

For Editorial Use Only .(Date Received: 26-Mar-2025) *(Date Accepted: 10-May-2025.)

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وزارة التربية والتعليم العالي الفلسطينية Ministry of Education and Higher Education, Palestine	University Name and Country (for First Researcher) in Both Arabic and English	the quality of distane education services provided by Palestinian higher education institutions during times of crises and disasters, using the Islamic University in Gaza as a case study
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الملخص:

هدفت الدراسة إلى الكشف عن جودة خدمات التعليم عن بُعد التي تقدمها مؤسسات التعليم العالي الفلسطينية في ظل الأزمات والكوارث ، وتم تطبيقها على الجامعة الإسلامية كنموذج. استخدم الباحثان المنهج الوصفي التحليلي، وطبقت أدوات الدراسة على عينة عشوائية بلغت (102) طالباً وطالبة. وتم استخدام الاستبانة كأداة لجمع البيانات. أظهرت النتائج أن درجة جودة المحتوى المقدم عبر التعليم عن بعد في الجامعة الإسلامية كانت متوسطة بوزن نسيبي بلغ 55.5%， كما أشارت النتائج إلى أن معيقات التعليم عن بعد تمثلت في ضعف التفاعل بين الطلبة وأعضاء هيئة التدريس، والانقطاعات المتكررة للكهرباء وإنترنت نتيجة الاستهداف المباشر للبنية التحتية. وأوصت الدراسة بضرورة تطوير معايير جودة التعليم عن بعد، خاصة في أوقات الأزمات والعدوان، وتعزيز البنية التحتية الرقمية وتدريب الطلبة وأعضاء هيئة التدريس على أساليب التعلم الإلكتروني في ظل الطوارئ الأمنية.

كلمات مفتاحية: (الجودة، الخدمات التعليمية، الأزمات والكوارث، التعليم العالي، التعليم عن بعد.)

Abstract:

The study aimed to assess the quality of distance education services provided by Palestinian higher education institutions during times of crises and disasters, using the Islamic University in Gaza as a case study. The researchers adopted a descriptive analytical approach, and the study tools were applied to a random sample of 102 male and female students. A questionnaire was used to collect data. The results indicated that the quality level of the content delivered through distance learning at the Islamic University was moderate, with a relative weight of 55.5%. The findings also highlighted several challenges, notably the weak interaction between students and faculty members, and frequent power and internet outages due to direct damage to infrastructure. The study recommended the development of quality standards for distance education, particularly during emergencies and crises, in addition to enhancing digital infrastructure and providing training for both students and faculty on e-learning strategies in times of security-related disruptions.

Keywords: (Quality, Educational Services, Crises and Disasters, Higher Education, Distance Learning.)

Introduction

The recurring crises and disasters witnessed by the world—whether wars, armed conflicts, natural disasters, or health emergencies—have led to unprecedented measures at all levels. Among the most notable of these measures was the closure of educational institutions and the shift to distance learning as an emergency option to ensure the continuity of education. Amid the intensification of these crises, the magnitude of the challenges facing higher education has become evident, particularly concerning the quality of e-learning in unstable environments plagued by weak infrastructure, power outages, poor internet services, and a lack of psychological and technical stability.

These conditions have compelled many countries to reevaluate their educational systems, analyze their strengths and weaknesses, and identify opportunities for development. This explains the growing global interest in continuous reviews of education systems, aiming to improve the quality of educational services and enhance their adaptability to a rapidly changing reality (Abu Sharar, 2009: 2). In the Palestinian context, distance learning has emerged as an alternative option imposed by necessity rather than progress, necessitating a careful evaluation of its effectiveness in emergency situations.

Providing high-quality digital educational services during crises represents a strategic imperative for Palestinian higher education institutions. This requires robust infrastructure, qualified human resources, and flexible assessment mechanisms (Al-Farra & Al-Awadi, 2013: 22). Furthermore, the responsiveness of Palestinian higher education institutions to student needs and their efforts to ensure student satisfaction strengthen their academic standing and reinforce their relationship with society, even under the harshest conditions (Al-Rubaie, 2007: 32).

In light of this, there has been increasing local and global interest in improving the quality of e-learning outcomes during crises by developing academic and administrative competencies and providing a flexible and secure learning environment. In the Palestinian context, higher education institutions bear a dual responsibility: to deliver education despite complex circumstances and to safeguard students' right to learn amid ongoing threats.

This study sheds light on the reality of the quality of distance education services provided by the Islamic University of Gaza during an extended crisis. It evaluates the quality of content, supervision, and assessment mechanisms while exploring the key challenges faced by students. The study aims to produce actionable scientific recommendations to enhance the quality of education during crises and emergencies.

Research Problem

Prolonged crises pose one of the most significant challenges to higher education, directly impacting educational infrastructure and forcing Palestinian higher education institutions to adopt exceptional measures to ensure continuity—often through distance learning. Although Palestinian institutions have adopted this mode as a temporary alternative, its effectiveness and quality remain questionable, particularly in environments characterized by power outages, weak internet connectivity, and psychological distress among students and faculty.

In the Palestinian context, with the recurrence and escalation of crises, there is an urgent need to assess the quality of e-learning services provided during these periods and to identify shortcomings and challenges faced by students, especially in major institutions such as the Islamic University of Gaza.

Thus, the research problem is defined by the following main question:

What is the degree of quality of distance education services provided by Palestinian higher education institutions during crises and disasters?

This question branches into the following sub-questions:

1. What is the degree of quality of the content provided in distance education services at the Islamic University of Gaza during crises and disasters?
2. What is the degree of quality of remote support and supervision services provided by faculty members at the Islamic University of Gaza during crises and disasters?
3. What is the degree of quality of student performance assessment services provided at the Islamic University of Gaza during crises and disasters?
4. What are the obstacles to using distance education services?
5. Are there statistically significant differences (at $\alpha \leq 0.05$) in the sample's responses regarding the quality of distance education services provided by Palestinian higher education institutions during crises and disasters, attributed to variables (gender, high school specialization, college major, academic year)?

Research Objectives

The study seeks to achieve the following objectives:

1. To reveal the degree of quality of the content provided in distance education services at Palestinian higher education institutions during crises and disasters.
2. To identify the degree of quality of remote support and supervision services provided by faculty members at the Islamic University of Gaza during crises and disasters.

3. To assess the degree of quality of student performance evaluation services provided at the Islamic University of Gaza during crises and disasters.
4. To examine differences in the sample's responses regarding the quality of distance education services provided by Palestinian higher education institutions during crises and disasters, attributed to variables (gender, high school specialization, college major, academic year).

Significance of the Study

Theoretical Significance

This study contributes to enriching educational literature by addressing the quality of distance education during crises and disasters—a topic that has not received sufficient research attention in the Palestinian context. Its theoretical significance stems from the following:

- Providing a comprehensive theoretical framework on the quality of e-learning under emergency conditions, paving the way for further research in similar contexts.
- Filling a gap in the literature on higher education in Palestine, particularly as the study examines a rare case that has not been deeply explored before.
- Offering a scientific reference for understanding the relationship between prolonged crises and the ability of educational institutions to maintain the quality of educational services.
- Highlighting the impact of educational deprivation during wars, pandemics, and conflicts, emphasizing education as a human right that should not be disrupted by crises.

Practical Significance

The practical significance of the study lies in its real-world applications within the Palestinian context, as it:

- Assists Palestinian higher education administrators in evaluating and improving distance education services during emergencies.
- Supports policymakers in the Ministry of Higher Education and Scientific Research in developing flexible, evidence-based strategies to manage crises and ensure educational continuity.
- Proposes practical strategies to reduce learning loss caused by crises and to provide a high-quality, effective digital learning environment.
- Presents real-world data and field analyses that can be utilized in future planning for distance education, whether as an emergency measure or a permanent strategic option.
- Promotes educational equity by affirming the right to access quality education even under the most severe conditions.

Study Hypotheses

1. There are no statistically significant differences (at $\alpha \leq 0.05$) in the sample's responses regarding the quality of distance education services provided by Palestinian higher education institutions during crises and disasters, attributed to variables (gender, high school specialization, college major, academic year).

Study Limitations

This study is limited by the following boundaries:

1. **Subject Limitation:** The study focuses solely on the quality of distance education services provided by Palestinian higher education institutions during crises and disasters.
2. **Geographical Limitation:** The study was conducted at the Islamic University in the southern Palestinian governorates.
3. **Human Limitation:** The study was applied to a sample of students from various disciplines at the university.
4. **Time Limitation:** The study was conducted in mid-2020.

Study Terminology

- **Quality of Educational Services:** Operationally defined by the researchers as a set of procedures and foundations that describe the characteristics of distance education, ensuring it meets learners' expectations and delivers educational outcomes according to globally accepted standards.
- **Distance Education:** Operationally defined by the researchers as an educational system based on delivering learning materials to students through various technological communication methods, where the learner is physically separated from the instructor.
- **Higher Education Institutions:** Institutions under the Palestinian Ministry of Higher Education and Scientific Research that provide academic education to students after high school.

Previous Studies

Several studies have addressed the quality of distance education, examining various aspects such as digital platforms, quality standards, and the impact of crises on education. Notable studies include:

1. **Awaj & Tabri (2016):** "*The Role of Social Media in Supporting Distance Education for University Students*"
 - Aimed to explore Facebook's role in supporting distance education using a descriptive approach on a sample of 197 students.
 - Findings indicated that social media facilitates learning and overcomes obstacles, recommending the expansion of such experiences in universities.
2. **Al-Mulla (2016):** "*Evaluating the Distance Education Experience in Malaysian Universities and the Girls' College of Education According to Quality Standards*"

- Used a qualitative approach, analyzing documents and questionnaires.
- Results showed that distance education quality depends on infrastructure and training in modern technologies, recommending continuous technical and human skills development.

3. **Al-Sa'afin (2015):** "*A Proposed Strategy to Improve the Quality of Student Services in Palestinian Universities*"

- Targeted a sample of 568 students, concluding that service quality was moderate and recommending incentive systems to enhance service quality.

4. **Al-Najdi (2012):** "*Evaluating the Quality of E-Learning at Al-Quds Open University in Light of Global Standards*"

- Included 84 professors and 1,554 students, finding that content and design quality were adequate and recommending the promotion of e-learning quality culture in Palestinian universities.

5. **Müller & Goldenberg (2021):** "*Emergency Remote Teaching and Its Impact on Higher Education Quality*"

- Examined the sudden shift to distance learning during COVID-19 in European universities, highlighting that the main challenge was not technical infrastructure but faculty preparedness. Recommended flexible digital emergency plans.

6. **Wang et al. (2022):** "*E-learning Quality Indicators during Crisis: Evidence from Asian Universities*"

- Analyzed five Asian universities using a quantitative approach, finding that e-learning quality depends on three key factors: interaction, technical support, and content flexibility.

Review of Previous Studies

The reviewed studies demonstrate growing interest in evaluating e-learning quality, both in stable contexts and during crises. Approaches varied, focusing on platforms (Awaj & Tabri), international experiences (Al-Mulla, Müller), or institutional structures (Al-Sa'afin, Al-Najdi, Wang).

These studies align with the current research in emphasizing service quality for students and using descriptive methods and questionnaires. However, some studies (e.g., Al-Mulla, Wang) employed qualitative methods and document analysis.

This study builds on prior work while focusing on prolonged crises and offering an applied perspective in the Palestinian context, addressing a research gap and contributing a new analytical framework to both Arabic and international literature.

Study Procedures

First: Research Methodology

The researchers used the **descriptive-analytical approach**, which examines current phenomena to gather data for testing hypotheses and answering precise questions about present conditions. This method relies on objective and reliable tools such as questionnaires (Al-Agha, 2002: 43; Abu Alam, 2011: 50).

Second: Study Population

The study population consisted of all students enrolled at the Islamic University of Palestine for the 2019-2020 academic year across all disciplines, totaling **16,454 students**.

Third: Study Sample

- **Pilot Sample:** Included **30 students** from the Islamic University of Gaza to validate the study instrument.
- **Main Sample:** Consisted of **102 students** (out of 16,454).

Table (1): Sample Distribution by Gender

Gender	Number	Percentage
Male	40	39.2%
Female	62	60.8%
Total	102	100%

Table (2): Sample Distribution by High School Specialization

Gender	Humanities	Scientific	Total
Male	9	31	40
Female	16	46	62
Total	25	77	102

Table (3): Sample Distribution by College Major

Gender	Scientific College	Humanities College	Total
Male	9	31	40
Female	16	46	62
Total	25	77	102

Table (4): Sample Distribution by Academic Year

Gender	Second Year or Below	Third Year or Above	Total

Gender	Second Year or Below	Third Year or Above	Total
Male	14	26	40
Female	29	33	62
Total	43	59	102

Fourth: Study Instrument

The researchers used a **questionnaire** to achieve the study objectives.

Questionnaire Description

After reviewing educational literature, considering previous studies related to the research problem, and consulting specialists, the researchers developed a questionnaire to assess the quality of distance education services provided by Palestinian higher education institutions during crises and disasters. The questionnaire was divided into **four main dimensions**.

Validity of the Questionnaire

Internal Consistency Validity

The researchers distributed the pilot questionnaire to **30 students** (male and female) at the Islamic University of Gaza. Pearson correlation coefficients were calculated to determine the internal consistency between each item and the total score of its respective dimension, as shown in **Tables (5-15)**.

A **Kolmogorov-Smirnov test** was conducted to confirm normal distribution. The results indicated that the data followed a normal distribution ($p > 0.05$), allowing the use of parametric tests.

Table (5): Correlation Coefficients Between Each Item in Dimension 1 and Its Total Score

Dimension 1: Quality of Distance Education Content	Correlation Coefficient	p-value
The e-content maintains accuracy, objectivity, and up-to-date information.	0.830**	0.001
Course content respects diversity, varying talents, and different learning styles.	0.786**	0.000
Course design includes clear and comprehensive learning objectives and outcomes.	0.842**	0.000
Students can choose from different projects within the same course.	0.764**	0.000
Learning resources are accessible and easy to obtain.	0.821**	0.000
Teaching methods and media used in the course are effective and clear.	0.811**	0.000

Table (5) shows significant correlations ($p < 0.01$) between each item and the total score (ranging from **0.764 to 0.830**), confirming the validity of this dimension.

Table (6): Correlation Coefficients Between Each Item in Dimension 2 and Its Total Score

Dimension 2: Quality of Remote Support & Supervision by Faculty	Correlation Coefficient	p-value
The university provides technical training for students before enrolling in e-courses.	0.735**	0.000
The university offers post-course services, including exam results.	0.841**	0.000
Clear mechanisms exist for interaction between students and supervisors.	0.858**	0.000
A guide explains student expectations and required skills for e-learning success.	0.841**	0.000
E-courses provide access to digital libraries and books.	0.915**	0.000

Critical values:

- At $df = 28, \alpha = 0.01 \rightarrow r = 0.463$
- At $df = 28, \alpha = 0.05 \rightarrow r = 0.361$

Table (6) shows significant correlations ($p < 0.01$) between each item and the total score (ranging from **0.735 to 0.915**), confirming validity.

Table (7): Correlation Coefficients Between Each Item in Dimension 3 and Its Total Score

Dimension 3: Quality of Student Performance Assessment	Correlation Coefficient	p-value
E-course assessment mechanisms are clear.	0.824**	0.000
Assessment methods are varied (exams, research, projects, assignments).	0.723**	0.000
Assessment methods consider individual differences among students.	0.857**	0.000
Grading and evaluation procedures are reliable and organized.	0.751**	0.000
Assessment policies cover absences, medical conditions, and other contingencies.	0.633**	0.000

Table (7) shows significant correlations ($p < 0.01$) between each item and the total score (ranging from **0.633 to 0.857**), confirming validity.

Table (8): Correlation Coefficients Between Each Item in Dimension 4 and Its Total Score

Dimension 4: Obstacles to Using Distance Education Services	Correlation Coefficient	p-value
Lack of student training in using the distance learning system.	0.506**	0.000
Difficulty in using the distance learning system.	0.774**	0.001
Limited daily internet availability.	0.826**	0.000
Insufficient technical support and system maintenance.	0.883**	0.000
Weak general computer skills.	0.701**	0.000
Frequent power outages.	0.733**	0.000
Ease of cheating in remote exams.	0.632**	0.000
Weak interaction between students and faculty.	0.706**	0.000

Table (8) shows significant correlations ($p < 0.01$) between each item and the total score (ranging from **0.506 to 0.883**), confirming validity.

Construct Validity

Construct validity measures the correlation between each dimension and the total questionnaire score.

Table (9): Correlation Coefficients Between Each Dimension and the Total Score

Dimension	Correlation Coefficient	p-value
1. Quality of Content	0.862**	0.000
2. Quality of Support & Supervision	0.845**	0.000
3. Quality of Student Assessment	0.778**	0.000
4. Obstacles to Distance Learning	0.387*	0.000

All dimensions showed statistically significant correlations ($p < 0.01$), confirming high internal consistency.

Reliability of the Questionnaire

Reliability ensures that the questionnaire yields consistent results under the same conditions. Two methods were used:

1. Split-Half Reliability (Spearman-Brown & Guttman)

- Applied when variances between halves were unequal.

Table (10): Reliability Coefficients (Split-Half Method)

Dimension	No. of Items	Reliability Coefficient
1. Quality of Content	6	0.786
2. Quality of Support & Supervision	5	0.900
3. Quality of Student Assessment	5	0.862
4. Obstacles to Distance Learning	8	0.875
Total Reliability	24	0.935

The high coefficients (ranging from **0.786 to 0.900**) and total reliability (**0.935**) confirm stability.

2. Cronbach's

Alpha

Coefficient

Table	(11):	Reliability	Coefficients	(Cronbach's	Alpha)
Dimension	No.	of	Items	Cronbach's	Alpha
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1. Quality of Content	6		6		0.890
2. Quality of Support & Supervision	5		5		0.892
3. Quality of Student Assessment	5		5		0.811
4. Obstacles to Distance Learning	8		8		0.862
Total Reliability 24 0.891					

The high alpha values (ranging from **0.811 to 0.892**) and total reliability (**0.891**) confirm the questionnaire's consistency for application.

Statistical Analyses Used in the Study

The researchers entered the data into the computer using the statistical analysis program (SPSS). The data were analyzed using appropriate statistical methods to process the distributed questionnaire data in order to answer the study questions. These methods were:

- Frequencies and percentages for demographic variables (personal characteristics).
- Arithmetic mean and standard deviation.

- T-test to find statistically significant differences between male and female students according to all study variables.

Study Results, Discussion, and Interpretation

Introduction: This chapter contains the most important findings reached by the researchers in their study, through answering the study questions by analyzing the questionnaire, in addition to a summary of the study results and recommendations.

Adopted Criterion: To determine the adopted criterion in the study, the length of the cells in the five-point Likert scale was determined by calculating the range between the scale scores (5-1=4), then dividing it by the highest value in the scale to obtain the cell length ($4/5=0.80$). This value was then added to the lowest value in the scale (the starting point of the scale, which is 1) to determine the upper limit of this cell. Thus, the cell lengths became as shown in the following table (12) (Malham, 2000: 42).

Table (12): The Adopted Criterion in the Study

Cell Length	Corresponding Relative Weight	Degree of Agreement
1 – 1.80	20% – 36%	Very low degree
>1.80 – 2.60	>36% – 52%	Low degree
>2.60 – 3.40	>52% – 68%	Medium degree
>3.40 – 4.20	>68% – 84%	High degree
>4.20 – 5	>84% – 100%	Very high degree

Results Related to Answering the First Question and Their Interpretation

To answer the main question of the study, which states: "What is the degree of quality of distance education services provided by Palestinian higher education institutions during crises and disasters?", the researchers divided this question into sub-questions as follows:

First Sub-Question: What is the degree of quality of the content provided in distance education services at the Islamic University of Gaza during crises and disasters?

To answer this question, the researchers calculated the weighted arithmetic mean, percentage, and standard deviation, and ranked each item in the first dimension "Quality of Content" based on what is stated in Table (12).

Table (13) shows the estimates of the respondents' answers.

Table (13): Weighted Arithmetic Mean, Percentage, and Standard Deviation for the First Dimension

Item	Arithmetic Mean	Standard Deviation	Percentage of Arithmetic Mean	Degree of Availability	Ranking of Items in the Dimension
The electronic content maintains accuracy, objectivity, and modernity.	2.8922	1.02355	57.843137	Medium	3
The course content respects diversity, varying talents, and different learning styles of students.	2.5490	1.02085	50.980392	Low	5
The course design includes a clear and comprehensive description of learning objectives and outcomes.	2.8333	1.17804	56.666667	Medium	4
Students can choose from different projects within the same course.	2.4608	1.27171	49.215686	Low	6
Learning resources are available and easily accessible.	2.9216	1.24826	58.431373	Medium	2
The mechanisms, methods, and media used in teaching the course are effective and clear.	3.0000	1.09001	60	Medium	1
Total Score for the Dimension	2.7761	.90424	55.522876	Medium	

It is clear from the table that item (6), which states, "The mechanisms, methods, and media used in teaching the course are effective and clear," ranked first with a percentage of (60%) and a medium rating. The researchers attribute this to the fact that despite the low quality of distance education services in Palestinian higher education institutions, the mechanisms and media used by the university are clear, as the university designated the "Moodle" platform for distance education purposes. This was confirmed by Al-Mulla's study (2016), which emphasized that the availability of expertise and technical skills, as well as the diversity of technical media, are among the most important factors for the success of distance learning.

It is also clear that item (4), which states, "Students can choose from different projects within the same course," ranked last with a percentage of 49.2% and a low rating. The researchers attribute this to the fact that these crises and disasters disrupted the plans of higher education institutions and professors, leaving no opportunity for universities to prepare multiple assignments and tasks for students. Instead, each professor provided a single

assignment and applied it to all students. This was confirmed by Al-Sa'afin's study (2015), which indicated that the quality of university services provided to students was medium.

Second Sub-Question: What is the degree of quality of remote support and supervision services provided by faculty members at the Islamic University of Gaza during crises and disasters?

To answer this question, the researchers calculated the weighted arithmetic mean, percentage, and standard deviation, and ranked each item in the second dimension "Quality of Remote Support and Supervision" based on what is stated in Table (12). Table (14) shows the estimates of the respondents' answers.

Table (14): Weighted Arithmetic Mean, Percentage, and Standard Deviation for the Second Dimension

Item	Arithmetic Mean	Standard Deviation	Percentage of Arithmetic Mean	Degree of Availability	Ranking of Items in the Dimension
The university provides technical training for students before enrolling in e-courses.	2.1373	1.22708	42.745098	Low	5
The university provides services for students after completing the course, including information about results.	2.5000	1.20847	50	Low	4
There are clear mechanisms and instructions for interaction between the learner and the supervisor.	2.7549	1.24627	55.098039	Medium	1
There is a guide explaining what is expected of the learner and the skills they must master to succeed in the e-learning environment.	2.5882	1.36689	51.764706	Low	3
The e-course includes capabilities to access electronic libraries and books.	2.6667	1.26125	53.333333	Medium	2
Total Score for the Dimension	2.5294	1.06228	50.588235	Low	

It is clear from the table that item (3), which states, "There are clear mechanisms and instructions for interaction between the learner and the supervisor," ranked first with a percentage of (55.9%) and a medium rating. The researchers attribute this to the fact that, despite the confusion and lack of standards and instructions, the

university issued a manual of instructions for the interaction mechanism between students and professors during the e-learning phase.

It is also clear that item (1), which states, "The university provides technical training for students before enrolling in e-courses," ranked last with a percentage of 42.7% and a low rating. The researchers attribute this to the fact that the distance education adopted by the university during crises and disasters was a mandatory alternative to face-to-face education to deal with the crisis, not a result of technological development. Therefore, the university was unable to provide training courses for its students. This was confirmed by Al-Mulla's study (2016), which recommended the need for continuous focus on training staff, students, and professors.

Third Sub-Question: What is the degree of quality of student performance assessment services provided at the Islamic University of Gaza during crises and disasters?

To answer this question, the researchers calculated the weighted arithmetic mean, percentage, and standard deviation, and ranked each item in the third dimension "Quality of Student Performance Assessment" based on what is stated in Table (12). Table (15) shows the estimates of the respondents' answers.

Table (15): Weighted Arithmetic Mean, Percentage, and Standard Deviation for the Third Dimension

Item	Arithmetic Mean	Standard Deviation	Percentage of Arithmetic Mean	Degree of Availability	Ranking of Items in the Dimension
Assessment mechanisms in e-courses are clear.	2.7647	1.35103	55.294118	Medium	3
Assessment methods in the program are varied, including exams, research, projects, and assignments.	3.5392	1.06865	70.784314	High	1
Assessment methods consider individual differences among students.	2.7451	1.24826	54.901961	Medium	4
Evaluation, correction, and grade announcement procedures are conducted reliably and systematically.	2.9608	1.34180	59.215686	Medium	2
Assessment mechanisms include clear regulations covering student absences, medical conditions, and other potential circumstances.	2.6471	1.30230	52.941176	Medium	5

Item	Arithmetic Mean	Standard Deviation	Percentage of Arithmetic Mean	Degree of Availability	Ranking of Items in the Dimension
Total Score for the Dimension	2.9314	1.03656	58.627451	Medium	

It is clear from the table that item (2), which states, "Assessment methods in the program are varied, including exams, research, projects, and assignments," ranked first with a percentage of (70.78%) and a high rating. The researchers attribute this to the fact that, despite the lack of standards and instructions, some professors distributed assessment grades to research and assignments as much as possible, giving the study sample the impression that the standards were clear to them.

It is also clear that item (5), which states, "Assessment mechanisms include clear regulations covering student absences, medical conditions, and other potential circumstances," ranked last with a percentage of 52.94% and a medium rating. The researchers attribute this to the fact that professors only specified the required grade for the assignment, while other conditions, standards, and methods for compensating absent students were not addressed due to the ambiguity of the laws and rules that the university administration would adopt in this matter. This was confirmed by Al-Mulla's study (2016), which emphasized the need to provide administrative and technical rules for the distance learning process.

Fourth Sub-Question: What are the obstacles to using distance education services?

To answer this question, the researchers calculated the weighted arithmetic mean, percentage, and standard deviation, and ranked each item in the fourth dimension "Obstacles to Using Distance Education Services" based on Table (12). Table (16) shows the estimates of respondents' answers.

Table (16): Weighted Arithmetic Mean, Percentage, and Standard Deviation for the Fourth Dimension

Item	Arithmetic Mean	Standard Deviation	Percentage of Arithmetic Mean	Degree of Availability	Ranking of Items in the Dimension
Lack of student training in using the distance learning system	4.1373	1.15218	82.745098	High	2
Difficulty in using the distance learning system	3.7059	1.16541	74.117647	High	7
Limited daily internet availability	4.0196	1.20215	80.392157	High	3

Item	Arithmetic Mean	Standard Deviation	Percentage of Arithmetic Mean	Degree of Availability	Ranking of Items in the Dimension
Insufficient technical support and maintenance	3.9608	1.02370	79.215686	High	4
Weak general computer skills	3.4706	1.20811	69.411765	High	8
Frequent power outages	4.0000	1.18572	80	High	5
Ease of cheating during remote exams	3.8333	1.03487	76.666667	High	6
Weak interaction between students and faculty members	4.1667	1.07246	83.333333	High	1
Total Score for the Dimension	3.9118	.77348	78.235294	High	

It is clear from the table that item (8), which states "Weak interaction between students and faculty members," ranked first with a percentage of (83.33%) and a high rating. This is due to the limitation of the "Moodle" platform as the sole medium for interaction between students and professors, who typically meet only once or twice at most for a duration not exceeding one or two hours, and only in courses requiring virtual classes. This contrasts with face-to-face education, which allows students to meet their professors almost daily at the university. This finding aligns with the recommendations of Awaj and Tabri's study (2016), which emphasized the need to experiment with education via social media platforms to facilitate communication between students and professors.

It is also clear that item (5), which states "Weak general computer skills," ranked last with a percentage of 69.4% and a high rating. The researchers attribute this to the difficult economic situation and blockade imposed on the southern governorates of Palestine, which affected the ability to provide electricity, computers, and high-speed internet services to all students.

Table (17) shows the ranking of dimensions according to the relative weight of each dimension in the questionnaire:

Dimension	Arithmetic Mean	Standard Deviation	Relative Weight	Rating	Ranking
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Dimension	Arithmetic Mean	Standard Deviation	Relative Weight	Rating	Ranking
Dimension 1: Quality of Content in Distance Education Services	2.7761	.90424	55.522876	Medium	3
Dimension 2: Quality of Remote Support and Supervision Services by Faculty Members	2.5294	1.06228	50.588235	Low	4
Dimension 3: Quality of Student Performance Assessment Services	2.9314	1.03656	58.627451	Medium	2
Dimension 4: Obstacles to Using Distance Education Services	3.9118	.77348	78.235294	High	1
Overall Mean of Questionnaire Dimensions	3.0372	.66407	60.743464	Medium	

It is clear from Table (17) that:

- The fourth dimension ranked first among the questionnaire dimensions with a percentage of (78.23%). According to the adopted criterion, this dimension received a high rating. The researchers attribute this to the fact that the obstacles and problems facing distance education outweighed all the benefits for students, as these obstacles represent a persistent challenge for all students without exception.
- The second dimension ranked last among the questionnaire dimensions with a percentage of (50.588%). According to the adopted criterion, this dimension received a low rating.

Results Related to Answering the Fifth Sub-Question:

The fifth sub-question states: "Are there statistically significant differences at the significance level ($\alpha \leq 0.05$) between the mean scores of the study sample's evaluation of the quality of distance education services provided by Palestinian higher education institutions during crises and disasters, attributed to the variables (gender, high school specialization, college major, academic year)?"

To answer this question, the researchers tested the validity of the study hypotheses as follows:

Results Related to the First Hypothesis:

The first hypothesis states: "There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) between the mean scores of the study sample's evaluation of the quality of distance education services provided by Palestinian higher education institutions, attributed to the gender variable."

The researchers used the Two Independent Sample T-test to test the validity of the first hypothesis. Table (18) shows the results of the t-test to verify the differences between the mean responses of the sample regarding the quality of distance education services according to the gender variable for each dimension of the questionnaire and for the questionnaire as a whole.

Table (18): Results of the t-test for Differences Between Mean Responses According to Gender Variable

Dimension	Gender	Number	Arithmetic Mean	Standard Deviation	t-value	Degrees of Freedom	Significance Level	Significance
Dimension 1: Quality of Content	Male	40	2.8542	1.07164	.653	65.519	.516	Not Significant
	Female	62	2.7258	.78296				
Dimension 2: Quality of Support and Supervision	Male	40	2.5650	1.18355	.271	100	.787	Not Significant
	Female	62	2.5065	.98561				
Dimension 3: Quality of Assessment	Male	40	2.9450	1.08509	.106	100	.916	Not Significant
	Female	62	2.9226	1.01294				
Dimension 4: Obstacles	Male	40	3.8938	.96640	-.172	60.219	.864	Not Significant
	Female	62	3.9234	.62699				
All Dimensions	Male	40	3.0645	.84244	.302	58.637	.764	Not Significant
	Female	62	3.0196	.52498				

Critical t-values:

- At $df = 100, \alpha = 0.05 \rightarrow t = 2$
- At $df = 100, \alpha = 0.01 \rightarrow t = 2.660$

It is clear from Table (18) that there are no statistically significant differences between the responses of the study sample attributed to the gender variable in all dimensions of the questionnaire and in the overall score. The researchers attribute this to the fact that the services provided by the university were equal and at the same level for all students regardless of their gender, which unified the response results among all students. This finding is consistent with the studies by Al-Sa'afin (2015) and Al-Najdi (2012).

Results Related to the Second Hypothesis:

The second hypothesis states: "There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) between the mean scores of the study sample's evaluation of the quality of distance education services provided by Palestinian higher education institutions, attributed to the high school specialization variable (humanities vs. scientific)."

The researchers used the Two Independent Sample T-test to test the validity of the second hypothesis. Table (19) shows the results of the t-test to verify the differences between the mean responses of the sample regarding the quality of distance education services according to the high school specialization variable for each dimension of the questionnaire and for the questionnaire as a whole.

Table (19): Results of the t-test for Differences Between Mean Responses According to High School Specialization Variable

Dimension	High School Specialization	Number	Arithmetic Mean	Standard Deviation	t-value	Degrees of Freedom	Significance Level	Significance
Dimension 1:								
Quality of Content	Humanities	60	2.8639	.93855	1.174	100	.243	Not Significant
	Scientific	42	2.6508	.84809				
Dimension 2:								
Quality of Support and Supervision	Humanities	60	2.5767	1.05193	.535	100	.594	Not Significant
	Scientific	42	2.4619	1.08604				
Dimension 3:								
Quality of	Humanities	60	2.7267	1.02575	-2.442	100	.016	Significant

Dimension	High School Specialization	Number	Arithmetic Mean	Standard Deviation	t-value	Degrees of Freedom	Significance Level	Significance
Assessment								
	Scientific	42	3.2238	.99187				
Dimension 4: Obstacles	Humanities	60	3.8583	.88192	-.892	99.790	.375	Not Significant
	Scientific	42	3.9881	.58683				
All Dimensions	Humanities	60	3.0064	.70511	-.573	95.751	.568	Not Significant
	Scientific	42	3.0812	.60622				

Critical t-values:

- At $df = 100, \alpha = 0.05 \rightarrow t = 2$
- At $df = 100, \alpha = 0.01 \rightarrow t = 2.660$

It is clear from Table (19) that there are no statistically significant differences between the responses of the study sample attributed to the high school specialization variable in all dimensions of the questionnaire except for the third dimension. The researchers attribute this to the unified education policy in Palestine and the similar outcomes, in addition to the fact that the difficulties faced by students are the same regardless of their high school specialization. The university services provided to them during distance learning are identical, which aligns with the findings of Al-Najdi's study (2012), which found no differences attributed to the specialization variable.

To determine the effect size of the independent variable on the dependent variable, the researchers used Eta squared ($\eta^2 = t^2 / (t^2 + df)$).

Table (20): Effect Size of the Variable (High School Specialization: Humanities vs. Scientific) on Study Sample Responses

Source of Variance	T-value	η^2 Value	Effect Size
Dimension 3: Quality of Student Performance Assessment Services	-2.442	0.056	Medium

From Table (20), the effect of the independent variable (*high school specialization: humanities or scientific*) on the dependent variable (*mean evaluation scores of the study sample*) in Dimension 3 is **medium**. The differences favor the higher arithmetic mean group—students with a **scientific** high school background. This

may be attributed to their stronger analytical skills in understanding performance assessment criteria, given their proficiency in quantitative subjects.

Results Related to the **Third Hypothesis**:

Hypothesis 3: *There are no statistically significant differences ($\alpha \leq 0.05$) in the study sample's evaluation of distance education service quality attributed to college major (scientific vs. humanities).*

The researchers used a **two-independent-samples t-test** to test this hypothesis. **Table (21)** presents the results:

Table (21): t-Test Results for Differences in Responses by College Major

Dimension	College Major	N	Mean	SD	t-value	df	Sig.	Significance
1. Quality of Content	Scientific	25	2.9800	1.01985	1.302	100	.196	Not Significant
	Humanities	77	2.7100	.86027				
2. Quality of Support/Supervision	Scientific	25	2.7600	1.09848	1.253	100	.213	Not Significant
	Humanities	77	2.4545	1.04662				
3. Quality of Assessment	Scientific	25	3.2560	1.11583	1.823	100	.071	Not Significant
	Humanities	77	2.8260	.99438				
4. Obstacles to Distance Learning	Scientific	25	3.9750	.76206	.469	100	.640	Not Significant
	Humanities	77	3.8912	.78098				
All Dimensions	Scientific	25	3.2428	.65716	1.801	100	.075	Not Significant
	Humanities	77	2.9704	.65670				

Critical t-values:

- At $*df = 100^*$, $\alpha = 0.05 \rightarrow t = 2$
- At $*df = 100^*$, $\alpha = 0.01 \rightarrow t = 2.660$

Key Findings:

- **No statistically significant differences** were found in any dimension based on college major.
- The researchers attribute this to the **uniformity of university services** provided to all students, regardless of their academic discipline, aligning with findings from **Al-Sa'afin (2015)** and **Al-Najdi (2012)**.

Results Related to the **Fourth Hypothesis**:

Hypothesis 4: *There are no statistically significant differences ($\alpha \leq 0.05$) in the study sample's evaluation of distance education service quality attributed to academic year (second year or below vs. third year or above).*

A two-independent-samples t-test was used. Table (22) summarizes the results:

Table (22): t-Test Results for Differences in Responses by Academic Year

Dimension	Academic Year	N	Mean	SD	t-value	df	Sig.	Significance
1. Quality of Content	≤ Second Year	43	2.8643	.92529	.840	100	.403	Not Significant
	≥ Third Year	59	2.7119	.89101				
2. Quality of Support/Supervision	≤ Second Year	43	2.5349	1.04537	.044	100	.965	Not Significant
	≥ Third Year	59	2.5254	1.08335				
3. Quality of Assessment	≤ Second Year	43	2.9488	1.13397	.145	100	.885	Not Significant
	≥ Third Year	59	2.9186	.96926				
4. Obstacles to Distance Learning	≤ Second Year	43	4.0058	.70074	1.049	100	.297	Not Significant
	≥ Third Year	59	3.8432	.82152				
All Dimensions	≤ Second Year	43	3.0885	.65620	.664	100	.508	Not Significant
	≥ Third Year	59	2.9998	.67286				

Key Findings:

- **No statistically significant differences** were found based on academic year.
- The researchers explain this by the **equal distribution of university services** to all enrolled students, consistent with Al-Sa'afin's (2015) findings.

Summary of Key Results

1. **Quality of Content: Medium** (55.5%).
2. **Quality of Support/Supervision: Low** (50.59%).
3. **Quality of Assessment: Medium** (58.62%).
4. **Obstacles to Distance Learning: High** (78.23%).
5. **No significant differences** were found based on:
 - Gender
 - High school specialization
 - College major
 - Academic year.

Recommendations

Based on the results, the researchers recommend:

1. **Promoting E-Learning Quality Culture:**

- Organize conferences and workshops to raise awareness of e-learning quality standards.

2. Institutional Development:

- Universities should prioritize developing **distance education quality standards**, especially given increasing competition among institutions.

3. Faculty Training:

- Train faculty members in designing and delivering e-courses to align with quality benchmarks.

4. Student Preparedness:

- Provide intensive training programs and user manuals to help students navigate e-learning platforms effectively.

5. Policy and Accreditation:

- The **Ministry of Higher Education** should form national task forces to monitor and enforce e-learning quality standards in collaboration with local universities.

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