Pakistan Journal of Life and Social Sciences
www.pjlss.edu.pk

RESEARCH ARTICLE

Assessing the Quality of E-Support Services for Distance Learning: An Applied Study at the College of Education, South Valley University

Shoeb Gamal Saleh[1,2], Rommel Mahmoud AlAli[1]*

[1]The National Research Center for Giftedness and Creativity, King Faisal University, Saudi Arabia.
[2]Department of Educational Technology, Faculty of Education, Sohag University.

ARTICLE INFO	ABSTRACT
	This study aims to evaluate the quality of electronic support services in the distance learning system at the College of Education in Sohag, based on the perspectives of both faculty members and students. It also explores the relationship between service quality and specific variables. Adopting a descriptive research approach, the study used a survey instrument to measure the quality of e-services with a sample of 50 faculty members and 200 students enrolled in the General Educational Diploma program. The findings revealed that both students and faculty members rated the quality of e-support services at a moderate level. No statistically significant differences were found in faculty responses related to gender or computer training level; however, differences favoring assistant lecturers were identified based on academic rank. Among students, no gender-based differences emerged, but literary majors and those with advanced computer training reported higher satisfaction. The study concludes by emphasizing the urgent need for enhancing e-support services in distance education. It recommends establishing a specialized unit for quality and accreditation to ensure continuous improvement and developing strategic plans to enhance these services. Further research is encouraged to monitor the impact of e-service quality on the overall success of distance education systems.

INTRODUCTION

The rapid advancements in communications and information technology have profoundly transformed higher education globally, which for a long time remained confined within traditional lecture halls. The modern era is characterized by technological and knowledge-driven competition, resulting in an ongoing information revolution that has significantly impacted educational systems. These developments compel institutions to update their educational strategies to leverage technology, creating interactive learning environments aligned with the demands of the digital age.

Over the past three decades, new electronic innovations have been effectively integrated into higher education, especially in distance learning. Technologies such as audio-video conferencing, satellite programs, live remote discussions, and computer networks have helped bridge geographic and political divides, enabling face-to-face education regardless of the students' location (Khilaf, 2015; Hadullo, Oboko, & Omwenga, 2017).

Despite these advances, UNESCO reports indicate that high-quality distance education is still limited in the Arab world, with early efforts initiated in countries like Algeria, Sudan, and Palestine. More

recently, several successful initiatives have emerged, such as the e-College for Comprehensive Quality in Dubai and the Syrian Virtual University. Additionally, the Arab Open University, established in Kuwait with branches in Jordan, Lebanon, Saudi Arabia, and Egypt, offers various bachelor's and diploma programs (Al-Hinaiti, 2004; Sumi & Kabir, 2021; Jam et al., 2011).

However, the growing number of distance education programs necessitates specialized quality assurance bodies at national and regional levels. These bodies must establish clear quantitative and qualitative standards to assess learning outcomes and ensure programs meet educational needs without compromising academic integrity for profit (Al-Hinaiti, 2004; Mohammed et al., 2024).

Study Problem

Despite efforts to expand higher education, traditional universities struggle to meet the increasing demand for learning, especially with growing populations and the desire for specialized knowledge (Youssef, 2005). Universities must integrate technology to handle these pressures, but this integration is challenging due to social demands and rapid changes in information technology. Consequently, adopting online education has become essential.

South Valley University in Egypt has taken steps to address these challenges by implementing distance education, particularly for postgraduate diploma programs. The demand for such programs has outpaced the college's capacity, and the distance between the university's location and urban centers has made transportation impractical. As a result, a one-year postgraduate diploma program in education was launched via distance learning in 2018/2019.

Although distance learning offers significant benefits, it also faces challenges, including maintaining high educational standards and aligning with societal needs while respecting the specific requirements of non-traditional learning methods (Najdi, 2012; AlAli & Saleh, 2022). Quality e-services play a crucial role in the success of distance learning, prompting this study to assess the effectiveness of these services at South Valley University.

Study Questions

1.   What are the quality standards for e-services in distance education?

2.   How do faculty members perceive the quality of e-services at South Valley University?

3.   How do students evaluate the quality of these services?

4.   Are there statistically significant differences in faculty responses based on gender, academic rank, or computer training?

5.   Do students' responses vary by gender, major, or computer training level?

6.   Are there significant differences between students' and faculty members' perceptions of e-service quality?

Study Objectives

This study aims to evaluate the quality of e-services in distance learning at the Faculty of Education, South Valley University, with specific objectives:

1.   Identify quality standards for e-services in distance learning.

2.   Assess the quality of these services from the perspectives of faculty and students.

3.   Examine differences in responses among participants based on demographic variables.

4.   Provide recommendations to improve the quality of e-services.

Study Significance

The study holds importance for the following reasons:

1.   Highlighting the role of quality e-services in effective distance learning.

2.   Identifying strengths and weaknesses in the current e-service infrastructure.

3.   Providing actionable insights for decision-makers to improve e-learning systems.

4.   Offering a research tool that can be used to assess e-services in other programs.

Study Scope

Focuses solely on assessing the quality of e-services without delving into other aspects of the distance education system. Includes a sample of faculty and students involved in the one-year postgraduate diploma program. Limited to the Faculty of Education at South Valley University.

Theoretical Framework:

Justifications and Motivations for Distance Education:

Technological advancements have led educators in many countries around the world to take practical steps to rethink the roles and responsibilities of teachers and learners. The principle of lifelong learning has become essential for developing education at all stages. Relying on distance learning methods yields good results globally and has shown a positive impact on various development processes, in addition to supporting the educational system and enhancing its efficiency while facilitating access to knowledge and information sources. Distance education, in its various forms, has spread across many countries and has become popular among individuals of all community segments. People are increasingly adopting this type of learning for several motivations, the most important of which are (Al-Hunaiti, 2004; Saleh & AlAli, 2022; Al-khresheh., 2024):

•   The suitability and flexibility of scheduling study times and locations.

•   The ability to reach a large number of geographically dispersed individuals.

•   The speed and flexibility of program development processes and immediate access to the latest modifications made.

•   Reduced and low financial costs for students and time savings due to not having to commute to attend university.

•   The quality, richness, and diversity of educational materials in all their forms.

•   Achieving a global character and transcending regional and local frameworks.

•   Moving away from rote learning and developing self-learning skills among students.

•   Canceling the role of the teacher as a lecturer and enhancing their role as a guide and mentor.

•   A suitable solution to the problem of teacher shortages in certain specialties.

Distance education covers various study forms at all educational levels where the educational process is not subject to continuous and direct supervision by teachers or guides in different classrooms. However, it is organized by the educational institution implementing distance education programs. Among the essential characteristics that help this program achieve this growing role are (Hajji, 2003; Abdul Ali, 2005; Bakr, 2000; Hanover Research Academy Administration Practice, 2014; India's Largest University, 2014; Arab Open University, Bahrain Branch, 2013; Australian Christian College, 2014; Al-khresheh., 2022):

•   Separation of the teacher and learner in terms of location.

- The role of institutional organization.

- Use of technological media.

- Dual communication.

- Group learning.

- The privacy of freedom from the constraints of time and place.

- Documented communication between the teacher and student through discussions and debates among students.

- Cultural diversity and the ability to combine work and study life.

Objectives of Distance Education: Distance education aims to achieve the following objectives (Ismail, 2009; Hamdan, 2007; Madani, 2007; Nashwan, 2004; Canadian Virtual University, 2014; Queensland University, 2013; Razak Grady & Hohn Pratt, 2000; Unity University College, 2014; Saleh & AlAli, 2023):

- Providing educational services for those who have missed educational opportunities at all educational levels.

- Creating suitable educational conditions that meet the needs of learners to continue their education (continuing education).

- Providing cultural programs for all citizens to raise awareness and equip them with knowledge.

- Expanding opportunities for university education for more learners wishing to enroll in higher education institutions.

- Linking education to the environment in a way that addresses many environmental issues by offering special programs related to the environment, its development, and preservation.

- Building a positive, active personality capable of giving, problem-solving, and self-development, and thus contributing to community development.

- Keeping pace with continuous knowledge and technological advancements.

- Providing educational services for illiterate individuals and adults without the need to attend traditional classes.

- Providing opportunities for disabled individuals whose circumstances prevent them from continuing traditional education that requires attendance.

- Offering professional development programs and the training needed in various fields required by the community and its members.

- Contributing to providing educational and training opportunities simultaneously and around the clock.

- Providing flexibility, allowing students to learn in a way that suits them and at their own pace.

- Facilitating the participation of a large number of students, as it is suitable for all ages and comes at a low cost.

Concept and Quality of E-Services: E-service providers generally seek to leverage information technology and communication techniques to offer and deliver services to clients. No one can deny the role of technology in influencing and facilitating services and transforming them from traditional to electronic services. E-services are defined as actions and efforts performed using information

technology, based on three main elements: service provider, service recipient, and delivery method. Currently, the internet is the primary and most important means of delivering e-services (Zeithaml et al., 2000; Sanayel and Jokar, 2013).

Service quality refers to the concept that measures the difference between the expectations of service recipients and their actual perceptions of the service. Service quality is defined as the comparison made by the service recipient between their expectations of what the service should be and the actual performance of the service provider. Expectations reflect consumers' desires and preferences for how the service should be, and once these desires and preferences are available, a comparison is made between expectations and the actual service performance (Purcarea et al., 2013; Caceres & Paparoidamis, 2007).

Quality of services is of interest to all parties dealing with the organization due to its significant impact on the organization's competitive position and its image among beneficiaries. E-service quality is defined as "the ability of the e-service to achieve the targeted benefit for the client and to ensure their satisfaction with the service based on specific criteria" (Al-Shawaf, 2010; Saleh et al., 2023).

Standards of E-Service Quality for Distance Education: There have been numerous attempts to identify dimensions of e-service quality, including contributions by Parasuraman et al. (1985), who identified ten factors determining quality: reliability, responsiveness, efficiency, immediacy, courtesy, communication, trust, security, understanding, and electronic tangibility. Dabhoklar (1996) conducted a study on e-service quality dimensions focusing on six aspects: site design, trust, delivery, ease of use, enjoyment, and control. Sheng et al. (2010) stated that e-service quality includes four dimensions: ease of access to the site, response speed, site design, and attraction factors to this site over others, along with response rates to interaction to prevent user boredom and switching to another site. Overall, the SERVQUAL model, developed by Zeithaml, is the most widely used. This model indicates that the most critical quality factors include website design, response speed, ease of use, visual interaction, and security.

The importance of standardization in e-learning and distance education is closely tied to e-learning itself, given the critical role standards play in producing exceptional e-learning (Mohammed bin Sant Al-Harbi, 2007). Several studies have been conducted to determine the criteria for electronic learning resources. For instance, Hassan Ghanem's (2006) study focused on the necessary criteria for producing and utilizing multimedia computer programs and their impact on performance in middle schools. Hanan Khalil's (2008) study examined the criteria necessary for designing electronic courses via the internet, covering aspects like accessibility, assistance and guidance, interactivity and educational control, objectivity, link design, navigation tools design, references, and security. Additionally, Hassan Al-Bati' Al-Atee's (2008) study addressed the scientific, educational, and technical criteria for electronic discussion forums used in e-learning programs. Kurilovas (2009) also examined the quality criteria for learning management systems for individuals with special needs.

The importance of applying quality standards in the e-learning system lies in their role as a necessary step to enhance trust in the system's efficiency and academic credibility, protecting learners from enrolling in low-quality higher education institutions and facilitating the transfer of learners between global higher education institutions. Notably, system accreditation occurs only if the minimum quality standards related to academic, administrative, and technical services are met (Al-Hunaiti, 2004).

The key e-service quality standards for distance education can be summarized in the following points (Abu Khutwa, 2010; Khamis, 2003; Rieber, 2000; Dabbagh, 2005; Horton & Horton, 2003; Anderson & Elloumi, 2004; Barkley, 2010; Hou, Cao, & Zhang, 2021):

- **Standards for the Structure of the E-Learning Management System:** Ease of use of the system by all educational process participants: teachers, students, administrators, and parents. The main interface of the system should be simple, clear, and engaging. Tools and applications should align with global e-learning standards and be compatible with other systems. The system should comply with e-learning standards such as ADL/SCORM, IMS Content and Packaging, and IMS Question and Test Interoperability. The LMS should support various server types: Windows NT, Server 2000, UNIX, Linux. A documentation system should be in place for all educational processes occurring in each course.

- **Standards for Assistance and Guidance:** The system should provide an agenda for recording important appointments to help faculty and students organize and manage their time, with reminders for scheduled events. The system should automatically announce important course dates such as exam dates, assignment deadlines, and live lecture schedules. The calendar system should present information in multiple formats (monthly, weekly, and daily) and show both Hijri and Gregorian dates. The system should include a guide for teachers, learners, system administrators, and parents explaining how to install, use, and apply the system.

- **Standards for Privacy and Security:** The system should maintain a database of faculty and students enrolled in the course. It should allow teachers to create personal web pages. A centralized documentation system should exist for course content, assignments, activities, and tests. The system should offer various options for the instructor

Previous Studies:

The study by Radi, Al-Maghazi, and Al-Najili (2018) aimed to evaluate the application of e-management at Al-Azhar University in Gaza and its impact on the quality of educational services. The results indicated that the level of application and service quality was weak, with a direct correlation between e-management and service quality, and differences attributed to educational qualifications and years of service. The study by Al-Adaylah and Al-Muharib (2017) focused on the impact of electronic service quality on the satisfaction of female students at Princess Nourah University, finding that the levels of quality and satisfaction were low, with service quality affecting satisfaction. The study recommended improving the website to facilitate procedures.

The study by Al-Malla (2016) aimed to compare distance education experiences in Malaysia and Saudi Arabia, confirming that the Malaysian experience was successful due to the availability of infrastructure and expertise, while the Saudi experience lasted only two years. The study by Kayabsi & Buyukarslan (2013) investigated the relationship between electronic service quality and satisfaction in Turkey, finding a positive correlation between service quality and satisfaction, with significant impacts from factors such as response speed and security. The study by Alabi Afusat (2012) examined open education management in Nigerian universities, concluding that e-learning saves time and effort while enhancing educational efficiency, although it highlighted the need for the development of distance education management.

Al-Obaidi's (2012) study explored the impact of electronic service quality at Jerash University in Jordan on student satisfaction, finding a positive influence of service quality on student satisfaction and recommending improvements in the website's responsiveness. The study by Al-Najdi (2012) assessed e-learning quality standards at Al-Quds Open University, confirming that quality standards were present but emphasized the need to promote a culture of quality and enhance continuous evaluation. Hismanoglu's (2011) study addressed the benefits and obstacles of e-learning in Northern Cyprus universities, finding that e-learning enhances the educational process and offering recommendations to improve knowledge management.

Zain Al-Abidin's (2010) study reviewed the experience of King Abdulaziz University in managing e-learning, confirming the success of the experience and its applicability to Egyptian universities. Abu

Khatwa's (2010) study defined quality standards for e-learning management systems, highlighting criteria such as system structure, security, collaboration, and management of courses and assessments. Al-Barou's (2009) study identified obstacles to open university education at the Arab University in Jeddah, detailing administrative, academic, and technical environmental barriers, with recommendations for improving programs and support.

Ehlers (2004) focused on e-learning quality from learners' perspectives, confirming the importance of collaborative support, technical infrastructure, and costs. Al-Hunaiti (2004) emphasized the need for developing normative frameworks to ensure educational quality in open learning and distance education. Frydenberg (2002) outlined nine quality standards for e-learning, including institutional commitment, technology, and student services.

The study by Buinytska & Vasylenko (2020) examined Boris Grinchenko University in Kyiv's implementation of remote learning technologies as part of a blended learning system, asserting that the focus should not solely be on organizing remote learning but also on ensuring quality educational services and designing objective evaluation systems. This article reviews the university's experience in organizing e-learning and its role in improving educational service quality, including an analysis of various tools and services used to organize educational activities through e-learning.

Demir, Maroof, Sabbah Khan, & Ali (2021) aimed to analyze the direct and indirect effects of electronic service quality on perceived value, satisfaction, and willingness to pay for using online meeting platforms in education. The study examined how electronic service quality influences user perceptions and satisfaction levels, revealing that electronic service quality directly impacts both perceived value and satisfaction but does not directly affect the willingness to pay.

Helen & Susan (2020) highlighted the importance of ensuring the quality of ICT tools used to support learners, using Nigeria's National Open University (NOUN) as a case study. The study's results provided a comprehensive framework for ensuring quality in online education through enhanced ICT support, emphasizing the importance of IT infrastructure to ensure the continuity and efficiency of educational services provided.

From the previous studies, it is evident that research has been conducted in various countries, highlighting the importance of electronic service quality standards in the distance education system. Most studies converge on a set of fundamental standards related to the quality of e-learning systems and distance education in general, consistent with the quality standards published by global organizations such as the European Association of Distance Teaching Universities (EADTU). In light of the importance of e-learning and distance education quality standards emphasized in previous studies, the researchers see justification for conducting their current study, benefiting from the mentioned global standards and benchmarks.

STUDY METHODOLOGY AND PROCEDURES

The study relied on a descriptive analytical approach in handling the data obtained. Below is an overview of the procedures followed:

Study Population:

First, a sample of faculty members involved in teaching the distance education program at the Faculty of Education, South Valley University, was selected for the academic year. The following table illustrates the distribution of the study sample according to the variables of gender, academic rank, and level of computer courses:

Table 1: Description of the Study Sample from Faculty Members by Gender, Academic Rank, and Level of Computer Courses

	Category/Level	Number	Percentage %
Gender	Male	25	50%
	Female	25	50%
	Total	50	100%
Academic Rank	Professor	12	24%
	Associate Professor	11	22%
	Lecturer	22	44%
	Assistant Lecturer	1	2%
	Teaching Assistant	4	8%
	Total	50	100%
Level of Courses	No courses	8	16%
	Basic Levels	28	56%
	Advanced Levels	14	28%
	Total	50	100%

Secondly, a random sample was selected from the students of the Faculty of Education at South Valley University enrolled in the one-year diploma program for the academic year 2018/2019. The sample distribution based on the variables of gender, specialization, and level of computer courses is as follows:

- In terms of gender, there were 80 male students, accounting for 40%, and 120 female students, making up 60%, for a total of 200 students.

- Regarding specialization, 119 students were from the humanities, representing 59.5%, while 81 students were from the sciences, which is 40.5%.

- For the level of computer courses, 98 students had no courses, equating to 49%, 59 students were at the basic level, comprising 29.5%, and 43 students were at the advanced level, making up 21.5%.

Study Tool:

To collect data, the study tool (questionnaire) was designed in a manner that makes it suitable for answering the research questions, based on the research problem, objectives, and inquiries. In light of reviewing several books and studies related to the criteria for quality in electronic services for distance education, the questionnaire was formulated, including the following sections:

- **Section One:** Quality of the Design of the E-Learning Portal, comprising 13 items.

- **Section Two:** Quality of Customer Service (Students - Faculty Members), comprising 13 items.

- **Section Three:** Quality of Technical Support Services, Security, and Privacy, comprising 10 items.

Responses to the items in the questionnaire were graded according to a three-point Likert scale (Agree, Neutral, Disagree), with the following weights assigned to the items: Agree - three points, Neutral - two points, and Disagree - one point.

Validity of the Study Tool:

To determine the validity and appropriateness of the tool for measuring what it was intended to measure, the tool's validity was assessed through internal consistency, which reflects the relationship between the score of each item and the total score of the section it belongs to, using Pearson correlation coefficients as follows:

Table 2 Pearson Correlation Coefficients for the Study Tool's Sections

First: Quality of Design		Second: Customer Service Quality		Third: Technical Support Quality	
Item No.	Correlation Coefficient	Item No.	Correlation Coefficient	Item No.	Correlation Coefficient
1	.811**	1	.734**	1	.784**
2	.700**	2	.650**	2	.746**
3	.698**	3	.774**	3	.534**
4	.819**	4	.655**	4	.797**
5	.753**	5	.839**	5	.501**
6	.633**	6	.743**	6	.683**
7	.773**	7	.815**	7	.792**
8	.768**	8	.756**	8	.822**
9	.807**	9	.882**	9	.504**
10	.761**	10	.801**	10	.740**
11	.644**	11	.902**	-	-
12	.727**	12	.852**	-	-
13	.444**	13	.861**	-	-
First	.957**	Second	.961**	Third	.942**

Significance level at 0.01 (**)

The analysis of Table 3 indicates that the Pearson correlation coefficients (which measure the relationship between each statement and the total score of its respective section) show that all study items are statistically significant at the 0.01 level. This finding suggests that all statements in the study tool are valid, reflecting their reliability in measuring the intended constructs.

Reliability of the Study Instrument:

Reliability of the study instrument refers to the degree to which the scale produces consistent readings each time it is used. To assess the reliability of the instrument, Cronbach's Alpha was employed to measure its consistency, as shown in the following table:

Table 3: Reliability Using Cronbach's Alpha Formula

Dimensions of the Study	Number of Items	Reliability Coefficient
Quality of Distance Learning Portal Design	13	.932
Quality of Customer Service (Students-Faculty)	13	.957
Quality of Technical Support Services	10	.901
Overall Reliability (for all questionnaire items)	36	.974

As shown in Table 4, the reliability coefficient values for the dimensions of the quality of the distance learning portal design were .932, for the quality of customer service (students-faculty) it was .957, and for the quality of technical support services it was .901. These are considered high reliability coefficients. Moreover, the overall reliability coefficient for the study instrument encompassing all items of the questionnaire (36 items) is .974, which indicates a very high level of reliability. This confirms the robustness of the instrument's reliability and its suitability for application.

To analyze and discuss the responses of the study sample, a reference criterion was established, categorizing the mean scores into three levels: Weak for scores ranging from 1.00 to 1.66, Moderate for scores from 1.67 to 2.33, and High for scores from 2.34 to 3.00. This framework allows for a

structured interpretation of the sample's responses, providing insight into their perspectives on the various dimensions being assessed.

STUDY RESULTS:

To answer the first research question, *"What are the quality standards for e-services in distance education systems?"*, the theoretical framework and previous studies were reviewed.

To address the second question, *"What is the level of quality of e-services in the distance education system at the Faculty of Education, Sohag, from the perspective of faculty members?"*, frequencies, percentages, means, and standard deviations were calculated. The arithmetic means were ranked in descending order to determine which statements had the highest averages across the study variables, as follows:

The overall arithmetic mean for the combined dimensions of e-service quality in distance education was 1.9932, indicating a moderate level of e-service quality from the perspective of faculty members. Among the dimensions, *Technical Support Services Quality* received the highest mean (2.0540), while *Customer Service Quality (students and faculty members)* had the lowest mean, scoring 1.8776.

This analysis suggests that, while the quality of technical support services was relatively higher, the perception of customer service quality remains lower, reflecting areas that may need further attention to improve the overall service experience.

- **Dimension: Quality of the E-Portal Design for Distance Education**
  The following table presents the arithmetic means, standard deviations, quality levels, and rankings for the statements related to the quality of the e-portal design:

Table 4 Arithmetic Means and Standard Deviations for the Quality of the E-Portal Design for Distance Education

No.	Statements: Quality of the E-Portal Design for Distance Education	Mean	Standard Deviation	Quality Level	Rank
1	The information available on the portal is accurate.	1.9600	0.75485	Medium	9
2	The portal offers tools for self-enrollment and registration.	2.0800	0.92229	Medium	7
3	The portal provides tools to withdraw from courses.	1.7000	0.64681	Medium	12
4	The information on the portal is continuously updated.	1.9200	0.85332	Medium	10
5	The portal design is appropriate.	2.1600	0.79179	Medium	5
6	The portal's information aligns with the services offered by the faculty.	2.3400	0.74533	High	3
7	The portal is easy to navigate.	2.3400	0.77222	High	2
8	It is easy to quickly find the needed information.	2.1200	0.79898	Medium	6
9	The portal's content loads quickly.	1.7000	0.78895	Medium	11
10	I find it easy to understand the various elements and sections of the portal.	2.2000	0.75593	Medium	4
11	The portal is compatible with all browsers and smart devices.	2.0800	0.72393	Medium	8
12	The portal exceeds my expectations in terms of the published information.	1.6200	0.66670	Low	13
13	I can run the portal on my personal computer or phone without issues.	2.4000	0.78246	High	1
Overall Mean		2.0474	Medium		

Table 7 indicates that the overall arithmetic mean for the statements under the dimension of e-portal design quality is 2.0474, reflecting a medium level of quality. Statement 13, "I can run the portal on my personal computer or phone without issues," achieved the highest mean of 2.4000, indicating a high level of quality. In contrast, Statement 12, "The portal exceeds my expectations in terms of the published information," received the lowest mean of 1.6200, reflecting a low level of quality.

Although the portal can be easily accessed on personal computers or phones, with intuitive navigation and alignment with the faculty's services, the design did not meet faculty members' expectations. Furthermore, the majority of services related to this dimension were rated at a medium level, indicating areas for improvement in the portal's design to meet user expectations fully.

Customer Service Quality Dimension (Students - Faculty Members)

Table 5 Arithmetic Means and Standard Deviations for the Customer Service Quality Dimension (Students - Faculty Members)

No.	Second Dimension: Customer Service Quality (Students – Faculty)	Arithmetic Mean	Standard Deviation	Quality Level	Rank
1	The LMS supports all multimedia files.	1.8200	.84973	Medium	5
2	The allocated course hours are sufficient.	2.1800	.87342	Medium	3
3	I found what I expected and looked forward to in the distance education system.	1.5600	.73290	Low	13
4	Learning through the e-portal is enjoyable.	2.2200	.73651	Medium	2
5	Discussion forums are integrated as a core part of the course.	2.0200	.89191	Medium	4
6	The system allows lecture recordings for replay.	2.3200	.79385	Medium	1
7	The system provides guidance and advisory activities.	1.7400	.80331	Medium	10
8	I receive adequate feedback from students for the course.	1.7400	.66425	Medium	11
9	The system offers synchronous and asynchronous interaction.	1.8000	.80812	Medium	7
10	The system provides access to electronic libraries.	1.6600	.77222	Medium	12
11	The system allows the execution of tasks like assignments and assessments.	1.7800	.84007	Medium	9
12	The system documents all educational activities per course.	1.8000	.83299	Medium	6
13	A repository for educational units is available, shared by teachers and learners.	1.7800	.86402	Medium	8
Overall Mean		1.8776		Medium	

The data in Table 8 indicate that the overall arithmetic mean for the customer service quality dimension (Students - Faculty Members) is 1.8776, reflecting a medium level of service quality. The highest-rated item is "The system allows lecture recordings for replay" with a mean of 2.3200, suggesting moderate satisfaction in this area. On the other hand, the lowest-rated item is "I found what I expected and looked forward to in the distance education system", which has a mean of 1.5600, indicating a low level of satisfaction.

Despite the overall medium-level scores across most items, the results suggest that the distance education system has not fully met the expectations and aspirations of faculty members, highlighting areas for potential improvement.

Technical Support Services Quality Dimension

Table 6 Arithmetic Means and Standard Deviations for the Technical Support, Security, and Privacy Dimension

No.	Third Dimension: Quality of Technical Support, Security, and Privacy	Arithmetic Mean	Standard Deviation	Quality Level	Rank
1	I find it easy to follow procedures for accessing technical support services.	1.9200	.87691	Medium	7
2	The system provides a database of faculty and students enrolled in the same course.	2.0600	.86685	Medium	6
3	The system provides individual usernames and passwords.	2.7200	.60744	High	1
4	The guidelines for e-learning services are clear.	2.0800	.80407	Medium	5
5	The computer lab in the distance learning program is generally suitable.	2.1800	.77433	Medium	3
6	I received adequate training to use the distance education system.	1.5000	.67763	Low	10
7	The security level regarding my data privacy on the e-learning portal is appropriate.	1.7600	.79693	Medium	8
8	The system includes security software to protect against breaches.	1.7600	.65652	Medium	9
9	Passwords can be easily changed whenever necessary.	2.4600	.70595	High	2
10	The system automatically announces course-related dates, such as exams and assignments.	2.1000	.86307	Medium	4
Overall Mean			2.0540		Medium

The data in Table 9 show that the overall arithmetic mean for the Technical Support, Security, and Privacy dimension is 2.0540, reflecting a medium level of quality. The highest-rated item is "The system provides individual usernames and passwords" with a mean of 2.7200, indicating a high level of satisfaction with this feature. However, the lowest-rated item is "I received adequate training to use the distance education system" with a mean of 1.5000, indicating a low level of satisfaction. Although the system offers robust options for managing usernames and passwords, the overall quality of technical support and security services remains moderate across most items. Additionally, the results highlight the limited availability of training opportunities for faculty members in effectively using the distance learning system, pointing to an area for improvement.

To address the third research question—*What is the quality level of e-services provided by the distance learning system at the Faculty of Education, Sohag University, from students' perspectives?*—the study employed **frequencies, percentages, arithmetic means, and standard deviations**. The arithmetic means were ranked in descending order to determine which statements scored the highest across study variables.

The overall results are summarized as follows:

- Technical Support Services Quality: Mean = 1.9890, SD = 0.59931

- Distance Learning Portal Design Quality: Mean = 1.8651, SD = 0.60501

- Customer Service Quality (Students–Faculty): Mean = 1.7254, SD = 0.65167
- Overall Mean for All Dimensions: 1.8603

The findings indicate that the overall quality of e-services for distance education was evaluated as moderate from the students' point of view, with an overall mean score of 1.8603. Among the dimensions, Technical Support Services received the highest mean score (1.9890), indicating that students rated this aspect relatively higher than others. Conversely, Customer Service Quality (Students–Faculty) had the lowest mean score (1.7254), highlighting it as an area needing further improvement.

These results suggest that while technical support services are perceived more favorably, enhancements are necessary in both customer service interactions and the design of the e-learning portal to meet students' expectations comprehensively.

Dimension: *Quality of the Distance Learning Portal Design*

The following table presents the arithmetic means and standard deviations for various aspects related to the quality of the distance learning portal design:

Table 7 Arithmetic Means and Standard Deviations for the Quality of Distance Learning Portal Design

No.	Dimension: Quality of Distance Learning Portal Design	Arithmetic Mean	Standard Deviation	Quality Level	Rank
1	The information available on the distance learning portal is accurate.	1.7000	0.86820	Moderate	10
2	The portal provides tools for self-registration and admission processes.	1.8650	0.89486	Moderate	6
3	The portal offers tools for course withdrawal processes.	1.8150	0.87441	Moderate	7
4	Continuous updates are made to the information available on the portal.	1.6900	0.88760	Moderate	11
5	The portal's design is appropriate.	1.9100	0.74476	Moderate	5
6	The information on the portal aligns with the services provided by the faculty.	2.2150	0.91266	Moderate	1
7	It is easy to browse the distance learning portal.	2.2050	0.76544	Moderate	2
8	I quickly find the information I need on the portal.	1.7450	0.89104	Moderate	9
9	The portal content loads quickly and smoothly.	1.5850	0.82838	Weak	12
10	I find it easy to understand the portal's sections and elements.	2.0050	0.81751	Moderate	4
11	The portal works with all browsers and smart devices.	1.7950	0.68946	Moderate	8
12	The portal exceeded my expectations regarding published information.	1.5400	0.72181	Weak	13
13	I can run the portal on my personal computer or phone without issues.	2.1750	0.88219	Moderate	3
Overall Mean			**1.8651**	Moderate	

The results indicate that the overall quality of the distance learning portal design was evaluated as moderate, with a general arithmetic mean of 1.8651. The highest-scoring item was statement (6): *"The information on the portal aligns with the services provided by the faculty,"* with a mean of 2.2150,

reflecting a moderately favorable view. However, the lowest-rated item was statement (12): *"The portal exceeded my expectations regarding published information,"* which received a weak rating, with a mean of 1.5400. Although the majority of the aspects were rated as moderate, the findings suggest that the portal design has not fully met students' expectations, aligning with similar feedback previously reported by faculty members. This highlights the need for further improvements to enhance user satisfaction with the portal.

Dimension: *Customer Service Quality (Students – Faculty Members)*

The following table presents the arithmetic means and standard deviations for various aspects of customer service quality in the distance learning system:

Table 8 Arithmetic Means and Standard Deviations for Customer Service Quality (Students – Faculty Members)

No.	Dimension: Customer Service Quality (Students – Faculty Members)	Arithmetic Mean	Standard Deviation	Quality Level	Rank
1	The learning management system supports all multimedia files.	1.6950	0.78425	Moderate	5
2	The allocated hours for each course are sufficient.	1.9750	0.82326	Moderate	3
3	I found what I expected and looked forward to in the distance learning system.	1.4450	0.79380	Weak	13
4	Learning through the portal is an enjoyable experience.	1.9850	0.71928	Moderate	2
5	The system provides discussion forums as a central part of the course.	1.5950	0.85712	Weak	10
6	The system offers the ability to record and replay lectures for students.	2.2850	0.83502	Moderate	1
7	The system provides guidance and advisory activities for the course.	1.6100	0.86698	Weak	9
8	I receive sufficient feedback from course instructors.	1.5850	0.79114	Weak	11
9	The system offers synchronous and asynchronous interaction methods.	1.5400	0.78836	Weak	12
10	The system provides access to electronic libraries.	1.6650	0.87556	Moderate	6
11	The system enables learning tasks (assignments and evaluations).	1.7750	0.91023	Moderate	4
12	The system allows documentation of all educational activities for each course.	1.6250	0.84138	Weak	8
13	The system includes a repository for educational units shared by teachers and students.	1.6450	0.87911	Weak	7
Overall Mean			1.7254	Moderate	

The overall mean for customer service quality was 1.7254, indicating a moderate level of quality from both students' and faculty members' perspectives. The highest-scoring item was statement (6): *"The system offers the ability to record and replay lectures for students,"* with a mean of 2.2850, indicating a moderate rating. On the other hand, the lowest-scoring item was statement (3): *"I found what I expected and looked forward to in the distance learning system,"* which received a weak rating with a mean of 1.4450. The results suggest that there is significant alignment between students' and faculty

members' responses regarding the quality of customer service. However, the findings reveal that the electronic customer service provided by the distance learning system has not met the expectations and aspirations of both groups. This emphasizes the need for enhancements to improve the overall service experience.

Dimension: *Technical Support Services Quality*

The following table presents the arithmetic means and standard deviations for the quality of technical support, security, and privacy services:

Table 9 Arithmetic Means and Standard Deviations for Technical Support, Security, and Privacy Services Quality

No.	Dimension: Technical Support, Security, and Privacy	Arithmetic Mean	Standard Deviation	Quality Level	Rank
1	I find it easy to access technical support services.	1.7450	0.90780	Moderate	8
2	The system provides a database of faculty members and students enrolled in the same course.	1.7400	0.85207	Moderate	9
3	Each user has a unique username and password.	2.6700	0.70254	High	1
4	The guidelines for using e-learning services are clear.	1.9550	0.83454	Moderate	5
5	The computer lab for the e-learning program is generally adequate.	2.0000	0.70176	Moderate	4
6	I received adequate training to use the distance learning system.	1.6400	0.85678	Weak	10
7	The system ensures the security and privacy of my personal data.	1.8450	0.85712	Moderate	6
8	The system includes protection software to prevent attacks or breaches.	1.8150	0.88014	Moderate	7
9	Passwords can be changed easily when needed.	2.4800	0.80800	High	2
10	The system automatically announces course-related deadlines (e.g., exams, assignments, and live lectures).	2.0000	0.82669	Moderate	3
Overall Mean			1.9890	Moderate	

The overall mean for the quality of technical support, security, and privacy services was 1.9890, indicating a moderate level of quality. The highest-scoring item was statement (3): *"Each user has a unique username and password,"* with a mean of 2.6700, reflecting a high-quality rating. Conversely, the lowest-scoring item was statement (6): *"I received adequate training to use the distance learning system,"* with a weak rating and a mean of 1.6400. These results highlight that students and faculty members largely agree on the availability and usability of usernames and passwords, with this aspect receiving a high rating. However, most technical support and security services achieved only moderate levels of quality, and the lack of adequate training opportunities for users emerged as a critical concern.

To answer the fourth research question: Are there statistically significant differences in the mean responses of faculty members at the Faculty of Education, Sohag University, on the e-learning services quality questionnaire based on gender, academic rank, and the level of acquired computer courses?

The arithmetic means and standard deviations of the faculty members' responses to the overall tool, which measures the quality of e-learning services, were calculated based on the variables of gender, academic rank, and level of computer courses. The results are presented in Table (14):

Table 10 Arithmetic Means and Standard Deviations of Faculty Members' Responses on the Overall Tool Related to E-learning Service Quality

Variable	Category/Level	Number of Responses	Arithmetic Mean	Standard Deviation
Gender	Male	25	1.9876	0.61715
	Female	25	1.9988	0.48006
Total		50	1.9932	0.54723
Academic Rank	Professor	12	2.2567	0.48990
	Associate Professor	11	1.7173	0.57725
	Lecturer	22	1.9168	0.52137
	Assistant Lecturer	1	2.9700	–
	Teaching Assistant	4	2.1375	0.22867
Total		50	1.9932	0.54723
Level of Computer Courses	None	8	1.9213	0.59884
	Basic Levels	28	1.9189	0.48829
	Advanced Levels	14	2.1829	0.62181
Total		50	1.9932	0.54723

To determine whether there are statistically significant differences in the mean responses of faculty members on the overall tool, based on gender, academic rank, and the level of acquired computer courses, a three-way ANOVA (Three-Way Analysis of Variance) was performed. Table (15) will present the results of the three-way ANOVA analysis.

Table 11 Results of Three-Way ANOVA for Faculty Members' Ratings on the Overall Tool Related to E-Learning Service Quality Based on Gender, Academic Rank, and Level of Computer Courses

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F Value	Sig	Statistical Significance
Gender	0.002	1	0.002	0.005	0.943	Not Significant
Academic Rank	2.836	4	0.709	2.696	0.043	Significant
Level of Courses	0.699	2	0.350	1.176	0.317	Not Significant

There are no statistically significant differences at the alpha level of α≤0.05\alpha \leq 0.05α≤0.05 in the mean ratings of faculty members on the overall tool related to the quality of e-learning services attributed to the gender variable, as indicated by the significance value (sig)=0.943(sig) = 0.943(sig)=0.943. furthermore, There are statistically significant differences at the alpha level of α≤0.05\alpha \leq 0.05α≤0.05 in the mean ratings of faculty members on the overall tool related to the quality of e-learning services attributed to the academic rank variable, as indicated by the significance value (sig)=0.043(sig) = 0.043(sig)=0.043. while there are no statistically significant differences at the alpha level of α≤0.05\alpha \leq 0.05α≤0.05 in the mean ratings of faculty members on the overall tool related to the quality of e-learning services attributed to the level of acquired computer courses, as indicated by the significance value (sig)=0.317(sig) = 0.317(sig)=0.317.

To answer the fifth research question: Are there statistically significant differences between the mean responses of the students at the Faculty of Education in Sohag regarding the e-learning service quality questionnaire, attributed to the variables of gender, major, and level of computer courses obtained?

The means and standard deviations of students' responses to the overall tool related to the quality of e-learning services were calculated, considering the variables of gender, major, and level of computer courses, as shown in Table 16.

Table 12 Means and Standard Deviations of Students' Responses on the Overall Tool Related to E-Learning Service Quality (Based on Gender, Major, and Level of Computer Courses)

Variable	Category/Level	Number of Responses	Mean	Standard Deviation
Gender	Male	80	1.7625	0.60946
	Female	120	1.9336	0.59474
Total		200	1.8651	0.60501
Major	Arts	119	1.9690	0.68546
	Science	81	1.7126	0.42173
Total		200	1.8651	0.60501
Level of Courses	None Obtained	98	1.8424	0.57579
	Basic Levels	59	1.6188	0.48904
	Advanced Levels	43	2.2549	0.62960
Total		200	1.8651	0.60501

To determine the statistical significance of differences in the mean ratings of students regarding the quality of e-learning services (considering gender, major, and level of computer courses), a three-way ANOVA analysis was used, as shown in Table 17.

Table 13 Results of the Three-Way ANOVA for the Mean Ratings of Students on the Overall Tool Related to E-Learning Service Quality (Based on Gender, Major, and Level of Computer Courses)

Source of Variance	Sum of Squares	Degrees of Freedom	Mean Square	F Value	Sig	Statistical Significance
Gender	0.543	1	0.543	1.552	0.214	Not Significant
Major	4.653	1	4.653	14.143	0.000	Significant
Level of Courses	9.780	2	4.890	16.054	0.000	Significant

From the table 17, it is evident that: There are no statistically significant differences at the significance level of "$\alpha \leq 0.05$" between the mean ratings of students on the overall tool related to the quality of e-learning services, attributed to the gender variable, as the significance value (sig) is 0.214.

There are statistically significant differences at the significance level of "$\alpha \leq 0.01$" between the mean ratings of students on the overall tool related to the quality of e-learning services, attributed to the major variable, as the significance value (sig) is 0.000, favoring the arts majors.

There are statistically significant differences at the significance level of "$\alpha \leq 0.01$" between the mean ratings of students on the overall tool related to the quality of e-learning services, attributed to the level of computer courses obtained, as the significance value (sig) is 0.000, favoring the advanced levels.

Answering Research Question Six: Are there statistically significant differences between the mean responses of faculty members and students on the questionnaire regarding the quality of e-learning services?

To determine the statistical significance of differences in the mean scores of students and faculty members on the overall tool, a Three-Way ANOVA was employed, as illustrated in Table 18.

Table 14 Results of Three-Way ANOVA for the Mean Responses of Students and Faculty Members on the Overall Tool

Dimension	Sum of Squares	Degrees of Freedom	Mean Square	F Value
Quality of the E-Learning Portal Design	7.184	21	.342	.689
Customer Service Quality (Students-Faculty)	9.741	21	.464	1.034
Quality of Technical Support Services	7.362	17	.433	1.103
Overall Measure	15.073	41	.368	.709

The table above indicates that there are no statistically significant differences at the significance level of "α ≤ 0.05" between the mean scores of students and faculty members on the overall tool, as well as across its various dimensions related to the quality of e-learning services.

DISCUSSION OF STUDY RESULTS:

The statistical analyses derived from faculty members' responses regarding Research Question One, related to the level of quality of e-learning services in the distance education system at the Faculty of Education in Sohag, indicate a medium achievement. This can be explained by the fact that faculty efforts during this phase were primarily focused on the basic requirements for delivering academic content to students remotely. Examples include the ease of navigating the e-learning portal and its compatibility with computers and personal devices. These efforts were aimed at overcoming challenges related to capacity issues (e.g., limited classroom availability and scheduling) and the significant number of students (transportation capacity issues) transitioning to the new university campus. Consequently, this led to a considerable neglect of important aspects such as providing synchronous and asynchronous interaction through various methods, offering guidance and feedback services, and connecting academic content with interactive digital repositories and libraries. These findings align with studies by Al-Saleh (2007), Al-Mulla (2016), Buinytska & Vasylenko (2020), and Helen & Susan (2020).

Additionally, the statistical analyses related to Question Two, which investigates the quality of e-learning services from the students' perspective, also revealed a medium level of quality. This can be interpreted as the e-learning service system being heavily reliant on certain components, such as the ease of accessing the portal. The mere provision of remote education (as a solution to spatial distance) held a central place in students' minds. Students' visions and aspirations did not aim for maximum benefit from the e-learning system due to the lack of motivation to seek essential components, such as forums, discussion groups, feedback, and access to digital resources and repositories. These results are consistent with studies by Al-Ghamdi (2012), Al-Qarni (1427 AH), Sumi & Kabir (2021), and Saleh & Al-Ali (2023).

The results of Question Three confirmed that there are no differences in faculty members' responses regarding the quality of e-learning services attributed to gender or various levels of computer courses. However, differences were observed concerning academic rank in favor of assistant lecturers. This can be interpreted by noting that faculty members have increasingly adapted to using computers in their teaching processes regardless of gender, while the emerging categories of

teaching assistants are more connected and engaged with modern technological innovations. These results are in agreement with studies by Fryadenberg (2002), Barker (2007), and Ali & Saleh (2023).

As for the results of Question Four, they indicated no significant differences in students' responses regarding the quality of e-learning services attributable to gender. However, there were differences related to specialization in favor of humanities disciplines and in terms of levels of computer courses acquired in favor of advanced levels. This suggests that as learners attain higher levels in computer courses, it positively influences their use and application of computers for educational purposes. The educational field may also be associated with the search for digital knowledge sources relevant to theoretical disciplines.

The results of Question Five showed no differences between the evaluations of students and faculty members regarding the overall tool and its various aspects related to the quality of e-learning services. This can be interpreted as the e-learning service project at the Faculty of Education, Sohag University, being in its initial implementation phases and not having undergone trial and development processes. Consequently, the perspectives of students and faculty members aligned on many performance dimensions and items included, with a significant consensus that the design of the e-portal did not meet the expected standards and that the quality of e-learning services fell short of the aspirations of both faculty and students. This finding is consistent with studies by Taylor & Bruce (2003), Saleh & Al-Ali (2022), and Al-Ali & Saleh (2022).

In summary, the study results indicate a medium level of quality of e-learning services in distance education, highlighting that the system is still in its early stages and urgently requires further development and enhancement to keep pace with rapid changes and advancements in the e-learning and distance education landscape.

Recommendations:

- Conduct ongoing training for faculty members and students on skills related to e-services to achieve the desired effectiveness and interaction in the distance education program.

- Develop ambitious plans for the distance education system that align with established quality standards, exceeding mere solutions for capacity issues.

- Integrate the distance education system with various digital services at the university, such as digital libraries, repositories, digital communication tools, and online admission and registration services.

- Undertake longitudinal studies to monitor the impact of the quality of e-services on the success of the distance education system.

- Establish a quality and accreditation unit dedicated to focusing on quality processes and continuous review of e-learning services in the distance education system.

References

- A conceptual model of service quality and its implications for future research. (1985). *The Journal of Marketing, 49*(4), 41–50.
- Abdel-Ali, A. A. (2005). Distance education. Cairo: Dar Al-Kitab Al-Hadith.
- Abdel-Aty, H. B. M. (2008). Scientific, educational, and technical standards for electronic discussion forums used in online e-learning programs and courses. Paper presented at the International Conference on Educational Technologies "Education and Technology: Innovative Applications," Sultan Qaboos University, Muscat, Oman, March 3-5.
- Abu Khutwah, S. A. M. (2010). Quality standards in e-learning management systems. In The First Symposium on Applications of Information and Communication Technology in Education and Training, Royal Cultural Center, Amman, Jordan (Supervised by Al al-Bayt University, 19-20 May).
- Al-Adayla, A. M., & Al-Muharreb, N. K. (2017). The impact of applying e-service quality standards on the satisfaction of female students at Princess Nourah bint Abdulrahman University in Saudi Arabia. *Jordanian Journal of Business Administration*, 13(3), 307-329.
- AlAli, R., & Saleh, S. (2022). Towards constructing and developing a self-efficacy scale for distance learning and verifying the psychometric properties. *Sustainability, 14*, 13212. https://doi.org/10.3390/su142013212
- Al-Baro, I. S. (2009). Obstacles to open university education at the Arab Open University branch in Jeddah from the perspective of students. *Gulf Message Journal*, (112), 129-195.
- Al-Ghadyan, A. M. A. (2007). The need for Saudi universities to adopt an e-learning system: A proposed project. *Educational and Social Studies*, Faculty of Education, Helwan University, 13(4), 139-170.
- Al-Ghamdi, A. A. (2012). The effectiveness of distance education systems in Saudi universities. *Arab Studies in Education and Psychology*, 2(28), 154-187.
- Al-Ghamdi, H. B. A., & Abdel-Jawad, A. N. M. (2010). The development of the education system in the Kingdom of Saudi Arabia (3rd ed.). Riyadh: Maktabat Al-Rushd.
- Al-Hamad, M. B. M., & Others. (2005). Education in the Kingdom of Saudi Arabia: The present vision and future prospects (3rd ed.). Riyadh: Maktabat Al-Rushd.
- Al-Harbi, M. B. S. (2007). E-learning management systems (LMS) and their role in activating communication in the educational process. Paper presented at the 12th Educational Supervision Meeting in Tabuk, 12-14/5/1428 AH.
- Al-Hunaiti, A. R. (2004). Quality and standards in open learning and distance education. *Publications of the Arab Network for Open Education and Distance Learning*, Jordan.
- Ali, R. M. A., & Saleh, S. (2023). The efficiency of the distance learning system and contributions of behavioral practices to motivation and passion for research in metacognition in its prediction. *International Journal of Learning and Change, 15*(6), 623–654.
- Al-Mulla, A. A. (2016). Evaluating the distance education experience at the Malaysian University and the College of Education for Girls according to the quality standards taken from the UK Quality Assurance Agency for Higher Education. *International Journal for Educational Research*, United Arab Emirates University, 39, 123-168.
- Al-Najdi, S. (2012). Evaluating the quality of e-learning at the Open University of Jerusalem in light of global quality standards. *Palestinian Journal for Open Education and E-Learning*, 3(6), 11-48.
- Al-Qarni, S. (1427 AH). Evaluating the experience of King Saud University in using the Web CT system via the global information networks in supporting teaching. Master's thesis, Faculty of Education, King Saud University.
- Al-Saleh, B. A. (2007). Virtual university education: A comparative study of selected Arab and foreign virtual universities. *Teachers' Colleges Journal: Educational Sciences*, 7(1), 245-291.

- Al-Saqr, A. M. (2012). A proposed vision for applying e-learning at Al-Kharj University. *Educational Journal, Faculty of Education, Assiut University*, 28(1), 153-189.
- Al-Shawadfi, M. G. (2010). Electronic service performance and its relationship to organizational loyalty. *Journal of Trade and Finance*, (2), 173-221.
- Al-Ubaidi, S. N. (2012). The impact of e-service quality on student satisfaction: A field study on Jerash University students. *Journal of Legal and Political Sciences*, 2(4), 343-384.
- Anderson, T., & Elloumi, F. (Eds.). (2004). *Theory and practice of online learning*. Athabasca University Press.
- Arab Open University, Bahrain Branch. (2013). *Academic programs*. Arab Open University.
- Australian Christian College. (2014). *Benefits of distance education*. Australian Christian College.
- Bakr, A. J. S. (2000). Readings in distance education. Alexandria: Dar Al-Wafa.
- Barfi, K. A., Imoro, O., Arkorful, V., & Armah, J. K. (2024). Acceptance of e-library and support services for distance education students: Modelling their initial perspectives. *Information Development, 40*(3), 517–529.
- Barker, K. (2007). E-learning quality standards for consumer protection and consumer confidence: A Canadian case study in e-learning quality assurance. *Educational Technology & Society, 10*(2), 109–119.
- Barkley, E. (2010). *Student engagement techniques: A handbook for college faculty*. Jossey-Bass.
- Bharati, P., & Berg, D. (2005). Service quality from the other side: Information systems management at Duquesne Light. *International Journal of Information Management, 25*(4), 367–380.
- Buinytska, O., & Vasylenko, S. (2020). E-learning to ensure the educational services' quality in university distance learning.
- Caceres, R. C., & Paparoidamis, N. G. (2007). Service quality, relationship satisfaction, trust, commitment, and business-to-business loyalty. *European Journal of Marketing, 41*(7/8), 836–867.
- Canadian Virtual University. (2014). *CVU: Mission, vision, and values*. Canadian Virtual University.
- Dabbagh, N. (2005). Pedagogical models for e-learning: A theory-based design framework. *International Journal of Technology in Teaching and Learning, 1*(1), 25–44.
- Dabholkar, P. A. (1996). Consumer evaluations of new technology-based self-service options: An investigation of alternative models of service quality. *International Journal of Research in Marketing, 13*(1), 29–51.
- Demir, A., Maroof, L., Sabbah Khan, N. U., & Ali, B. J. (2021). The role of e-service quality in shaping online meeting platforms: A case study from the higher education sector. *Journal of Applied Research in Higher Education, 13*(5), 1436–1463.
- Ehlers, F. (2004). Quality in e-learning from a learner's perspective. *Campus Essen*, Universitaetsstr. 9, 45141 Essen, Germany.
- Frydenberg, J. (2002). Quality standards in e-learning: A matrix of analysis. *International Review of Research in Open and Distance Learning, 3*(2).
- Ghanem, H. D. (2006). The necessary standards for producing and employing computer multimedia programs and their impact on student achievement in middle schools. Unpublished master's thesis, Institute of Postgraduate Studies and Research, Cairo University.
- Hadullo, K., Oboko, R., & Omwenga, E. (2017). A model for evaluating e-learning systems quality in higher education in developing countries. *International Journal of Education and Development Using ICT, 13*(2).

- Hajj, A. I. (2003). Open distance university education: From correspondence education to virtual university: An introduction to comparative adult education. Cairo: Alam Al-Kutub.
- Hamdan, M. S. (2007). International and Arab experiences in the field of e-learning. *Palestinian Open Distance Learning Journal*, 1(1).
- Hanover Research Academy Administration Practice. (2014). *Distance education models and best practices*. Hanover Research.
- Helen, O. O., & Susan, K. (2020). Security and quality assurance of ICT-enhanced learner support services in distance education: National Open University Nigeria experience. *NIPES-Journal of Science and Technology Research, 2*(3).
- Hismanoglu, M. (2011). E-learning practices in North Cyprus universities: Benefits, drawbacks, and recommendations for effective implementation. *International Education Studies, 4*(4).
- Horton, W., & Horton, K. (2003). *E-learning tools and technologies: A consumer's guide for trainers, teachers, educators, and instructional designers*. Wiley Publishing, Inc.
- Hou, F., Cao, L., & Zhang, Y. (2021, January). Summary of the typical standards of distance learning service quality evaluation in the U.S. and the U.K. In *Proceedings of the 2021 12th International Conference on E-Education, E-Business, E-Management, and E-Learning* (pp. 181–186).
- India's Largest University. (2014). *Benefits of distance education*. India's Largest University.
- Ismail, A. Z. (2009). E-learning: From application to professionalism and quality. Cairo: Alam Al-Kutub.
- J-Alabi, A., et al. (2012). Multimedia and the management of open and distance learning for teacher education in Nigerian universities. *Academic Research International, 3*(1).
- Kayabasi, A., & Buyukarslan, A. (2013). The analysis of the relationship among perceived electronic service quality, total service quality, and total satisfaction in the banking sector. *International Journal of Human Sciences, 10*(2).
- Khalaf, A. A. A. (2015). A proposed vision to activate the role of distance education at Taif University in light of contemporary global trends. *Educational Journal of the Faculty of Education, Sohag University*, (40), 223-358.
- Khalil, H. H. (2008). Design and publishing of an electronic course in educational technology in light of e-learning quality standards to develop cognitive and performance aspects for education students. Unpublished master's thesis, Faculty of Education, Mansoura University.
- Khamis, M. A. (2003). Processes of instructional design technology. Cairo: Dar Al-Kalima Library.
- Kurilovas, E. (2009). Multiple criteria evaluation methods of the quality of learning management systems for personalized learners' needs. In *Proceedings of the 1st International Workshop on Learning Management Systems meet Adaptive Learning Environments (LMS–ALE)* within the 4th European Conference on Technology Enhanced Learning (EC–TEL 2009), Nice, France.
- Madani, M. A. (2007). Learning from a distance: Its goals, foundations, and practical applications. Amman: Dar Al-Masira for Publishing and Distribution.
- Nashwan, Y. H. (2004). Managing distance education and open university education. Amman: Dar Al-Furqan for Publishing and Distribution.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *The Journal of Marketing, 49*(4), 41–50.
- Purcarea, V. L., Gheorghe, I. R., & Petrescu, C. M. (2013). The assessment of perceived service quality of public health care. *Procedia Economics and Finance, 6*, 573–585.
- Queensland University. (2013). *About Queensland University*. Queensland University.
- Queensland University. (2013). *Distance education*. Queensland University.

- Radi, M. M., Al-Maghazi, S. E., & Al-Najili, R. M. (2018). E-management as an approach to improving the quality of educational services in Palestinian universities: A special study on Al-Azhar University – Gaza. *Arab Journal for Ensuring Quality in General Education*, 11(35), 11-35.
- Razak Grady, & Hohn Pratt. (2000). The UK technology transfer system: Calls for stronger links between higher education and industry. *Journal of Technology Transfer, 25*, Kluwer Academic Publishers.
- Rieber, A. L. (2000). *Computers, graphics, and learning*. U.S. Dollars.
- Saleh, S., & AlAli, R. (2022). Digital learning tools (institutional-open) and their relationship to educational self-effectiveness and achievement in online learning environments. *Social Space, 22*(3), 226–256.
- Saleh, S., & AlAli, R. (2023). Psycho-technological compatibility as one of the guidelines for students of computer science. *Information Sciences Letters, 12*(5), 1891–1909. http://dx.doi.org/10.18576/isl/120532
- Saleh, S., & AlAli, R. (2024). Constructing and developing the psycho-computing traits scale: A psychometric analysis of computer users and students in the field of computer science. *Cogent Social Sciences, 10*(1), 2344231.
- Saleh, S., AlAli, R., Wardat, Y., Al-Qahtani, M., Soliman, Y., & Helali, M. (2023). Structural relationships between learning emotion and knowledge organization and management processes in distance learning environments: An applied study. *European Journal of Investigative Health, Psychology and Education, 13*.
- Sanayel, A., & Jokar, A. (2013). Determining the effect of electronic services quality on satisfaction. *International Journal of Academic Research, 3*(4), 103–111.
- Shehab, R. T., Al Ali, R., & Saleh, S. (2021). Motivation and passion for research in metacognition as predictors of distance
- Sheng, T., & Liu, C. (2010). An empirical study on the effect of e-service quality on online customer satisfaction and loyalty. *Nankai Business Review International, 1*(3), 273–283.
- Sumi, R. S., & Kabir, G. (2021). Satisfaction of e-learners with electronic learning service quality using the SERVQUAL model. *Journal of Open Innovation: Technology, Market, and Complexity, 7*(4), 227.
- Taylor, B. (2003). Defining the location of responsibility in higher education: Quality audit at City University of Hong Kong. *Higher Education Quality Assurance Journal of Philippine, 1*(1).
- Unity University College. (2014). *Objectives of distance education*. Unity University College.
- Youssef, A. A. (2005). Distance university education to meet future needs. In Proceedings of the First Arab Conference on Anticipating the Future of Education, Cairo: League of Arab States, April 17-21.
- Zain Al-Abidin, M. M. (2010). The experience of King Abdulaziz University in using the e-learning management system EMES and the potential benefits for Egyptian university education. *Journal of the College of Education, Port Said University*, (8), 11-56.
- Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through websites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science, 30*(4), 362–375.
- Al-khresheh, M. H. (2022). The impact of COVID-19 pandemic on teachers' creativity of online teaching classrooms in the Saudi EFL context. *Frontiers in Education*, 7,1041446.https://doi.org/10.3389/feduc.2022.1041446
- Al-khresheh, M. H. (2024). Bridging technology and pedagogy from a global lens: Teachers' perspectives on integrating ChatGPT in English language teaching. *Computers and Education: Artificial Intelligence*, *6*, 100218.https://doi.org/10.1016/j.caeai.2024.100218

- Jam, F.A., Khan, T.I., Zaidi, B., & Muzaffar, S.M. (2011). Political Skills Moderates the Relationship between Perception of Organizational Politics and Job Outcomes.

- Mohammed, N. A., Ali, W. N., Younis, Z. M., Zeebaree, P. J., & Qasim, M. J. (2024). Response of Two Mint Cultivars Peppermint (Mentha piperita L.) and Curly Mint (Mentha spicata var. crispa) to Different Levels of Cadmium Contamination. *Pakistan Journal of Life & Social Sciences*, *22*(2).