



ASSESSING THE E-LEARNERS SATISFACTION AMID THE COVID-19 PANDEMIC OF SAUDI ARABIA'S HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

Electronic learning commonly known as e-learning is an interactive learning method that involves the use of information and communication technology to create a learning experience with sufficient freedom. E-learning has gained significant attention in education sectors around the world during the COVID-19 pandemic since it provides several benefits to learners including flexible learning facilities, distance learning opportunities, consistency in learning, time-saving, tracking capabilities, minimal cost facilities, quick response, interactive learning facilities, etc. From this point of view, this study assessed the e-learners' satisfaction amid the COVID-19 pandemic in Saudi Arabian higher education institutions. The study was conducted using mixed methods, including quantitative and qualitative approaches. The findings of the study demonstrated that higher education institutions in Saudi Arabia were well-prepared to ensure quality education for e-learners during the pandemic. In particular, it was found that the majority of students in higher education in Saudi Arabia were very pleased with the e-learning classroom facilities, teacher contact, accessibility, assessment, course content, course design, and course activities. Conversely, the findings of the study reveal several existing challenges of e-learning in higher education institutions, including high internet costs, technological issues, time management issues, less motivation to access e-classrooms, the quality of online classes, etc. Therefore, this paper recommends that to address the issues that might influence to e-learners' satisfaction of e-learning in higher education institutions in Saudi Arabia, concerned authorities should provide special attention to ensure technological development, professional development, communication development, and updated policies and standards.



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1. INTRODUCTION

SARS-CoV-2 is a disease-causing virus, known as COVID-19 that causes human respiratory sickness (Casella et al., 2020). The sudden outbreak of COVID-

19 has imposed a severe impact on health (Desta et al., 2021), economics (Shang et al., 2021), society (Alghamdi, 2021), trade & commerce (Barbero et al., 2021), education (Pokhrel & Chhetri, 2021), administration, and all aspects of human existence. In particular, the world's education system has drastically

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collapsed due to the unprecedented attack of the novel coronavirus. Approximately 1.2 billion children have been deprived of educational facilities during the COVID-19 pandemic (Farah & Li, 2020). In this regard, electronic learning (e-learning) has been playing a significant role in sustaining the education system. Electronic learning, often known as online learning or the digital learning process, is the deliberate use of information and communication technologies to facilitate the learning process (Chitra & Raj, 2018). In Saudi Arabia, to ensure the safety and security of students during the COVID-19 epidemic, more than six million students in public schools and colleges used electronic learning facilities (Dratcott, 2020). In particular, e-learning provides distance learning facilities, flexible learning processes, consistency in learning, time-saving, tracking capabilities, minimum cost, quick response, interactive learning processes, quick learning conveniences, etc. to the learners (Bezhovski & Poorani, 2016). Despite the fact that e-learning provides learners with a number of benefits, it has been discovered that the e-learning systems in Saudi Arabia continue to struggle with providing quality information, quality e-learning services, a stable internet connection, technical skills, and adaptation to the e-learning environment. Aljaber (2018) explains that the major issues behind the implementation of quality e-learning in Saudi Arabia are mental readiness; lack of IT skills; poor information quality; inadequate infrastructure; lack of technical resources; lack of experience; high cost; limited internet connections; management difficulties; lack of interest; behavioral challenges, etc. (Aljaber, 2018). In this context, the study looked at the quality of e-learning, how satisfied the e-learners are, and the biggest problems with e-learning systems in Saudi Arabia's higher education institutions during the COVID-19 pandemic.

2. THE OBJECTIVES OF THE STUDY

The main goal of this study is to find out how satisfied e-learners are in higher education institutions in Saudi Arabia during the COVID-19 pandemic.

- 1) To discover the quality of the e-learning system that effects e-learners' satisfaction of higher education institutions in Saudi Arabia during the COVID-19 pandemic.
- 2) To identify what the problems of e-learners' satisfaction towards e-learning in higher education institutions in Saudi Arabia during the COVID-19 pandemic.
- 3) To recommend strategies to overcome the challenges of e-learning amid the pandemic in Saudi Arabia.

3. LITERATURE REVIEW

E-learning is a kind of education that makes use of electronic communication networks to facilitate communication, information sharing, and interaction between learners and teachers (Bermejo, 2005). Since

March 2020, higher education in Saudi Arabia has been totally transformed into remote education whereas this transition to distant education required swift and targeted interventions (Al Soub et al., 2021). The implementation of e-learning in education, particularly for higher educational institutions, offers various advantages whereas e-capacity developed among the learners with a view to concentrating on the study requirements (Arkorful & Abaidoo, 2014). Moreover, the execution of e-learning offers institutions and their students or learners more flexibility about the time and location of the delivery of learning-related information (Smedley, 2010).

A group of scholars conducted a study on the importance of distance learning, i.e., the digitalization of learning, during the COVID-19 pandemic in Saudi Arabia. Initially, the authors describe the impact of COVID-19 around the world; especially, articulate that due to the pandemic, most of the countries around the world have been infected directly or indirectly. The education sector is drastically affected by the novel coronavirus throughout the world, where most countries have decided to close their educational institutions. As a result, to sustain the education system from the disaster, the digitalization of education around the world has already gained significant attention. Therefore, the authors especially explored the effectiveness of distance learning on Saudi Arabian undergraduate students during the pandemic. However, the study was conducted based on the quantitative method whereas the findings of the study demonstrate that common technologies were used to provide distance learning to the Saudi Arabian students. Similarly, the findings illustrate that poor internet connections and inadequate interaction were identified as the major challenges of distance learning. In particular, it was found that despite the major challenges of distance learning, 63 percent of students were happy with learning management systems, whereas 75 percent of students found course materials simple to comprehend. In spite of this, the authors contemplate that the results might inspire educational institutions to digitize their educational resources in the future. However, the authors did not provide any comprehensive solution in addressing the issues of e-learning amid the pandemic in Saudi Arabia (Alsmadi et al., 2021). Another group of researchers explore a study on the prevailing status of harmonized online learning amid the pandemic in Saudi Arabia. Predominantly, the authors argue that the sudden outbreak of the COVID-19 pandemic has forced educational institutions to take digital learning away from traditional learning, whereas learners did get the facilities of distance learning during the heavy lockdown in Saudi Arabia. In particular, the authors explored the perceptions of medical students in terms of assessing the effectiveness of online learning during the pandemic, whereas the authors accompanied this study by following a qualitative approach. The findings of the study demonstrate the standing perception of undergraduate medical students through assessing the educational

impact, time management, challenges, and future preferences of online learning in Saudi Arabia. Moreover, the authors illustrate that students' perceptions were affirmative in terms of taking online learning. As well, most of the respondents articulate that despite the technical and behavioral challenges, online learning was effective in improving the performance of the students during the COVID-19 pandemic in Saudi Arabia. In a similar way, the authors say that since most students prefer online learning for the next school year, there should be more regular monitoring of online learning. However, it is not possible to generalize the results of this research since it was done at a single medical school (Khalil et al., 2020). Similarly, another study exemplify the prospects and challenges of e-learning in Saudi Arabia and Bangladesh during the COVID-19 pandemic from the teachers' point of view. Predominantly the study illustrate the teachers' experience in terms of implementing e-learning in higher education amid the pandemic. The study was conducted based on a qualitative approach, whereas the findings of the study demonstrate the complexity and challenges of educational institutions in terms of carrying out e-learning during the pandemic. In the same way, the study's results show micro-and macro-level acceptability, hostility, and debates about online classroom practices. Conversely, the study provide several recommendations for overcoming the challenges of e-learning in both Bangladesh and Saudi Arabia amid the pandemic. Indeed, the findings of the study validate that e-learning can play a substantial role in the time of disaster in continuing educational activities. Therefore, the study recommends that that e-learning should be made in a way that is open to everyone, appropriate, and well-organized (Islam et al., 2021). In addition, Alkabaa (2022) directed a study on assessing the effectiveness of the e-learning system amid the COVID-19 pandemic in Saudi Arabia. The author principally explores the proficiencies and insights of using Blackboard as an online learning platform. However, the study was conducted by following a survey method where the findings of the study demonstrate the different perceptions of undergraduate engineering students, especially males and females, in terms of using Blackboard as an online learning platform. In addition, the results indicate that engineering disciplines have diverse perspectives on the utilization of virtual learning. The author, however, argues that the findings of the study can help decision-makers as well as educational institutions to improve the quality of electronic learning in Saudi Arabia (Alkabaa, 2022). Correspondingly, Alqabbani et al. (2020) focused a cross-sectional study to assess the readiness of university instructors in terms of providing distance learning during the COVID-19 pandemic. In this regard, the authors investigate the relationship between perceived efficacy, satisfaction, anxiety, and attitudes among university teachers. However, the study was conducted based on the quantitative approach where the findings revealed that mentors' readiness was high in terms of providing distance learning facilities, whereas

18.5% of respondents had positive attitudes, 79.6% were highly satisfied, and 38.7% of respondents' had no anxiety. As well, it was observed that the preparedness to change to emergency distance learning instruction and perceived efficacy, attitudes, and satisfaction have had a positive and substantial link (Alqabbani et al., 2020). Moreover, Turnbull et al. (2021) explore a study on assessing higher education institutions' capacity in terms of addressing the challenges of e-learning during the pandemic. In this study, the authors predominantly illustrate the major contribution of e-learning amid the pandemic, the challenges of e-learning, and possible solutions to address the challenges of e-learning. In particular, the study found that amid the COVID-19 pandemic, educational technology played a significant part in the move from face-to-face to online teaching and learning. However, the study was conducted based on the secondary data analysis where the findings revealed that during the pandemic, asynchronous learning tool integration, access to technology, respondents' online competency, academic dishonesty, and privacy and confidentiality were the key issues in e-learning. Therefore, the authors suggest that training opportunities, blended learning promotion, and increasing awareness of learners can address the major challenges of e-learning during the pandemic (Turnbull et al., 2021). Conversely, Bessadok (2022) conducted a study on assessing the perceptions and aspirations of learners in terms of using e-learning during the pandemic period. The author followed the structural equation model to explore the student's aspirations for e-learning in Saudi Arabia. In this context, the author argues that the value of e-learning in most educational institutions is very significant amid the pandemic, and this is significantly dependent on the learners' satisfaction. However, the study was directed by following a quantitative method, whereas the findings of the study disclose that there is a close affiliation between the aspiration factors and adoption factors in terms of adopting e-learning by learners at higher education institutions in Saudi Arabia. In this case, the author said that higher education institutions should pay special attention to evaluating the motivation, expectations, and enjoyment factors of e-learning so that students can feel more confident about it (Bessadok, 2022).

4. METHOD OF THE STUDY

The study was conducted using mixed methods, including quantitative and qualitative methods. In this regard, quantitative data has been collected from the National eLearning Center (NELC) and Online Learning Consortium (QLC) survey in Saudi Arabia. A systematic literature review has been conducted to gather qualitative data as well. In particular, the qualitative data utilized in this study was derived from secondary sources about the deployment of e-learning in Saudi Arabia. Also, secondary data has been collected from books, research articles, organization reports, seminar papers, theses, newspapers, websites, etc. to discover how satisfied

learners are with e-learning at higher education institutions in Saudi Arabia.

5. FINDINGS & DISCUSSION OF THE STUDY

5.1 The Adoption of E-learning in Higher Education in Saudi Arabia

In a recent study, it was found that during the COVID-19 pandemic, the higher educational institutions in Saudi Arabia decided to ensure e-learning facilities for students. In this regard, based on the survey of 24 higher

educational institutions, it was found that learners' self-skills and perceived trustworthiness had substantial affirmative possessions on behavioral intention to adopt e-learning (Alammary et al., 2021).

5.2 Student Perceptions of E-Learning Infrastructure in Saudi Arabia

According to a recent poll conducted by NLEC and OLC (2021), the majority of students in higher education in Saudi Arabia were very pleased with the country's e-learning infrastructure (figure 1).

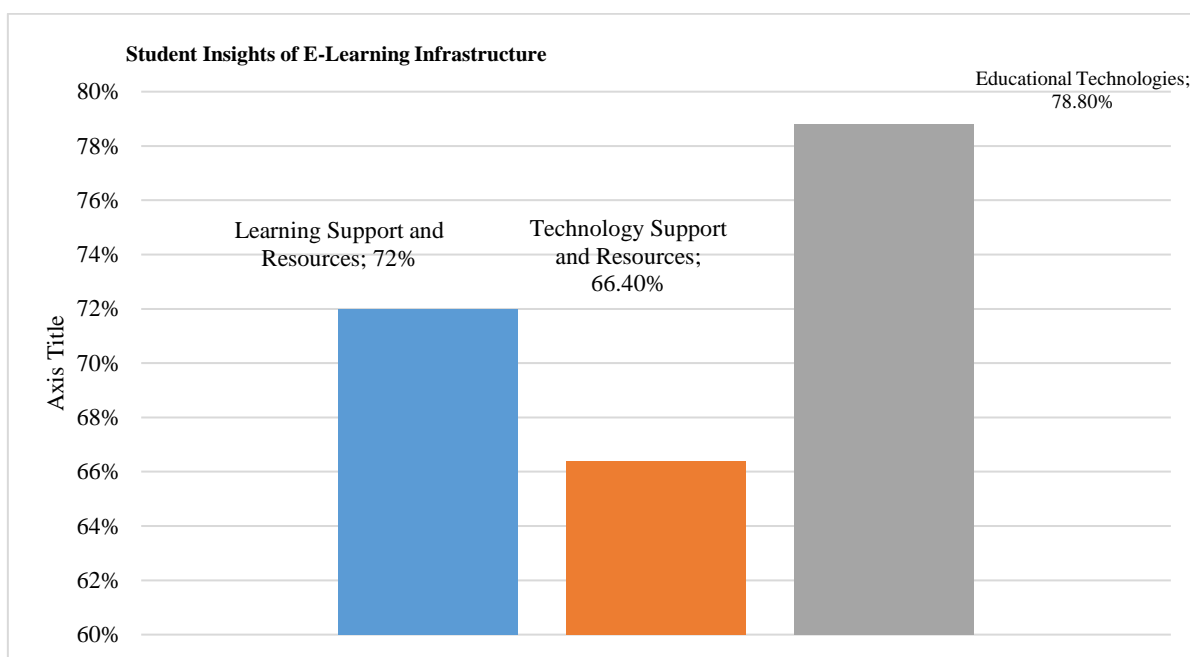


Figure 1. Student Insights of E-Learning Infrastructure (Mathes et al., 2021)

During the first wave of the COVID-19 pandemic, based on the survey of 78.80%, 66.40%, and 72% of learners stated respectively that higher education institutions in Saudi Arabia ensured the application of educational technology in courses, technical assistance, and learning support & resources during e-learning (Mathes et al., 2021).

5.3 Instructional Efficiency and Strong Assistance

According to the report of NELC, it was found that since the higher educational institutions in Saudi Arabia delivered strong support and an effective e-learning environment, most of the learners signposted high levels of satisfaction in e-learning during the pandemic. In this

context, faculty expressed high levels of satisfaction with instructional efficacy, especially in terms of using technology and student contact. In addition, it was noticed that higher education institutions in Saudi Arabia were well-prepared for superior online education prior to the outbreak of the COVID-19 pandemic. Consequently, following the emerging pandemic, these higher education institutions played a significant role in preserving excellent education for e-learners, while learners feel encouraged (Mathes et al., 2021) (figure 2).

5.4 Learners' Gratification with E-Classroom Experience

Correspondingly, the survey of NLEC and OLC (2021), demonstrated the learners' satisfaction with online classroom experience during the COVID-19 pandemic.

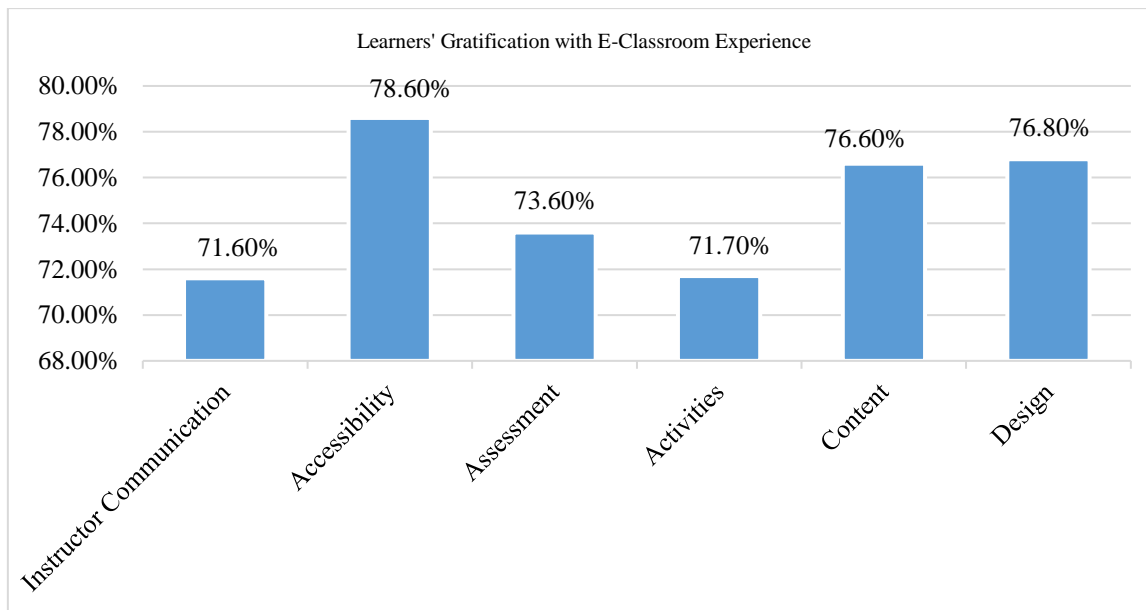


Figure 2. Learners' Gratification with E-Classroom Experience (Mathes et al., 2021)

In terms of evaluating students' e-classroom experiences, the NLEC and OLC research shows that the majority of students were happy with the e-learning classroom facilities i.e 71.6 percent with teacher contact, 78.6 percent with accessibility, 73.6 percent with assessment, and 76.6 percent with course content, 76.8 percent with course design and 71.7 percent with course activities.

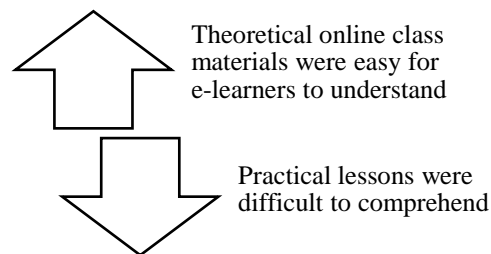


Figure 3. Perception of Class Materials (Alsmadi et al., 2021)

5.5 Perception of Class Materials

A recent study found that higher education institutions in Saudi Arabia used e-learning to offer safe online class materials that were easy for e-learners to understand during the pandemic. On the other hand, participants in the online class said that practical lessons were difficult to comprehend (figure 3).

In particular, the findings of the study of Alsmadi et al. (2021) demonstrated that 63 percent of students (physics and mathematics' students) were happy with e-learning management systems, 75 percent of students found course materials simple to comprehend, and 67 percent of students considered assignments easy to understand and could handle them easily (Alsmadi et al., 2021) (figure 4, figure 5).

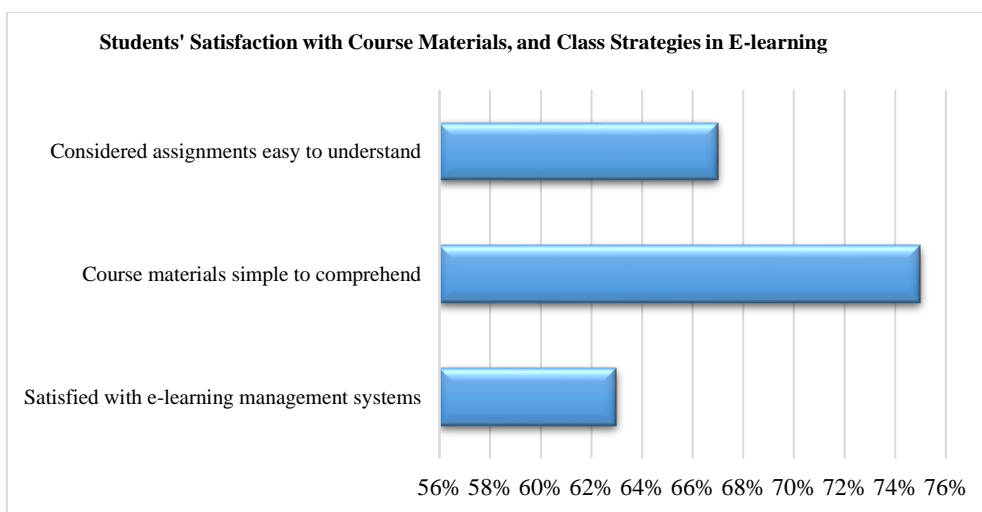


Figure 4. Students' Satisfaction with E-learning during Pandemic in Saudi Arabia (Alsmadi et al., 2021)

5.6 Stakeholders' Level of Satisfaction and Development

According to the study of ICDE (International Council for Open and Distance Education), SADE (Swedish Association for Distance Education), and IITE (Institute

for Information Technologies in Education), it was found that during the COVID-19 pandemic in Saudi Arabia, students, faculty, and administrators' satisfaction rate with e-learning was about 70%. The main reason behind this satisfaction was the availability of educational technologies and its proper utilization .

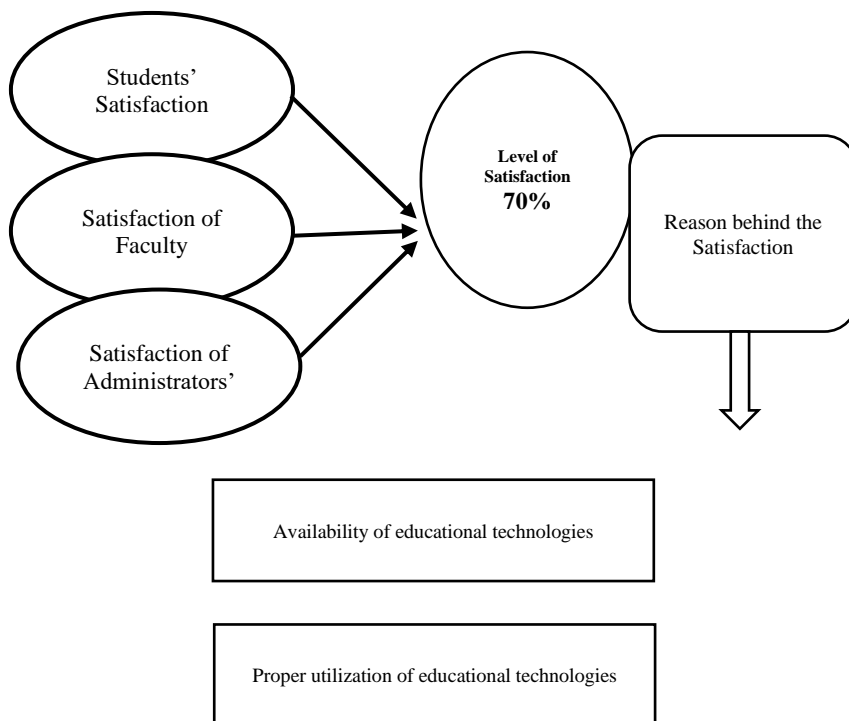


Figure 5. Level of Satisfaction and Development (Mathes et al., 2021)

5.7 Overall Satisfaction of Learners in E-learning amid the Pandemic

Correspondingly, the NELC evaluation framework for online learning further demonstrated the overall satisfaction of e-learners during the pandemic in Saudi Arabia under two phases (figure 6).

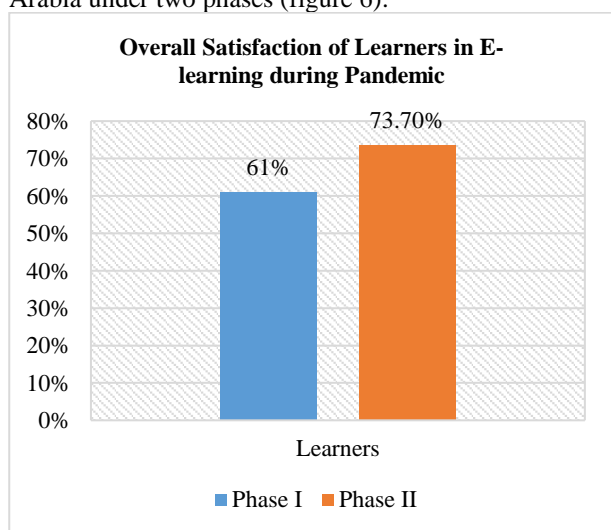


Figure 6. Overall Satisfaction rate of learners in e-learning amid pandemic in Saudi Arabia (Mathes et al., 2021)

Based on the survey of ICDE, SADE, and IITE, it was found that in the first phase, the overall satisfaction rate of learners in e-learning was 61%, whereas in the second phase, the overall satisfaction rate of learners was revealed about 73.70%. The statistics show that learners' satisfaction rate in e-learning increased by around 12% from the first phase to the second phase in higher education institutions in Saudi Arabia (Mathes et al., 2021).

5.8 Mainstream Satisfaction and Future Online Teaching and Learning Interest

The National e-Learning Center's (NELC) explored the several dimensions (i.e Educational technologies; Technology or technical support and resources; Learning support and resources; Instructional support; Design; Assessment of Learning; Accessibility of Learning; Interactivity, Communication, and Collaboration) regarding assessing the e-learning satisfaction in higher education during the COVID-19 pandemic in the Kingdom of Saudi Arabia (table 1). In this regard, it was found that each stakeholder group (students, faculty, and administrators) expressed mainstream satisfaction across all mentioned dimensions of the NELC evaluation framework for e-learning in Saudi Arabian higher education institutions.

Table 1. Several Dimensions regarding Assessing the E-Learning Satisfaction in Higher Education (Mathes et al., 2021)

Educational technologies
Technology or technical support and resources
Learning support and resources
Instructional support
Design
Assessment of Learning
Accessibility of Learning
Interactivity, Communication, and Collaboration

In the same way, it was found that moving to an online setting during COVID-19 enhanced digital literacy abilities for all stakeholders (students, faculty, and administrators), and the majority of each stakeholder group showed interest in future opportunities to teach and learn online (Mathes et al., 2021).

Although the above discussion indicates that learners, faculty, and administrators were generally pleased with their institutions' quick transition to online learning in response to the global COVID-19 pandemic and the overall quality of their e-learning programs in Saudi Arabia, numerous challenges still exist in terms of providing e-learning in higher education institution in Saudi Arabia (Mathes et al., 2021).

5.9 Internet Issues

A recent study demonstrated that in Saudi Arabia during the COVID-19 pandemic, e-learning had been interrupted. In particular, due to poor internet connection, fully online lessons were sometimes halted as well as students had to continually sign into the online class until its conclusion. In addition, despite online classes providing students with immediate responses the majority of the time, sometimes pupils cannot articulate the questions provided by the institutions (figure 7).

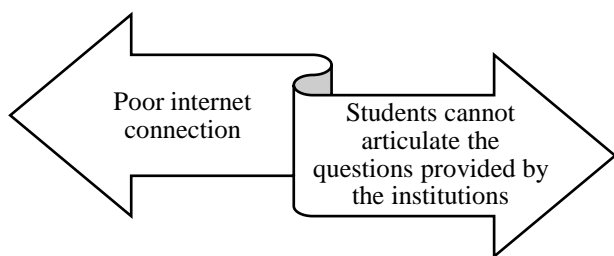


Figure 7. Existing issues of e-learning at higher education in Saudi Arabia (Alsmadi et al., 2021)

5.10 Learners' Challenges of E-learning in Higher Education in Saudi Arabia

The NELC and OLC demonstrated the several existing challenges of e-learning in higher education in Saudi Arabia on the basis of their survey. These institutions argue that in terms of taking e-learning during the pandemic, learners are still facing high internet cost, technological issues, time management issues, less motivation to access e-classroom, and issues regarding the quality of online classes (figure 8).

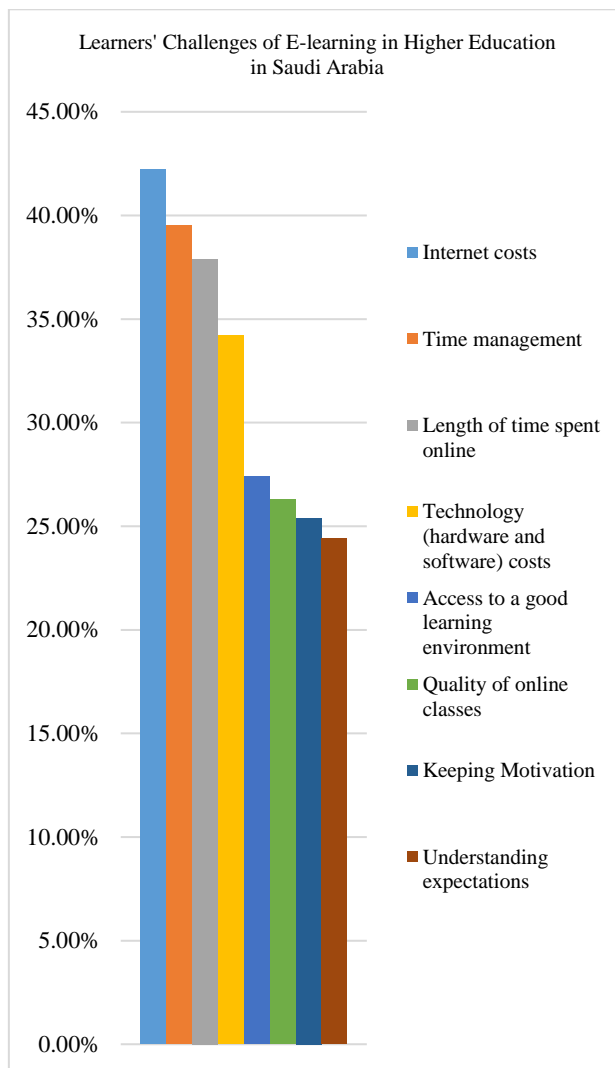


Figure 8. Learners' Challenges of E-learning in Higher Education in Saudi Arabia (Mathes et al., 2021)

5.11 Higher Education Institutions' Challenges in terms of Providing of E-learning in Saudi Arabia

The NELC and OLC (2021) also highlighted that higher education institutions in Saudi Arabia have several hurdles in offering e-education (figure 9).

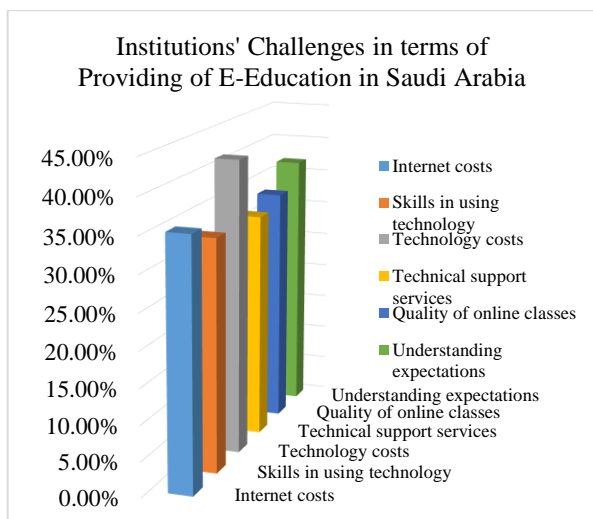


Figure 9. Institutions' Challenges in terms of Providing of E-Education in Saudi Arabia (Mathes et al., 2021).

In terms of offering e-education, NELC and OLC point out that institutions confront similar obstacles as learners, such as high technological costs, internet costs, quality concerns, insufficient technological skills of administrators and employees, limited technical support services, and so on (Mathes et al., 2021).

6. CONCLUSION AND RECOMMENDATIONS

Since the sudden outbreak of COVID-19 grew globally and disrupted practically every governmental sector and institution including health, education, economy, communication, trade & commerce in 2020, the Kingdom of Saudi Arabia swiftly migrated its higher education programs and services online. In this context, e-learning is now playing an enormous role in maintaining higher education via the passionate participation of students. In particular, students and teachers are now collaborating with each other to enhance teaching and learning by acquiring new knowledge, skills, and competencies. This study assessed the e-learners' satisfaction in higher education amid the pandemic in Saudi Arabia whereas the findings of the study significantly demonstrate the e-learning infrastructure, institutional efficiency, learners' level of satisfaction and existing challenges. In addition, the study validates that although there are several challenges still exist in the e-learning process in higher education, the majority of the learners were very pleased with the e-learning classroom facilities, teacher contact, accessibility, assessment, course content, course design, and course activities. However, to address the existing challenges and ensure the quality of e-learning in Saudi Arabia, the following series of recommendations will draw the potential attention of the concerned authorities

as well as accumulate necessary resources for future strategic planning.

- Since the satisfaction with online learning in higher education is very high in Saudi Arabia, the technical infrastructure that facilitates inexpensive and pervasive Internet connections should be improved.
- Students, teachers, and institutions should be given e-learning equipment including computers, low-cost internet, broadband connections, and required apps for e-learning.
- In order to help students, the human infrastructure of institutions should be improved so that students have easy access to technology to participate in e-learning. These tools might include an online learning preparation intervention that prepares learners not just for utilizing technology, but also for non-cognitive activities that will help them learn how to learn.
- Institutions and teachers could learn how to strategically plan course materials by employing more autonomous tasks rather than relying on the convenience of real-time interactions to reduce the number of times students squander time on e-learning.
- Institutions and teachers might provide active learning assessment methodologies as well as strategies to provide more genuine kinds of evaluation that are linked to professions and the workforce. This process will bring innovation to the traditional assessment method.
- Institutions and teachers could ensure modern and innovative strategies to eliminate e-learning obstacles, such as providing clear communication and making the online learning experience more student-friendly.
- For successful e-learning and blended learning, institutions and teachers could implement quality indicators such as the arrangement of frequent training for instructors, workshops, iterative course development activities, etc.
- The concerned authorities in Saudi Arabia should evaluate the legislative, regulatory, and quality standards framework of e-learning for higher education in response to an unprecedented worldwide pandemic and to construct a post-pandemic global reality. In this context, such initiatives will enable the authority to test and incorporate innovative technologies, pedagogies, and evaluation methodologies to maintain its leadership position on the world stage of e-learning.
- Required regulations and standards should be changed, amended, and updated to support the continued success and growth of online learning throughout higher education in Saudi Arabia. In terms of offering e-education, such continuous evaluations and updates would enhance the quality of e-learning.

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