

Effectiveness of English E-Learning Classes: University Students' Perspectives

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Abstract—Owing to technological growth, new educational models have emerged that depend on technical advancements to accomplish learning goals. One of the applications that stand out is e-learning, which has altered both the roles and duties of instructors and students, as well as the way traditional education is conducted in academic institutions. This study investigates how Jordanian university students view the value of the online courses they take. A questionnaire with ratings for the quality of e-learning and students' satisfaction was used to collect the data. The study's sample consisted of 566 university students from Al-Balqa Applied University, Jordan. The findings indicated that the e-learning courses' overall content quality was average. The quality of the form of the e-learning lessons was high, and the students' degree of satisfaction with the quality of the e-learning courses was moderate. The study found that the most effective way to facilitate learning is to present courses in a clear hierarchy or framework.

Index Terms—Al-Balqa Applied University, English e-learning courses, university students' satisfaction

I. INTRODUCTION

All academic disciplines and the sciences have advanced rapidly in the modern era. Many aspects of society are impacted by modern technology, particularly schooling (Bany Yassien et al., 2023; Wolor et al., 2022; Yassien et al., 2023). The rapid development of electronic learning (e-learning) is one of the modern concepts utilised in education, due to significant advancements in information technology, communication, and media (Sakarneh et al., 2022; Salah et al., 2022). E-learning is a form of learning where all educational activities take place electronically, engaging learners actively, positively, and effectively. It combines active learning with teaching technologies, develops higher-order skills, and accommodates different learner characteristics, such as learning pace, suitable time and place, and learner preferences.

E-learning is a method of learning using modern communication tools, including computers, networks, multimedia, electronic libraries, and internet portals, whether remotely or in classrooms (Al Fawareh et al., 2023; Banikalef, 2019, 2020). It is an innovative method of delivering well-designed, interactive learning environments focused on the learner, accessible anywhere and anytime, by utilising various digital technologies along with other suitable educational materials for open and flexible learning environments (Danaa et al., 2022; Obeidat et al., 2022; Rababah et al., 2023).

E-learning is a creative method within an interactive environment centred on learners, designed in advance to be readily available to individuals anywhere and anytime, utilising the internet and digital technologies (Al Smadi & Al-Taweel, 2013; Alshare et al., 2019). In light of these definitions, e-learning can be characterised as an integrated system using modern electronic educational media for learning, research, and accessing required information anytime and anywhere, through advanced and diverse technological communication channels (Alkhaldi et al., 2023; Al-Saidat et al., 2023; Bani-

Khair et al., 2023; Melhim et al., 2023). It fosters the development of higher-order skills in learners, tailored to their characteristics, preferences, and capabilities.

Students' level of satisfaction with the calibre and scope of education offered by colleges is a critical metric for assessing how well educational institutions have achieved their objectives. They will therefore keep using e-learning efficiently and reap the rewards of successful learning (Alazzam et al., 2021; Alghazo et al., 2023; Papagianni & Eteokleous, 2021; Salah et al., 2021). However, if students are dissatisfied with online learning and have a negative opinion of it, their interactions with one another may worsen. According to Jordan and Duckett (2018), e-learning enables students to collaborate with peers and lecturers by enabling them to share materials. The researchers claim that students' contentment with online learning depends on the design of the learning experience. Students will be more satisfied with e-learning and more likely to use it, if it is made easy for them to access workouts, tests, and other activities, and to navigate their way through electronic content. According to Papagianni and Eteokleous (2021), e-learning facilitates the development of a collaborative environment among students. It enables people to fulfil their ambition of taking advantage of online e-learning options and overcoming the challenges associated with education. E-learning differs from traditional learning approaches in that it is extremely flexible and does not place limitations on the location or timing of learning. Additionally, it creates a community of learners that promotes inquiry, facilitates research, and inspires innovation. It costs less than regular education as well (Aljedayah et al., 2022; Al-Jezawi et al., 2023; Sakarneh, 2019).

A. Problem Statement

The concept of e-learning has evolved rapidly due to significant technological changes over the past few decades. In the early 21st century, advancements accelerated in information technology, communication, and multimedia, leading to the emergence of new systems and software referred to as "Web 2.0." This concept encompasses a range of new technologies and network applications that changed the behaviour of the internet, shifting users from passive consumers to active participants in services and applications. It transitioned from a pre-prepared content focus to interactive media produced by users and shared with others (Malkawi et al., 2023; Rababah et al., 2023).

These developments have led to the emergence of new concepts in online learning management systems, such as Wikis, blogs, and other social internet programmes, supporting the formation of learning communities across networks. The Second Generation of E-Learning can be defined as learning that occurs through internet networks, utilising Web 2.0 technologies that allow participation in activities such as commenting, uploading media files, and updating web page content by users, without the need for programming languages or specialisation in those technologies (Algurashi, 2019; Ali, 2022; Almsbheen, 2023; Alwagfi et al., 2020).

The importance of e-learning lies in its ability to provide students with opportunities for communication with each other, teachers, and educational institutions. It enables students to have equal opportunities to participate in the educational process, express their opinions, ask questions, and adapt learning materials and activities to suit their individual needs. Additionally, it allows for revisiting lessons multiple times until students grasp the content fully (Alzboon et al., 2022). However, e-learning cannot achieve its objectives fully unless it adheres to the principle of quality in its implementation mechanisms. Quality is considered one of the most important factors in improving and developing learning in general and e-learning in particular. Subjecting these mechanisms to quality principles contributes to identifying obstacles that hinder the achievement of desired objectives.

B. Research Questions

In light of this problem, the study attempts to answer these questions:

1. To what degree are university students satisfied with the quality of the e-learning process?
2. How satisfied are the students with e-learning in terms of form and substance?

II. LITERATURE REVIEW

Al-Harbi (2013) proposed suitable criteria for assessing the quality of e-learning in Saudi Arabia using content analysis methodology. The study presented the main international standards used in e-learning. These standards include increasing productivity and effectiveness by reducing the time and cost of delivering education, flexibility in modifying and improving educational content, the importance of simplification in e-learning programmes to ensure understanding, enabling learners to conduct research and evaluation, and using educational units appropriately. The study revealed the necessity of having standards to measure the quality of e-learning, including institutional funding, simplicity of university systems in e-learning, achieving the contentment of all the beneficiaries of e-learning, continuous improvement of learning processes, suggesting developmental programmes to ensure achievement of these goals, identifying the necessary skills for university students in light of e-learning, using modern and appropriate technologies for e-learning programmes, evaluating and assessing e-learning programmes, including policies and procedures enabling the university to evaluate and assess e-learning, as well as flexibility in improving and modifying the educational content provided to students in light of e-learning.

Al-Otaibi (2019) highlights the importance and objectives of quality in the educational process, reviews the concept and importance of e-learning, and reveals the most important standards adopted for the quality of the e-learning system. The researcher used descriptive analytical methodology and concluded that quality management is a relatively new

concept that has begun to spread worldwide, with great importance in improving and developing the educational process. The study also found that the quality of e-learning programmes increases when they adhere to the standards of non-profit international organisations. There is also variation in the standards and indicators related to the quality of e-learning education based on the diversity of studies and institutions that address these standards.

Hayat (2019) studied the quality standards and criteria that should be adopted in e-learning. It reviewed educational literature in this field and concluded that standards are necessary to ensure the quality of e-learning, including educational standards related to educational objectives, content, learners, activities, learning environment strategies, evaluation, and feedback. These can be achieved through designing an integrated e-learning system, considering quality standards in various stages of the programme and course design, reviewing, developing, and updating course content regularly based on feedback, aligning courses with educational objectives and assessment mechanisms, considering the needs of beneficiaries and individual differences among learners, managing e-learning programmes according to quality standards, enabling self-directed learning, empowering learners to control their educational progress, and reviewing the assessment procedures used in e-learning programmes. Technological and technical standards encompass text, images, static and video graphics, interactive links, navigation methods, website interface design, assistance, guidance, and search methods.

Muianga (2019) explored blended learning on the internet and face-to-face in Eduard University's Faculty of Education. The aim was to develop the computer and internet usage skills of students at the Faculty of Education using a blended learning programme. The researcher used performance observation cards to assess the performance of 170 students from the Faculty of Education, concluding the effectiveness of the blended learning programme in developing computer and internet usage skills. The study emphasised the importance of integrating traditional and modern electronic methods in education to achieve better educational outcomes.

Shraim's (2020) study aimed to determine the e-learning system's guiding principles, regulations, and standards. It examined 72 published papers and the educational literature, using content analysis methods in order to develop a framework for ensuring the quality of learning enhanced by technology. The study came to the conclusion that there is not a complete framework for e-learning quality and suggested using the ISO/IEC 40180 framework instead, which is adaptive to organisational change and meets the requirements of educational institutions.

Al-Rashidi (2020) explored the degree to which e-learning was employed at Kuwait University from the perspective of faculty members. The study employed a questionnaire to collect data and used a descriptive approach to analyse the data. The study sample consisted of 510 faculty members at Kuwait University. It found that the overall estimates of faculty members at Kuwait University for employing e-learning were high, with no statistically significant differences in the estimates of faculty members in the degree of employing e-learning attributed to the variables of years of experience and type of college.

Alonso-Garcia et al. (2021) investigated the degree of university students' satisfaction with e-learning in Herzegovina. The researchers used a descriptive survey methodology, utilising a questionnaire to gather data. The study addressed the domains of e-learning as well as the topic of student contentment. The results revealed that, although students' self-efficacy characteristics and goal-setting have an indirect effect on their level of satisfaction, the area of meta-knowledge approaches has directly improved students' enjoyment of using e-learning. Students' level of satisfaction is also influenced by social characteristics and the design of the learning environment.

El Kharki et al. (2021) looked at how satisfied Moroccan institutions' students were with their e-learning platforms. A sample of one hundred and thirty-four Moroccan university students received a questionnaire. The findings showed that a variety of assessments, social connections, and the speed at which courses are completed online, the quality of the online platform, and the perception of convenience all have an impact on how satisfied students are.

Topping et al. (2022) investigated the effectiveness of using blended learning strategies in teaching and learning, including the use of new information technologies in teaching and their impact on academic performance. Their systematic analysis looked at research on the efficacy of computer-supported cooperative learning (CSCL), computer-assisted instruction (CAI), educational games, and blended and online learning from schools—all of which had potential applications outside of the classroom, but were primarily utilised in the context of the COVID-19 pandemic. The researchers looked through eight research databases. After excluding non-school, pre-2000, non-English, lack of data, and duplicate studies, 1,355 studies remained: 7% were online, 13% were mixed, 7% were CSCL, 26% were games, and 47% were CAI. In 85% of the trials, digital technology was shown to be more effective (better) than normal instruction, 8% to be the same, and 3% to be worse. Online learning was much inferior to blended learning.

Malkawi et al. (2023) examined the level of implementation of quality standards at Al-Balqa Applied University. The study constructed standards for measuring the quality of e-learning, to improve e-learning programmes and plans to ensure their quality and efficiency. The study measured the level of implementation of e-learning management quality through an electronically distributed questionnaire and concluded that the dimensions of the standards obtained were descending percentages and means as follows: physical facilities quality, planning and preparation quality, support and communication quality, human resources quality, e-learning training quality, instructional design quality, development quality, evaluation quality and, finally, economic quality in e-learning management.

Games and CSCL came after blended learning, with CAI being the most successful. However, it goes without saying that neither of these was extensively utilised outside of schools, nor was CAI looked for. The most successful grades were in primary and early childhood/kindergarten (87% better), followed by secondary/high (80%). The most successful

interventions were in English as a foreign language, followed by writing and STEM, thinking, arts and music, humanities, health and science, reading and maths, and foreign languages, in that order, even though science and maths were the most popular disciplines. In general, women outperformed men. Children classified as "low ability" and second language learners performed very well. Children with special needs and disabilities performed somewhat worse than disadvantaged children. Better results were strongly correlated with self-efficacy.

III. METHODS

A. Population and Sample of the Study

The study's population encompassed all BAU students enrolled for the academic year 2022–2023. A sum of 566 university students made up the study sample. The sample was randomly chosen. The students received the questionnaire through their emails. Table 1 shows the characteristics of sample members by gender, college, and educational attainment.

TABLE 1
THE STUDY SAMPLE MEMBERS ACCORDING TO GENDER, SCIENTIFIC FIELD, AND EDUCATIONAL LEVEL

Variable	Category	No.	Percentage
Sex	Female	326	47.6
	Male	240	42.4
	Total	566	100.0
College	Humanities	356	62.9
	Scientific	210	37.1
	Total	566	100.0
Educational Level	Fourth Year	68	12.0
	Third Year	111	19.6
	Second Year	243	42.9
	First Year	144	25.4
	Whole	566	100.0

B. Study Tool

To get input from the study's participants, the researchers created a questionnaire based on previous models. The questionnaire was divided into two sections: a sketch of the study sample participants (including gender, major, and educational attainment) was given in the opening portion of the report. The subsequent segment comprised of two ratings: a 20-item survey gauging students' contentment with virtual education, and another 12 items assessing the overall quality of virtual education, divided into two categories: a six-item assessment of virtual education's content quality and another six-item assessment of its form quality.

(a). The Validity of the Study Tool

To ensure the validity of the tool, it was given to six reviewers who possess an expertise in evaluating the level of clarity and integrity of the linguistic formulation of the items, and their applicability in assessing the goals for which they were created. The reviewers also had the ability to add, edit, remove, or modify any questions they felt were inaccurate. The questionnaire's components were altered by consensus after the reviewers' suggestions were taken into consideration. After the changes were made, the questionnaire was eventually created in its final version.

(b). Stability of the Study Tool

A pilot sample of 26 students from the study population, outside the real sample, was chosen so as to ensure the consistency of the study tool's signals. The scales were subjected to the tool stability test (Cronbach's alpha), as indicated in Table 2.

TABLE 2
CRONBACH'S ALPHA COEFFICIENTS AND STUDY SCALE REPLICABILITY

Domain	Number of Items	Cronbach's Coefficient	Alpha	Repetition Stability
The quality of e-content learning at this level	6	0.87		0.86
The formal nature of virtual education	6	0.86		0.88
the general standard of form and content for online learning	12	0.89		0.86
Student satisfaction with online learning on a scale	20	0.86		0.85

Table 2 demonstrates that every Cronbach's alpha coefficient and recurrence matches the goals of the investigation, considering that the Cronbach's alpha dependability coefficient was greater than 0.78.

C. Statistical Analysis

Likert scale, which has the following ratings: The study sample members (5) were asked to rate their opinions using the following scale: strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (1) on the study. The study's questions were approached using the following statistical methods: The study sample participants' replies were

analysed using SPSS to determine the frequency and percentage of the variables, as well as the means and standard deviations of the responses for each location and set of metrics.

IV. RESULTS AND DISCUSSION

This section presents and discusses the study's findings. Its purpose is to gauge how satisfied students were with the general calibre of the e-learning experience. The study's conclusions are based on the following questions:

A. *The Form and Content Quality of Online Learning*

The averages and standard deviations of the form and content-related items measuring students' satisfaction with the quality of the e-learning were computed to appropriately respond to the first research question, which asks, "To what extent are students studying social studies satisfied with the general quality of the e-learning process?" Table 3 displays the results of this calculation.

TABLE 3
CONTENTMENT WITH THE CALIBRE OF E-LEARNING

No.	Degree of contentment with the e-learning quality	SMA	Stand. Devi.	Rank
1	Regarding substance, form and figures	2	0.78	3.60
2	Overall quality of e-learning	1	0.88	3.66
	Degree of contentment with the e-learning quality		0.84	3.65

Table 3 demonstrates that people were satisfied with the quality of e-learning to a medium degree (3.64), with the item "in terms of shape and figure" reaching a high degree (3.68). Table 4 demonstrates the means and standard deviations of the items that evaluate students' satisfaction with the e-learning programme in terms of structure and content.

TABLE 4
THE QUALITY OF E-LEARNING: CONTENT (N = 566)

Item	SMA	SD	Rank
The component's information makes sense.	3.70	1.12	2
The component's content meets strict linguistic standards.	3.54	1.09	5
The level of expertise is comparable to that of the academy.	3.68	1.11	1
The data was methodically arranged into a framework or grading scheme that promotes learning.	3.44	1.10	6
Instructional tactics consider the way in which students interact with the subject matter.	3.68	1.05	3
The stated objectives of the course and learning product can be achieved using the full course content that e-learning offers.	3.66	1.01	3
Total	3.58	0.88	

Table 4 shows that students' average satisfaction levels with the e-learning "content" quality ranged from 3.44 to 3.72. The highest rating was given to item (3), which states that "the content of the component meets the age stage of the students." Then item 1, which states, "The content of the component is logically adequate," came with a high degree of average. Item 5, "Instructional actions echo the interaction between the student and the content," has a high degree of overall average (3.68), and item 6, which states, "E-learning provides the course with all-inclusive content that is adequate to attain the stated objectives of the course and learning products," has an overall average of (3.66).

Item number 4, which states, "The content was reasonably arranged into a framework or grade that simplifies learning," came with the lowest score, which had a mean score of 3.44 with a medium rating. Moreover, the average score for "content" was 3.58 overall, indicating a medium degree. This finding emphasises that, in terms of resources and electronic modules, e-learning provides relevant, high-quality content that is on par with traditional education. Additionally, the knowledge aligns with the students' learning style, improving their academic performance.

These remarkable figures demonstrate Al-Balqa Applied University's commitment to collaborating with gifted educators who consistently provide state-of-the-art education to enhance the virtual learning environment. This result is consistent with the research conducted by Malkawi et al. (2023), who emphasised the quality of the online system, social connections, leanness of online courses, and diversity of assessments, in addition to showing favourable effects on student satisfaction. This outcome agrees with that of Ali et al. (2019), who found that all e-learning domains—with the exception of a few group SMS messages—have a positive correlation with student satisfaction.

B. *The Quality of E-Learning Relating to Form*

Table 5 presents the learning quality in terms of form.

TABLE 5
THE QUALITY OF E-LEARNING: FORM (N = 566)

No.	Item	SMA	SD	Rank
1	It illustrates the colour differences between the instructional object's figure and background.	3.58	1.01	5
2	The e-learning tasks and instructional strategies match the goals of the course.	3.71	1.01	3
3	The formats and images utilised are superb.	3.76	0.95	1
4	There are enough reasons in the course's instructional design to persuade students to concentrate on studying the subject matter.	3.72	1.01	2
5	The information is presented in accordance with the goals of the content.	3.71	1.01	3
6	The many colours and patterns of the material enhance learning.	3.54	1.08	6
	The overall form.	3.68	0.87	

As indicated in Table 5, the average of students' satisfaction with the quality of e-learning varied from 3.55 to 3.77. The items with the highest scores were: item no. (3) "The graphics and visual forms used are flawless," with a high degree; item no. (4), which states that "The course instructional design contains satisfactory explanations that aid students to focus their efforts in studying the course," with a high average score of 3.72%; items (2) "E-learning incorporates teaching and learning methodologies and teaching activities that are relevant to the course objectives" and item (5) "The information is given along the lines of the content," both of which had a mean score of 3.71 at a high degree.

Regarding "form," students' average satisfaction scores with the calibre of e-learning varied from 3.55 to 3.77. Item 2, which states that "E-learning combines teaching and learning approaches and teaching activities that are relevant to the course objectives," had a high degree. Item number 5, which states that "The information is presented along the lines of the content," had a mean of (3.54) and a medium degree. As seen, a high degree of 3.68 was the average for the "form" as a whole. This explains why students communicate with their lecturers via text messages, emails, the internet, and other gadgets. Nearly every student can readily access classes and acquire the content because of the BAU's straightforward structure.

At an average of 3.68, the "shape" as a whole came high. This explains why students communicate with their teachers on a frequent basis through email, text messages, electronic devices, and the internet. Due to the university's simple approach, almost any student can access lessons and receive resources with ease. The university improves cooperative learning settings, where students can engage (in ways that are appropriate for the curriculum's presentation) with classmates and teachers. As a result, learning happens more quickly, and demands less time and effort from both teachers and students. Students' motivation to utilise e-learning is increased when appropriate images, forms, and colours are used. This finding is consistent with study by Al-Qurashi (2019), which demonstrates how teachers employ strategies to boost self-efficacy, teacher-student relationships, and student engagement with the material during online instruction.

C. Learners' Contentment With the Calibre of Online Education

The mean and standard deviations for every aspect of students' overall satisfaction with the calibre of e-learning have been calculated, as illustrated in Table 6.

TABLE 6
STUDENTS' SATISFACTION WITH E-LEARNING (N = 566)

No.	Item	SMA	SD	Rank
16	Task completion times are shortened in part by the remote education system.	4.01	0.71	1
11	Anytime I choose, I can use online learning to further my education.	3.89	0.70	2
12	I find that using online learning to further my education is not too difficult.	3.84	0.67	3
1	My online learning experience has pleased me.	3.51	1.03	4
17	I sense that people in charge of the electronic training are paying constant attention to me.	3.25	1.09	5
2	Students have access to a multitude of materials through online learning that enhance the scientific content.	3.25	1.12	6
19	I have an impartial way to assess the professors, thanks to the distant learning programme.	3.25	0.81	7
14	I am capable of using online education to complete my tasks and homework.	3.21	0.78	8
18	I am capable of using the fundamentals of online learning resources.	3.16	0.83	9
15	The different ways that distant education offers make it easier to give students the knowledge they need.	3.06	1.24	10
9	I am able to manage my time effectively.	3.06	1.08	11
3	My academic performance improves when I use e-learning.	3.04	1.12	12
5	Online learning resources have been helpful to me while I've been studying.	3.02	1.18	13
8	I'm encouraged to take part in all activities using online learning.	2.95	1.23	14
10	My educational demands are taken into consideration with distance learning.	2.93	1.23	15
13	My ability to learn is improved by the consistency of online instruction.	2.93	1.15	15
4	The efficiency of education is increased by my use of online learning.	2.82	1.09	17
6	I have observed that when students use an online learning programme, their educational attainment increases.	2.5	1.19	18
7	Every student is subjected to fair assessment procedures throughout their courses.	2.75	1.15	18
20	The method of distance education fosters an attitude of initiative and inventiveness.	2.50	1.05	20
	Students' general satisfaction with remote learning services.	3.16	0.36	

The average student satisfaction scores with e-learning materials are shown in Table 6, with scores ranging from 2.50 to 4.02. Item 16, which states, "E-learning systems contribute to shortening a lot of time to accomplish tasks", scored a high degree average of 4.01, and obtained the highest score. Item 11, which states that "I can use e-learning in education at any time I want" followed with a high degree average of 3.89. Then the item which states that "The e-learning system helps to promote the spirit of invention and initiative" came with the lowest average and medium degree. Students' overall satisfaction with e-learning resources was rated as medium. These findings support the claim made by Ali et al. (2018) that self-efficacy and e-learning material have a favourable impact and are positively connected with students' general happiness and the purported benefits of e-learning, which influences university students' willingness to use e-learning. Since students are the cornerstone of education, it is the responsibility of those overseeing e-learning to give them the best resources and guarantee their satisfaction. Administrators are under pressure to provide services that pique students' interest in e-learning and capture their attention.

V. CONCLUSIONS AND RECOMMENDATIONS

This study aimed to determine the extent of university students' satisfaction with the quality of e-learning. The results of this study show that, although overall learning quality was at a high level in terms of form, and in terms of content, it came at a medium level. Students' contentment with the quality of e-services was found to be moderately high. The aforementioned results can be ascribed to the distinct experience, the prompt adoption of e-learning systems by the educational establishments, and the training programmes they offer to their staff, instructors, and students.

To provide students with educational experiences that required the least amount of time, money, or effort, teachers were also expected to create educational software. The present study contributes to the body of literature by developing a scale to gauge students' satisfaction with e-learning and the calibre of instructional software for use in future research. These results can be linked to the outstanding experience, the quick adoption of e-learning platforms by the educational institutions, and the staff development programmes for teachers, staff members, and students. To offer students learning opportunities while requiring the least amount of time, effort, and cost, teachers needed to build instructional software. By developing a particular scale to gauge students' satisfaction with educational software standards and e-learning, the study adds to the body of information. The study's conclusions state that to promote learning, lecturers should arrange their material logically, include students in the online session, and consider their input.

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