciation. Chiang Kao & Hwei-Lan Pao defines research performance as the research product or product of research activity that contributes to scientific progress. The ability to use a range of research activities in less time and effort, which contribute to the development of the university, and progress through the university or its clients to produce the best research results, the results of

which contribute to the development and development of society.

It also includes the use of all research strategies that contribute to the development of the university and its departments, and their outputs are capable of scientific and practical development in universities.

**The researchers believe that there are indicators to evaluate the activity of graduate studies and research, as follows:**

1. The adequacy and efficiency of faculty members.
2. Number of professors, assistants, assistant teachers and recruits.
3. The efficiency of organizational and human structures in the field of graduate studies
4. Percentage of expenditure on scientific research and higher studies at the national level, and at the level of each research institution.
5. Number of researchers obtaining degrees from abroad.
6. Number of scientists, researchers and distinguished at the international level in their fields of specialization.
7. The efficiency and adequacy of the resources and the physical, laboratory and research capabilities.
8. Number of researchers or researchers who have received certificates of appreciation or rewards.
9. The nature of the relationship between the university and local universities and conferences - research - assignments - research participation.
10. Quality of Graduate Studies and Research Provided.
11. The degree of influx of expatriates from Arab and foreign countries.
12. The degree to which researchers from outside the university, and mental image.
13. Increase external demand for postgraduate graduates.
14. The efficiency of university senior management in the development and creation of financial resources.
15. Number of messages or research rejected or written off and approved.
16. Scope of scientific Secretariat prevailing in the research institution.
17. The average time to complete the Master's and Ph.D.
18. Internal migration rates from public to private universities.

#### **Research Performance Objectives:**

Scientific research is one of the main objectives of any university, and ranks second in importance after academic education, and has become a prominent role in the theoretical and applied fields, as the progress of any country is measured by the importance of scientific research, and its efforts in the investment of what is accumulated Providing funding to universities and research centers to perform their functions effectively and excellently (Jad Al-Rab, 2015). Mushtaha (2013) argues that the importance of research can be understood when we consider the following points:

- Research means for those students who have to write master's or doctoral dissertations, to meet professional needs, or to have a higher status of social structure.
- For professionals, research may mean a source of income.
- For philosophers and thinkers, research may mean the outlet for new ideas and insights.
- For literature practitioners, research may mean developing new methods and creative work.
- For analysts and thinkers, research may generate new theories.

Some of those interested in scientific research, as confirmed by Al-Quds Open University, 2013, believe that the main principles related to research performance (scientific research) are as follows:

- Fact: The researcher should focus his attention on finding out facts, and the possibility of disseminating them to expand human knowledge, and enhance the

human capacity to exploit this knowledge to achieve vital goals.

- Freedom: The researcher must comply with the scientific limitations imposed on the freedom of scientific research through the rules of the democratic system for the adequate protection of human life.
- Responsibility: The researcher must be fully responsible for all research, and experiences, especially with regard to the direct effects on human life, mental health, and physical.
- Integrity and integrity: The researcher must do his work according to the requirements of scientific methods.
- E - Mastery of work: the researcher must transfer the values and objectives of scientific correct without bias.
- Cooperation: Enhances cooperation by maintaining an open atmosphere, assistance and trust among dealers.

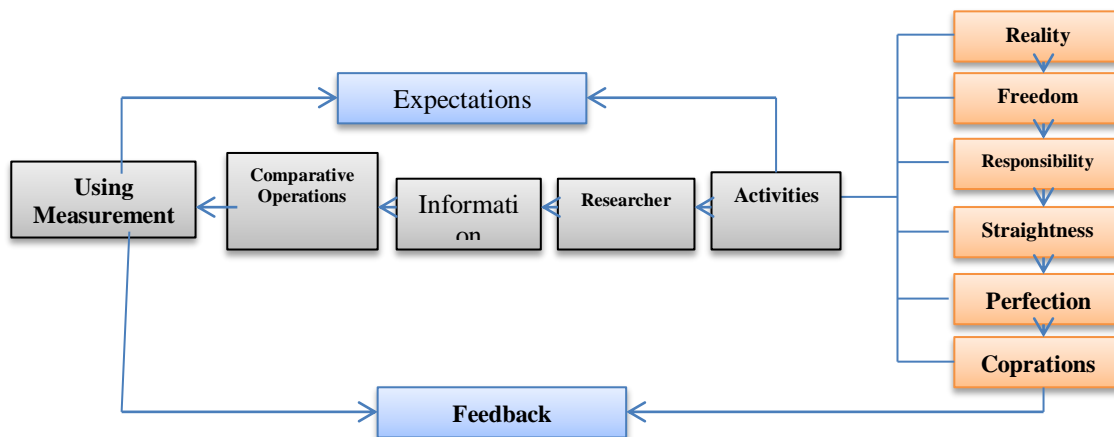


Figure 1: The basic principles of the efficiency of research performance

Source: Prepared by researchers in light of the basic principles of scientific research at Al Quds Open University.

According to the above plan, the basic principles are the characteristics of good research. The research process is not a personal process, but rather a scientific, social, cultural and human work that must be based on ideals, values, knowledge and ethics. In the use of information. In the theoretical framework, the following question is answered:

What is the level of efficiency of research performance in foreign and Palestinian universities from the point of view of senior management?

The next hypothesis is also tested

There is a relationship between the strategy of E-Learning and the efficiency of research performance in universities from the point of view of senior management

### 3. LITERATURE REVIEW

- Study of (Abdalmenem et al., 2019) aimed to identify e-learning strategies and their relation to increasing the efficiency of research performance in foreign and Palestinian universities (University of Ottawa, Munster, Suez Canal, Al-Azhar, Islamic, Al-Aqsa). The analytical descriptive approach was used for this purpose, and relying on the questionnaire as a main tool for data collection. The study society consists of senior management in Palestinian universities, where the number of senior management personnel in the universities was 206. The random stratified sample was selected, and the Statistical Analysis of Social Sciences (SPSS) program was used. The study found a significant relationship between e-learning strategies and the efficiency of research performance in universities. It

also reached the participation of senior management in the research that develops the university performance in the Palestinian universities. The senior management indicated that they care to follow the policies of implementing the development of scientific research. While the senior management in foreign universities indicated that they are interested in the sequence of policies to implement the development of scientific research. The study also showed that senior management in Palestinian universities interested in providing the appropriate budget for e-learning. The study recommended that the senior management of Palestinian universities should provide an e-learning budget and encourage employees to continue using e-learning strategies. The administration in the Palestinian universities should adopt and support outstanding research, and the need to encourage interest in the implementation of policies for the development of scientific research.

- Study of (Al-Anzi, 2016), aimed at understanding the relationship between the use of ICT applications and increasing the ability of scientific research among faculty members, the latest applications of education technology used in the delivery of services, and their impact on improving research performance. The results showed that there was a clear reduction in the periodic updating of the ICT tools and other media of the Commission. The results also indicate a good rise in the contribution of ICT education and information technology to improving research levels.
- Study of (Al-Baz, 2015) aimed to characterize the current situation of applying the organizational learning portal in some Egyptian universities and some foreign universities operating in Egypt. And to analyze the most important challenges and constraints that limit the effectiveness of applying the organizational learning portal. And identify the most important indicators of measuring the culture of excellence while identifying the basic pillars to build a culture of excellence in different administrative sites. The results showed that the preparation of information technology, knowledge management, and distance training is one of the basic strategic elements needed to build organizational learning. And that there was a capacity for universities to cope with rapid changes in teaching and scientific research. Distance training at universities reduces training time, and there are many weaknesses in the availability of technology.
- Study of (Brown & Sun Park, 2015) which aimed to compare online asynchronous master lectures with their traditional counterparts, and to evaluate practices and research through self-efficacy. The results showed that knowledge improved and self-efficacy in research among students. And that there

is little difference between online learners and face-to-face imitation education.

- Study of (Pilar Ficapal-Cusía & Joan Boada-Graub, 2015) Aimed to develop business strategies and processes to deal with and solve the situation associated with a particular job, design the process of joint assessment based on individual performance, group performance, generate thinking processes, to enable students to assimilate, and then generalize the concepts and procedures developed for other situations you will encounter in the environment Work, and develop education strategies that enhance performance. The results showed that the issuance of choices and expansion of electronic methodology. (Eg, time management, task planning, problem solving, decision-making and use of ICT systems), personality traits such as: (effective communication, critical thinking, personality and relationships) and systematic nature of adaptation with new situations, and self-learning.
- Study of (Nicholas et al., 2014) aimed at identifying strategies used to identify a community-based approach and addressing the challenges of education in different communities throughout Nigeria. The results show that strategies focus on bringing together community stakeholders to create awareness, identify issues related to education, develop appropriate educational programs that address issues and improve the quality of education in communities. The system provides a framework for continually evaluating students' academic performance.
- Study of (David & Serradell, 2014) aimed at identifying innovations that affect all teaching methods, E- Learning methods, and the detection of variables such as the university's strategy towards ICT adoption. (ICT) to identify the students' abilities to use digital technology in the educational process by teachers and students, or to choose a methodology that simulates digital education the results showed that motivation is the main variable that affects the performance of students over the Internet, which emphasizes the importance of this factor as a source of educational efficiency. Positive impact on student performance and positive impact on student performance from adoption of innovations in teaching and learning technology.
- Study of (Morais et al., 2014) aimed to identify the capacities of European higher education institutions in education, examine the level of European higher education institutions in E- Learning, and the possibility of generalizing its experience to benefit as many students as possible. The results showed that E- Learning offers greater flexibility in education than traditional learning. And that E- Learning generates many ways that stimulate and enrich

discussions, and E- Learning contributes to the exploitation of time. And that E- Learning is classified in quality assurance processes.

- Study of (Al-Gamal, 2014) aimed to identify the availability of the requirements of the success of electronic management in universities, to identify the size of the role played by electronic management in increasing the efficiency of university performance. The results showed that there were differences in the views of the study groups on the variables of the study. And that there is a significant impact between the quality of electronic service, and the efficiency of university performance.
- Study of (Al-Saadi, 2013) aimed to determine the requirements of using E- Learning in the faculties of the University of Maysan from the point of view of the faculty members to determine the requirements for design, implementation and evaluation of the use of E- Learning in the faculties of the University of Maysan from the point of view of the faculty members, and identify the requirements for the training of faculty members to use E- Learning in University of Maysan University. The results showed that the requirements of the e-course and the requirements of the training of faculty members were of great importance. And that the requirements of the

physical education environment were of medium importance.

- Study of (Al-Matari, 2013) aimed to develop a questionnaire to diagnose the reality of E- Learning in Arab universities in the light of quality standards, to obtain high reliability and stability of the questionnaire. The most important findings were that the questionnaire has a high degree of honesty and consistency. And that the other two criteria (leadership and administrative organization, material and technical resources, human and financial) all indicate that the one-dimensional questionnaire.

**METHODOLOGY AND PROCEDURES:**

The methodology of the study and its procedures is a major focus through which the practical aspect of the study is accomplished. The data required to conduct the statistical analysis are obtained in order to reach the results that are interpreted in the light of the study literature on the subject of the study.

**4. COMMUNITY AND STUDY SAMPLE:**

The research society includes: (senior management) in the Palestinian and foreign universities, which are: (Islamic University, Al-Azhar University, Al-Aqsa University, University of Munster, University of Ottawa and Suez Canal University).

**Table 3:** Distribution of the study population

No.	University	Senior Management
1.	Islamic University	106
2.	<b>Palestinian Universities</b>	Al-Azhar University
3.		Al-Aqsa University
4.		University of Munster
5.	<b>Foreign Universities</b>	University of Ottawa
6.		Suez Canal University
<b>Total</b>		443

**STUDY TOOL**

The study tool was prepared by studying the administrative literature and previous studies related to the subject of the study. A number of university professors were consulted in determining the dimensions of the questionnaires and their sentences. In light of the opinion of the arbitrators, some of the clauses of the questionnaire were modified in terms of deletion, addition, and modification, so that the questionnaire will be finalized. Gradient (1-5) was used to measure respondents' responses to the questionnaire sections. The questionnaire consisted of a main Areas consisting of (14) sub-Areas (strategic planning - efficiency of research performance) as shown in the following table (4).

**Table 4:** Axes and paragraphs included in the questionnaires of the study

Areas	Paragraphs
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<b>E- Learning Strategies</b>	14
<b>E - Planning Strategy</b>	7
<b>Efficiency of research performance</b>	7

Source: Prepared by researchers.

**RELIABILITY AND STABILITY OF THE STUDY TOOL**

The validity of the questionnaire was confirmed in two ways:

- A. Certification of the arbitrators "virtual honesty": The study tool presented in its preliminary form to a group of arbitrators from specialists in the academic, administrative, professional, statistical, and educational technology, the researchers responded to the views of the arbitrators and make the necessary deletion and amendment in the light of the proposals submitted, the questionnaire was thus finalized.

B. Internal consistency: The internal consistency refers to the consistency of each paragraph of the questionnaire with the area to which this paragraph belongs.

**Table 5:** Internal honesty of the questionnaire axes

No.	E- Learning Strategies	Pearson Coefficient Of Correlation	Probability Value (Sig.)
1.	Strategic Planning	0.918**	0.000

**Table 6:** Cronbach’s Coefficient Alpha and split-half test to measure the stability of the upper management questionnaire

No.	Areas	Number Of Paragraphs	Cronbach’s Coefficient Alpha	Split-Half Test
1.	Strategic Planning	7	0.933	0.938
2.	Efficiency of research performance	7	0.953	0.950
<b>E- Learning Strategies</b>		<b>14</b>	0.963	0.962

The results shown in the previous table indicate that the value of Cronbach’s Coefficient Alpha is high for the axes, with values ranging from 0.933 to 0.953. The results were similar to Cronbach’s Coefficient Alpha, ranging between 0.938-0.950. This means that the resolution tool is accurate in measuring what is being measured, and that the stability coefficient is high and satisfies the research purposes.

**Table 7:** Arithmetic mean, relative weight, and value (T) of E- Learning strategies from the point of view of senior management

Areas	Universities	SMA	Standard Deviation	Relative Weight%	T Test Value	Morality P- Value
<b>E- Learning Strategies</b>	Foreign	3.43	0.76	68.57	4.593	0.000
	Palestinian	2.89	1.19	57.8	0.32	0.314

- It is clear from the above table that the mean of E- Learning strategies from the point of view of senior management in foreign universities (3.43) is higher than the default (3) and the value of t is equal to (4.593), which is statistically significant at (0.01). This is due to the availability of material and human resources, continuous follow-up to the development of the technological education process, and the development of E- Learning strategies.
- For Palestinian universities, the arithmetic average of E- Learning strategies was (2.89). The value of (T) was equal to (0.32) and in statistical terms (0.314) which is greater than (0.05), thus increasing the

**Table 8:** The arithmetic average, the standard deviation, the value of (T) and the relative weight of the efficiency of the research performance from the point of view of senior management

No	Efficiency of university performance (research)	SMA	Standard Deviation	Relative Weight%	T Test Value	Morality P- Value	Ranking
1.	Senior management participates in research that develops university performance	3.55	1.29	71.03	5.59	0.00	2
2.	Motivate employees to spend abroad	3.46	1.40	69.29	-0.87	0.39	6
3.	The senior management follows the policies of implementing the development of scientific research	2.93	1.44	58.51	0.97	0.33	18

2.	<b>Efficiency of research performance</b>	0.927**	0.000
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\*The correlation is statistically significant at  $\alpha \leq 0.05$ .

\*\*The correlation is statistically significant at  $\alpha \leq 0.01$ .

The stability of the research questionnaire was verified by Cronbach’s Coefficient Alpha and the split-half test and the results were as shown in Table (6).

### 5. DESCRIPTIVE ANALYSIS OF THE QUESTIONNAIRE

The relative weights of E- Learning strategies in foreign and Palestinian universities were determined from the point of view of senior management, as shown in the table:

average of E- Learning strategies from the point of view of senior management in Palestinian universities Not statistically significant, researchers attribute this to financial situations and crises, and inability to implement strategic plans.

#### **The efficiency of research performance from the point of view of senior management in the universities under study:**

The efficiency of research performance was determined from the senior management point of view using the arithmetic mean, standard deviation, relative weight, test value "T" and "Sig" as shown in the following table:



4.	Is working on a future plan for scientific research	3.07	1.23	61.42	0.67	0.50	13
5.	The senior management in its plan is constantly developing research centers	3.05	1.16	60.92	1.69	0.09	14
6.	Facilitates participation in scientific conferences	3.13	1.34	62.70	0.45	0.65	11
7.	Helps to disseminate electronically researched scientific research	3.04	1.33	60.71	0.93	0.35	16
<b>Efficiency of university performance (research)</b>		3.11	150	62.14	7.65	0.000	

The value of (T) of the table at the level of significance of 0.05 about 1.98

- The senior management agreed that the relative weight of the pillars of the efficiency of research performance was the paragraph (senior management participation in research that develops the university performance). It ranked first with a relative weight of 71.03, an average of 3.55, a test value of 5.59, and Sig value (0.05). This is a statistical function at the mean level ( $\alpha \leq 0.05$ ), indicating that the average response rate for this paragraph has significantly increased the degree of neutrality. There is considerable agreement by the respondents on this paragraph. The researchers attribute this to the nature of the work of senior management, which is specialized in planning, development and development of strategies and policies in line with the requirements of the university.
- While paragraph XV (follow the senior management policies to implement the development of scientific research) ranked last relative weight (58.51%), the mean (2.93), the test value (0.97), and the probability value (Sig) = (00.00), which is below the level (0.05). Therefore, this is a statistically significant at the level of significance ( $\alpha \leq 0.05$ ), indicating that the average response to this paragraph is less than the

low degree of neutrality, indicating that there is little approval from the sample on this paragraph. The researchers attributed this to the difficult economic situation in the Palestinian universities, which delayed the implementation of the development of scientific research, and directed Palestinian universities to the attention of academic education. As for foreign universities, they follow the policies of implementing scientific research, but seek to be better for technological development.

- In general, the views of the senior management agreed on the importance of the efficiency of the research performance, and obtained an approval ratio with an average of 3.11 indicating that the average response rate of this Areas exceeded the level of neutrality, which is (3) The researchers attributed this to the efforts of universities to develop scientific research centers, libraries and conferences that contribute to the dissemination of the culture of scientific research and help to solve the problems of society.

The relative weights of the research efficiency aspects from the point of view of senior management in foreign and Palestinian universities:

**Table 9:** Arithmetic mean, standard deviation, relative weight, T test value, and morale in universities for the Areas of efficient research performance from the point of view of senior management

Areas	Universities	SMA	Standard Deviation	Relative Weight%	Test Value	Morality P- Value
<b>Efficiency of research performance</b>	Foreign	3.11	1.23	62.10	0.21	1.25
	Palestinian	3.10	1.00	61.29	0.93	0.356

It is clear from the previous table that the relative weight (62.10%) and the arithmetic mean of the efficiency of research performance from the point of view of senior management in foreign universities (3.11) is higher than the default average (3) Statistically significant value (0.00). The researchers attributed this to the fact that senior management always strives to raise the efficiency of research performance, and sets future aspirations to achieve long-term future plans that contribute to supporting scientific research in all fields.

For Palestinian universities, the relative weight (62.29%) and the arithmetic average of the efficiency of the

research performance (3.11) and the value of (T) was equal (0.93) and is statistically significant value (0.000).

## 6. TEST THE HYPOTHESIS

**There is a significant relationship between the strategies of E- Learning and increase the efficiency of research performance in universities.**

To answer this hypothesis, correlation coefficients and the probability value (Sig) were used to find the relationship and the level of significance from the point of view of senior management.

**Table 10:** correlation coefficient between E- Learning strategies and increase the efficiency of research performance in universities from the point of view of senior management

No.	Hypothesis	Pearson Coefficient Of Correlation	Probability Value (Sig.)
1.	There is a significant correlation between the total areas of E- Learning strategies and E- Learning planning strategy.	*0.885	0.000
2.	There is a significant relationship between the total areas of E- Learning strategies and the efficiency of research performance.	*0.902	0.000

\*The correlation is statistically significant at  $\alpha \leq 0.05$ .

The above table shows that the correlation coefficient is 0.902 and that the probability value (Sig) is equal to 0.00 and is less than the significance level ( $\alpha \leq 0.05$ ). This indicates a statistically significant relationship between the E- Learning strategies and the efficiency of the research performance In the universities. This is due to the interest of senior management in presenting strategic plans that focus on E- Learning through the vision and mission of universities and quadratic analysis, which in turn reflects on the efficiency of research performance.

### 7. RESULTS

- The study found a significant relationship between E- Learning strategies and the efficiency of research performance in universities.
- I have reached the participation of senior management in the research that develops the university performance in the Palestinian universities. The senior management indicated that they do not care to follow the policies of implementing the development of scientific research. While the senior management in foreign universities indicated that they are interested in following up the policies of implementing the development of scientific research.
- The study showed that senior management in Palestinian universities does not care to provide the appropriate budget for E- Learning.
- The study showed that the senior management in foreign universities is interested in providing the appropriate budget. The sample of the study considers that E- Learning is a strategic requirement that contributes to the development of education.

### 8. RECOMMENDATIONS

- The study recommended that the senior management of Palestinian universities should provide an E- Learning budget and encourage employees to continue using E- Learning strategies. The administration in the Palestinian universities should adopt and support outstanding research, and the need to encourage interest in the implementation of policies for the development of scientific research.
- The study also recommended the importance of presenting educational content in a simple and easy way. And the establishment of a flexible technological infrastructure.

- The study also recommended the need to improve the environment and conditions of E- Learning by working to provide the requirements of E- Learning, spreading the culture of scientific research through E- Learning strategies, and twinning between Palestinian foreign universities to benefit from the experiences of foreign universities in this field. Who use their time to develop their performance and research.

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