Research Article

E-Learning in the Context of English Language Teaching and Learning: An Exploratory Sequential Mixed Methods Approach

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ARTICLE INFO	ABSTRACT
	With the strike of the COVID-19 pandemic, e-learning became the only available option for higher education institutions around the world. In Iran, universities used various platforms. For example, the Islamic Azad University started utilizing an exclusive platform (Vadana) and Payame Noor University used Adobe Connect. However, some challenges and problems were reported by the educators and students using these platforms, somehow due to a lack of preparation and premeditation. This study focused on the problems and challenges in contrast to the opportunities and solutions associated with e-learning among university educators and students through a mixed-methods approach. On the quantitative side, two questionnaires were created and distributed among undergraduate TEFL students. In total, 216 responses were received. The findings revealed that the participants were mostly in agreement with the statements mentioned in both questionnaires. Later, using Confirmatory Factor Analysis, both questionnaires were validated. In addition, semi-structured interviews were conducted with 7 faculty members. Data saturation was reached after 5 interviews. The interview texts were then transcribed, and the findings were qualitatively presented and discussed. Based on the findings, the challenges and problems of e-learning encompassed technical issues, physical and mental concerns, additional burdens, assessments, proper training, IT literacy, and issues related to pedagogy. On the other hand, e-learning yielded benefits such as enhancements in communication, interaction, teaching, and learning, along with increased accessibility, convenience, productivity, and safety. The findings might be of value to students, educators, policymakers, and administrations involved in the delivery of online English language teaching in Iran.

Introduction

Electronic Learning (e-learning) has recently gained significance among researchers worldwide (Holmes & Gardner, 2006). With the strike of the pandemic, several researchers have focused on different aspects of e-learning. Some examples are the platforms used to deliver e-learning (Al-Maroof et al., 2021; Zou et al., 2020), as well as the problems, challenges, and opportunities of e-learning (Mahyoob, 2020). Accordingly, Iranian researchers have conducted similar studies on different aspects of e-learning among students; however, these studies are highly oriented toward medical and nursing students (e.g., Afshari et al., 2020; Salmani et al., 2022). In fact, the literature lacks studies related to Iranian students and educators in the field of Teaching English as a Foreign Language (TEFL). In addition, the types of challenges, problems, and opportunities associated with the e-learning phenomenon and the solutions to mitigate such challenges and problems have not been widely investigated among Iranian TEFL students and educators. Hence, the present study aimed at looking into the challenges and problems vs. the opportunities and solutions associated with e-learning among Iranian students and educators of TEFL at undergraduate levels. There were a few studies conducted during or after the strike of the COVID-19 pandemic within the context of English language teaching in Iran with special reference to the problems, challenges, and benefits of e-learning. In this section, some of those studies are presented.

The recent improvements in technology have affected the field of English language teaching and learning like any other field of study. Since the COVID-19 pandemic resulted in the long-term closure of educational institutions around the world, alternative means of teaching and learning gained significance. Teaching on the phone was one of the most popular means of teaching during the pandemic, especially for language teaching, although it has been widely neglected in educational and language research. In line with this significance, Abdi and Mohesnpour's (2021) study focused on the lived experience of 16 adult English language learners who experienced learning English through one-to-one, audio call sessions during the COVID-19 pandemic. Due to the limitations caused by the pandemic, the researchers used semi-structured interviews on the phone to collect data. The interviews were recorded and transcribed. Adopting a phenomenological approach, Abdi and Mohesnpour (2021) used thematic analysis resulting in six themes, including: a) learning on the phone as a new, satisfying experience, b) the advantages of one-to-one audio sessions, and c) the disadvantages of one-to-one audio sessions, d) the participants' preferences, e) the requisites of on-the-phone-learning, and f) the expectations of on-the-phone teachers. Based on the findings of Abdi and Mohesnpour (2021), some recommendations to improve on-the-phone teaching were provided. These included covering the four language skills through developing individualized lesson plans based on the needs of the individual learners as well as their English language proficiency level. The other recommendation was to have group video sessions along with one-to-one audio sessions. The final recommendation was to utilize facilities such as messengers to send audio, video, and text to the learners based on the learning objectives and their needs.

The COVID-19 pandemic exerted a tremendous load of pressure on both students and educators, although these were not the only stakeholders involved in the process. There was no time to prepare, as the shift was sudden and drastic. Derakhshan's (2021) study investigated the language skills of Iranian EFL students during the pandemic. Adopting a qualitative descriptive methodology, data were triangulated through written open-ended questionnaires and semi-structured interviews. The data were representative of 170 B.A. students from different Iranian universities majoring in TEFL as well as English Literature. All participants were more than 18 years of age. Through a thematic analysis, the participants' responses were transcribed, coded, and interpreted. The results of Derakhshan's (2021) study revealed that along with the various disadvantages and challenges that Iranian EFL students experienced during the pandemic concerning learning English language skills, there were also some opportunities and advantages. Analyzing the participants' responses, Derakhshan (2021) also found that the speaking skill was the

most negatively influenced language skill, and listening skill was the most positively affected skill in the viewpoints of the students. In addition, the results revealed that most of the students held the educators as well as the administrators responsible for the challenges and problems they faced within the context of emergency distance education. Derakhshan (2021) also claimed that his findings could encourage administrators, educators, and students to prepare themselves for this type of education against the potential challenges and risks.

The COVID-19 pandemic also exerted several changes and challenges on the lives of individuals, their interactions, and their relationships. In addition, the mediums of teaching and learning were affected. It also helped the students and educators in learning how to adapt themselves to unpredicted circumstances within the educational contexts. The pandemic encouraged universities, schools, and higher education institutions to reconsider their policies in search of solutions to the surrounding challenges and problems. Aiming to contribute to the body of literature, Hassani (2021) investigated the impact of the COVID-19 pandemic on English language teacher education. This was to prompt English language teacher education programs and to support teacher educators, administrators, teachers, and policymakers. Through convenience sampling, 30 student teachers were selected as the participants. Data were collected through semi-structured interviews, focus group interviews, and student teachers' reflective journals. Grounded theory was utilized for data analysis. The results of Hassani's (2021) study revealed that there was a shift from anomaly to congruity and that the student teachers considered the pandemic an opportunity. The need for technology inclusion, development, and promotion in the educational contexts was highlighted as well. Hassani (2021) also highlighted the urgent need to train teachers and learners to utilize technology within the educational context to keep education running. It was also claimed that the teachers had to reconstruct their identities and turn to formative assessment.

The importance of providing English language instruction to frontline healthcare workers like doctors and researchers became extremely significant during the COVID-19 pandemic, especially in countries where English is not widely spoken. These individuals relied on critical information about the pandemic, which was mostly available in English through online scientific journal articles. In line with this significance, Mahmoudi-Dehaki et al. (2021) investigated the pedagogical impacts of using the two main User-Generated Content (UGC) platforms in E-learning, namely LMS vs. LXP, on the results of the Electronic Ministry of Health Language Examinations (E-MHLE) among Iranian learners of English for medical purposes across their digital-divide status during the COVID-19 pandemic. The data were collected through a set of online interviews to determine the underlying reasons behind the lowest scores among the participants and to find out possible suggestions and recommendations to succeed in high-stake E-tests. In doing so, 272 learners of English for medical purposes who were users of LMS and LXP were selected through convenient sampling. The participants were selected from a University of medical science. Adopting a sequential explanatory mixed-method approach, data were analyzed. Based on the descriptive and inferential statistics presented as the findings of Mahmoudi-Dehaki et al.'s (2021) study, the LXP group outperformed the LMS one in the results of EMHLE. In addition, the digital natives obtained higher scores than the digital immigrants in both groups but the difference was not significant in the LXP. The findings were presented through thematic analysis and further discussed, which according to Mahmoudi-Dehaki et al. (2021), could offer practical and realistic advantages to the whole community engaged with English for medical purposes, especially policymakers for the post-COVID-19 era.

Shahnama et al. (2021) aimed at exploring the challenges faced by an EFL teacher during an online English course at the intermediate level. Using Checkel's (2006) process-tracing approach, the causal mechanisms involved in the beginning, middle, and end of the course were highlighted. Shahnama et al. (2021) claimed that the lack of technological resources and facilities was the biggest challenge throughout the course, especially in the initial and mid-sessions. In addition, the two other

causal categories (i.e., human and content resources) were at their peak at the beginning of the course and were no longer noticeable at the end of the course. The most problematic challenges faced by the teacher were platform limitations, internet connection issues, and human resources' unpreparedness for online education. Furthermore, the teacher's and most students' technological knowledge, as well as their media literacy were reported to increase by the end of the course, but the slow adaptation of some students to the sudden online environment challenged the teacher during the course. Finally, Shahnama et al. (2021) put forward some recommendations to mitigate or address these challenges, particularly in developing countries that lack the necessary infrastructure for online education and where the majority of teachers, students, and institutions might still be unprepared for teaching and learning languages online.

The quick and sudden shift to online education urged for finding and practicing new alternative methods of teaching and learning English in high schools in Iran. In their study, Rahimi et al. (2021) investigated the effects of online portfolio assessment on developing Iranian high school students' English writing skills. In addition, they aimed at excavating the Iranian high school students' perceptions about the merits of online portfolio assessment in refining their writing skills. Data were collected from 25 female students studying at Shahed Public High School in Borujerd, Iran. The class received online instruction (16 sessions for 90 minutes) based on the processes involved in portfolio assessment (e.g., collection, selection, and reflection). Then, a focus group interview was conducted with 5 of the active participants. The findings of Rahimi et al. (2021) revealed a significant improvement in the participants' writing skills, which from the viewpoint of the researcher, was due to the type of instruction. In addition, some themes about the advantages of PA were created based on the findings of the focus group discussions. As perceived by Iranian high school students, these were a) developing students' autonomy, b) fostering a sense of belonging to the classroom community, c) providing a comprehensive analysis of students' writing proficiency, d) collecting empirical evidence on students' gradual improvement in writing, e) training self-regulated students, and f) making classes student-centered by teachers-as-advisors. Rahimi et al. (2021) also presented implications for different stakeholders in light of these findings.

Method

To ensure the triangulation of the research, the present study adopted a mixed methods approach with an exploratory sequential design and a large focus on qualitative data. Quantitative data were collected through survey questionnaires. This phase was also supported by a phenomenological approach, which was conducted through in-depth, semi-structured interviews.

Participants

This study had two groups of participants. The first group included Iranian undergraduate students of TEFL (n=216, 140 females and 76 males). The participants were selected based on simple random sampling. From September 2022, most Iranian undergraduate students were called back to campus to attend face-to-face classes. Therefore, only sophomore, junior, and senior students were invited to participate in the study. In addition to this group, undergraduate educators of TEFL (n=5, 3 males and 2 females) were selected based on convenient sampling to participate in the semi-structured interviews.

Instruments

The present work utilized two different instruments. The first one consisted of two researcher-designed questionnaires that were created based on a conceptual framework of the challenges and problems vs. the opportunities and solutions associated with e-learning (Nouraey et al., in press). Each questionnaire consisted of three parts. These included a) demographic information of the participants (gender, age group, year of study), b) issues related to the problems and challenges (questionnaire 1, no. of items=24) vs. the opportunities and solutions of e-learning (questionnaire 2, no. of items=16), and c) an open-ended question enabling the participants to openly express their ideas and suggestions on the

aforementioned areas of e-learning. The questionnaire items were based on the 5-point Likert scale. To ensure the accuracy of the questionnaire, it was used in a pilot study with 29 participants. Prior to the pilot study, the content validity of the questionnaire was substantiated by two experts in the field, and some items of the questionnaire were amended. These amendments solely addressed grammar and improved the clarity of the statements and therefore, no substantial changes were made to the questionnaires' items. The pilot study was conducted between 04 and 28 October 2022. In addition to the questionnaire, semi-structured, in-depth interviews were conducted to collect the opinions of TEFL undergraduate university educators on the challenges and problems vs. opportunities and solutions of e-learning.

Data Collection and Analysis

After creating the questionnaires, the university branches that offered TEFL at the bachelor's level (n=19) were listed, out of which, 6 branches were selected based on simple random sampling. Data were collected both on paper and online. The students were asked to fill in the questionnaires and hand them over and/or submit their responses instantly. The estimated time to fill in both questionnaires was between 10 and 15 minutes, although there was no time limit. The data collection through questionnaires took place between 04 August and 13 December 2022. Following, the semi-structured interviews were done using a set of pre-conceived questions and prompts. All interviews were conducted online and recorded simultaneously through Google Meet software (https://meet.google.com/). The interviews took place between 12 November and 02 December 2022.

The results obtained from the questionnaires, which were based on a 5-point Likert scale, were recorded and analyzed through a Confirmatory Factor Analysis (CFA), through which the questionnaires were validated. All statistical analyses were done using SPSS (version 1.0.0.1406). Following, the interview scripts were transcribed using NVivo 12™. These transcriptions were later cross-checked, qualitatively analyzed, and discussed.

Findings

The present work aimed at answering the following research questions:

1) Based on the perceptions of Iranian undergraduate TEFL students and educators, what are the challenges, problems, and opportunities associated with the phenomenon of e-learning?

2) What are the possible solutions to mitigate the listed challenges and problems?

In this section, a comprehensive analysis of the key findings obtained from the integration of data collected through questionnaires and semi-structured interviews is presented. The combination of these two data collection methods provided deep insights into the research topic to effectively address the research objectives. Below, the detailed findings are presented:

The Questionnaires

Table 1 demonstrates the demographic information pertinent to this participants group:

Table 1.
Demographic Information of the Survey Participants

Item	Sub-Item	Students (n=216)	
		f	*%*
Age	Below 20-29	197	91
	30-39	18	8
	40-49	1	1
	50 and above	0	0
Gender	Male	76	35
	Female	140	65
Level	2nd Year (Semesters 3 and/or 4)	89	41
	3rd Year (Semesters 5 and/or 6)	57	26
	4th Year (Semesters 7 and/or 8)	70	33

Validation of Questionnaire 1

To substantiate the construct validity of Questionnaire 1, CFA was used. Prior to the CFA, Harman's single-factor test was conducted. The result indicated that the first factor accounted for only 35.62% of the variance, confirming the construct's multidimensionality. The scale includes five subconstructs of a) technical issues (4 items), b) physical and mental issues (6 items), c) interaction issues (5 items), d) additional burden and assessments (6 items), and e) proper training, IT literacy, and pedagogy (6 items). Standardized factor loadings can be seen in Figure 1. Three items (items 16, 19 & 22) were removed from the scale to improve model fit. Goodness-of-fit indices are reported in Table 2.
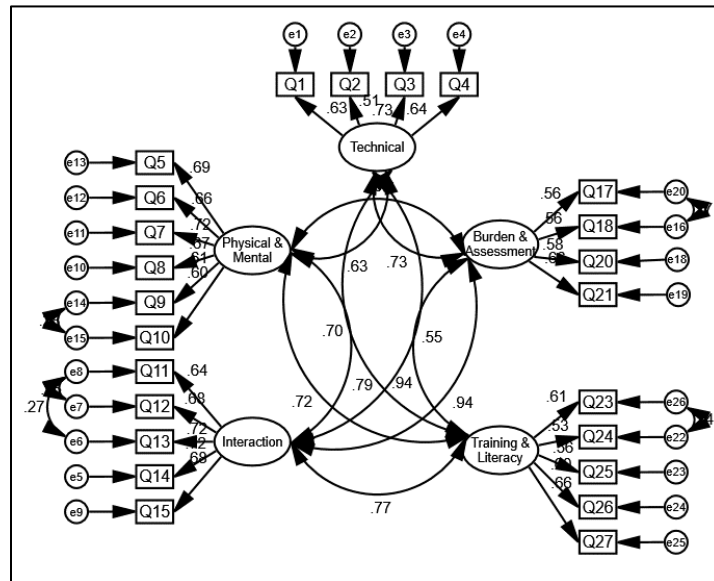

Figure 1. *Measurement Model for Questionnaire 1*

Validation of Questionnaire 2

Similar to Questionnaire 1, we used CFA to substantiate the construct validity of Questionnaire 2. Prior to the CFA, Harman's single-factor test was conducted. Based on the results, the first factor accounted for only 28.52% of the variance, confirming the construct's multidimensionality. The scale includes three subconstructs of a) communication, interaction, teaching, and learning improvements (7 items), b) accessibility and convenience (6 items), and c) productivity and safety (5 items). Standardized factor loadings can be seen in Figure 2. Two items (items 1 & 18) were removed from the scale to improve model fit. Goodness-of-fit indices are reported in Table 2.
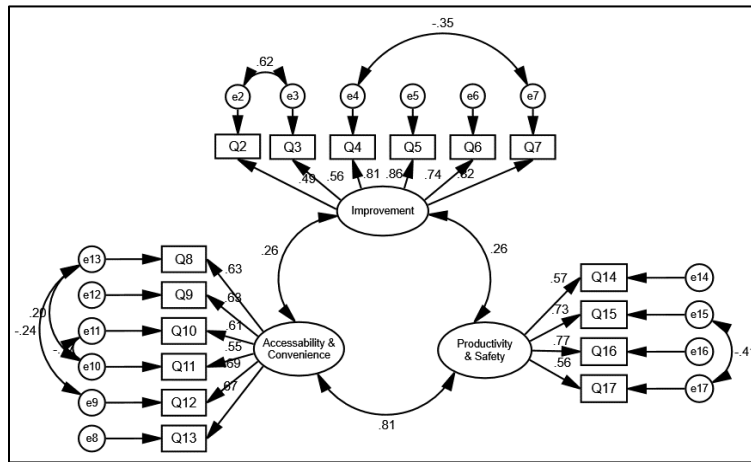
Figure 2. *Measurement Model for Questionnaire 2*

To find out whether the models would fit the data, the goodness of fit indices were calculated using Amos. Table 2 shows the relative chi-square (i.e., chi-square index divided by the degrees of freedom (χ^2/df)), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Squared Error (SRMR). The criterion for acceptance is different across researchers. In the present study, values for χ^2/df should be less than 3 (Ullman, 2001), TLI and CFI over .90, and RMSEA and SRMR equal to or less than .08 (Browne & Cudeck, 1993).

Table 2.
The Goodness of Fit Indices for the Models

Models	χ^2/df	df	CFI	TLI	RMSEA	SRMR
CFA 1 (Fig. 1)	1.78	237	.91	.90	.06	.06
CFA 2 (Fig. 2)	2.26	95	.92	.90	.08	.06

Both questionnaires were based on a 5-point Likert scale, where option 1= strongly disagree and option 5= strongly agree. Questionnaire 1 was about the challenges and problems of e-learning among the participants with 24 items. Questionnaire 2, which had 16 items, focused on the opportunities and solutions of e-learning among the participants. The reliability of each questionnaire was measured through Cronbach's alpha, as shown below:

$$\alpha = \frac{N\bar{c}}{\bar{v} + (N-1)\bar{c}}$$

Where N= number of items, $\bar{c}$=average inter-item covariance among the items, and $\bar{v}$= the average variance, α=0.93 and α=0.87 for questionnaires 1 and 2 respectively, suggesting that the items had a relatively high internal consistency in both questionnaires. Table 3 summarizes the main constructs, the number of items, the reliability, and the mean of responses (n=216 for both questionnaires).

Table 3. *Summary of Questionnaires' Analyses*

Construct	No of Items	Cronbach's Alpha (α)	Mean of Response Scores	SD
Questionnaire 1				
Technical Issues	4	0.75	4.25	0.90
Physical and Mental Issues	6	0.83	3.95	1.07
Interaction Issues	5	0.84	3.93	1.02
Additional Burdens and Assessments	4	0.76	3.97	1.01
Proper Training, IT Literacy, and Pedagogy	5	0.78	4.09	0.92

Construct	No of Items	Cronbach's Alpha (α)	Mean of Response Scores	SD
Questionnaire 2				
Communication, Interaction, Teaching, and Learning Improvements	6	0.84	3.62	1.09
Accessibility and Convenience	6	0.80	4.04	0.91
Productivity and Safety	4	0.73	3.99	0.93

Based on the findings, the participants of the study mostly agreed with the statements mentioned in each questionnaire (Appendices A & B). The mean of response scores was more than 4 in constructs 1 (Technical Issues) and 5 (Proper Training, IT Literacy, and Pedagogy) of Questionnaire 1 and construct 2 (Accessibility and Convenience) of Questionnaire 2. The mean response scores in the rest of the constructs in both questionnaires were almost 4, which shows that the participants agreed with the statements in question. The open-ended questions at the end of each questionnaire were also accounted for. No responses out of the aforementioned categories were provided by the participants.

The Interviews

Seven full-time faculty members were interviewed. Date saturation was reached after 5 interviews (71% of total interviews) and the results were reported. The included interviews ranged from 12 to 30 min with a mean of 21 min (standard deviation = 6.5 min). Table 4 shows the demographic information of the interviewees.

Table 4.
Demographic Information of the Semi-Structured Interviewees

Variable	Values
Age (Years)	
Range	38-47
Mean	43.4
SD	3.57
Gender	
Male	3
Female	2
Total Teaching Experience (Years)	
Range	9-21
Mean	15
SD	5.24
Prior E-Learning Experience (Years)	

Variable	Values
Range	0-5
Mean	1
SD	2.23

Challenges and Problems of E-Learning
Technical Issues

All educators referred to the low internet speed and multiple disconnections as the main challenges they faced while teaching online. Except for one of the educators (Interviewee 2) who mentioned the term "rural areas", others did not refer to a specific geographical area for the issue of low-speed connections. Some educators believed that the applications or the pieces of software that the university provided for online education had some issues (e.g., technical issues that stopped the application or caused malfunctions). In addition, a lack of familiarity among students with how to use these applications was reported by some educators. According to one of the interviewees, students did not know how to register or use the platforms. Another educator highlighted the unaffordability of suitable technological devices such as laptops, PCs, or even smartphones by her students, and even those who had such devices lacked familiarity with using such devices.

Physical and Mental Issues

None of the educators received a noticeable complaint pertinent to physical issues from their students. One of the educators believed that giving short breaks between classes was a good solution to increase class productivity for him and his students. Two of the educators believed that during online education, the students were relaxing, and in some cases, they were lying down, taking some rest, watching a movie, or listening to music while attending their online classes. Three of the educators believed that online education might seldom cause some mental issues such as stress and

anxiety, which would be mostly due to the fear of not understanding the main points due to lack of interaction between the students and their educators, as well as the fear of getting disconnected or losing an important part of the class, although they knew all classes were being recorded and they could watch the recordings at a later time.

Interaction issues

All of the educators believed that e-learning had a negative impact on both student-student and student-teacher interactions. Two educators believed that this might be due to the shyness among the students. One of the educators reported that in online classes, the students were reluctant to participate, and therefore, there was no collective participation. According to one of the educators, the notion of interaction has been a controversial topic among scholars in different fields of study. The educator added that this issue was specifically much more important in language education due to the differentiations between teacher-centered and student-centered instructions. According to this educator, in recent pedagogic improvements in language education, the role of learners has been more accentuated by scholars in the field, the fact that students should be active participants in the process of learning. The educator added:

> Through online education, this role has been degraded or diminished just because of the nature of online or virtual education. So, if we are actually in favor of some sort of student-centered instruction in which students are active participants in the learning process, then I think online education is most probably not the solution... It cannot actually help us achieve this purpose. I mean, fostering students' motivation, and autonomy, actively getting engaged or involved in classroom activities. (Interviewee 3)

Additional Burdens and Assessments

Except for the additional financial costs as the main burden for the students (e.g., having to purchase a new device), no significant burden was reported by the educators. One of the educators

(Interviewee 2) believed that not only the e-learning had no additional burdens on the students, but also it was in their favor, as they did not have to pay the taxi fare to commute to the University campus and were also offered free internet packages by the government's official telecommunication company. However, the same educator argued that the students' assignments were handed in with delay, as some of them did not have email addresses and resisted sending them online.

Concerning the assessments, educators mostly reported negative experiences by referring to assessments as "not fair" (Interviewee 4), "a very bad situation", "catastrophe", "fruitless", and "not that useful" (Interviewee 3). All educators believed that students could easily cheat in their online assessments. They also said that they had some suggestions to overcome this issue. For example, one of the educators (Interviewee 3) said that he had multiple communications with the University not to force the educators to have online assessments; instead, the educators could have a formative evaluation based on different criteria such as a) the student's performance during the semester, b) homework assignments, c) participation in class activities, and d) short oral and written quizzes. Another educator (Interviewee 5) overcame this issue by giving her students open-book exams and asking them to send her their responses at a certain time. A similar approach was adopted by one of the other educators (Interviewee 2) where the students were given a descriptive question and were asked to write the answer in the form of an essay or a paragraph. Another educator (Interviewee 4) had two different solutions for the issue of assessments including a) giving two or three quizzes with different questions (mostly comprehension questions with no direct answers in the textbook), and b) oral mid-term exams with the students' cameras on. The second solution had some burdens for the educator, as she said:

> ...and, actually, I asked all of them to activate their camera. Then, I could see them, I asked them questions. Of course, it was too time-consuming. I mean, I remember that I started the midterm exam, for example, at 1:00 **PM** and it lasted for five hours, sometimes five or six hours. It was so time-consuming, but I

assigned a lot of time to that because I was so obsessed [with] how to assess them, how to evaluate them. (Interviewee 4)

Proper Training, IT Literacy, and Pedagogy

The importance of proper training and IT literacy was mentioned by most educators. Except for one of the educators (Interviewee 1) who used more PowerPoint presentations and believed that the applications used to deliver online classes were user-friendly, others mentioned some issues related to the IT literacy of the students. They used terms such as lack of IT literacy, computer literacy, and internet literacy (Interviewee 2) and not having an adequate level of computer literacy (Interviewee 3). Some examples, according to the educators, were not being able to share the screen (Interviewee 2), sharing files (Interviewee 5), logging in (Interviewee 2), and activating microphones (Interviewees 4 & 5) and Cameras (Interviewee 4). According to the educators, some actions were taken by the University to tackle this issue. These included uploading a video clip on the University's website (Interviewee 2) and preparing a set of guidelines for the students on how to use the platform (Interviewee 5). However, the system needs to be upgraded if online education is meant to be prolonged (Interviewees 2 & 4).

Concerning the pedagogy, except for one of the educators (Interviewee 1) who believed the same teaching methodology and materials used in a normal face-to-face context could be used in an online environment, others believed that e-learning required a dedicated pedagogical system that would suit the online environment.

> So, what I really think is that when we talk about online education and face-to-face... education, we are actually talking about two pedagogically different contexts. So, different contexts actually are in need of... different facilities [and] different approaches in terms of teachers..., techniques, procedures, tricks used inside the class. So, whatever normal procedure,...technique,... [and] approach we typically follow in face-to-face attending education are not automatically or similarly or let's say necessarily applicable in online virtual education as well. So, to me, online

education is an absolutely different context from face-to-face, attending education. So, I think the point is crystal clear. We need to ... adapt our teaching techniques to new, online education just to educate for students' needs, pedagogic necessities, and institutional objectives, as well. ...we have got no way but to apply innovative... approaches in online education to be better responsive to the necessities of virtual education. (Interviewee 3)

Finally, one of the educators expressed his main concern as losing the students' attention during online classes (Interviewee 2). Another educator argued that one of the most important challenges of e-learning was the lack of "immediate feedback" (Interviewee 3). According to this educator, immediate feedback on the side of students could enable strategic decision-making inside the classroom environment, which is somewhat similar to the concept of interaction; yet this important notion is absent in online education.

Opportunities and Solutions of E-Learning
Communication, Interaction, Teaching, and Learning Improvements

Only one of the educators (Interviewee 5) believed that communication among the students was improved during the e-learning period. None of the educators agreed that interaction was improved among the e-learning members (i.e., students and educators). Concerning the overall quality of teaching and learning in online education, all educators believed that face-to-face classes would better serve the quality of education (e.g., meeting the learning outcomes by the end of the semester). One of the educators (Interviewee 1) believed that e-learning would work best to teach the listening skill to undergraduate TEFL students and another (Interviewee 4) argued that this mode of education would only be beneficial for a group of 3-5 adult students who are more than 20 years of age. The educators mostly believed that a lot more needs to be done to enhance the e-learning environment if it is meant to be replaced by face-to-face education in the near future.

Accessibility and Convenience

All educators agreed that e-learning was more accessible and more convenient, both for the students and the educators. Being more relaxed while attending classes, adjusting and re-scheduling the class timings, not having to commute to the university campus, and attending the class while being at work were some of the positive points regarding the accessibility and convenience of e-learning reported by the interviewees.

Productivity and Safety

None of the educators believed that e-learning was more productive than face-to-face education. One of the educators said:

> So, we, as teachers, have got no way but to evaluate our students' progress based on their output, I mean, their communication with other fellows in the class, and with the teachers, so we need to create communicative opportunities for our students. So, this is not what can be achieved in online education compared with [what is] going on in attending or [let us] say face-to-face, attending education. At least, in online education, students will have fewer opportunities to actually speak or communicate, producing the output. At some steps or stages of language instruction, we need to push our students for output. Pushed output in some instances, in some stages of language education, would lead to improvement in learning and this could actually be regarded as one of the pitfalls of online education... The major problem or the main issue is the problem of authenticity, the authenticity of our materials, and the authenticity of our tests. By authenticity, what I mean is that neither our instruction nor our assessment, actually, is similar to what students are expected to perform in real-life situations (Interviewee 3).

Finally, all educators acknowledged the safe environment created by e-learning during the pandemic. Some of the educators agreed that e-learning was the only available alternative to face-to-face education, although a lot more needs to be done to improve the quality and productivity of this mode of education.

Discussion

The first category of e-learning problems and challenges was technical issues. Problems with internet connectivity, multiple disconnections, not being able to download or stream recorded videos, and low bandwidth are among the common technical challenges of e-learning reported by other researchers (Farooq et al., 2020). Likewise, insufficient and unstable internet connectivity, inadequate computer labs, lack of technological devices such as computers and laptops, and other technical problems have been reported by Zalat et al. (2021) as the main barriers to e-learning.

Some of the educators mentioned stress and anxiety as mental issues faced by their students during the e-learning period. According to the literature, the most common disorders associated with e-learning are stress, anxiety, and depression among students (Fawaz & Samaha, 2021; Lan et al., 2020). Similarly, e-learning may cause a sense of insecurity among students, which could consequently lead to stress (Ilgaz & Afacan Adanir, 2020; Khorsandi et al., 2012).

Interaction is one of the ten factors that may influence the effectiveness of e-learning (Gamage et al, 2014). Even in technologically advanced countries, maintaining engagement with online learners is a challenging issue (Cullen et al., 2019). To date, different names have been used in categorizing interaction in an e-learning environment. As an example, Mensah et al. (2021) divided interaction into four types, including a) student-content, b) student-system, c) student-student, and d) student-teacher interactions. Our findings were in agreement with other studies claiming that interaction among students and their peers and/or educators in an e-learning environment is somehow limited (Boling et al., 2012; Rannastu-Avalos & Siiman, 2020). The findings were also supported by the work of Sarkar et al. (2019), who linked the lack of interaction in an e-learning environment to poorly designed materials. Our findings were also in agreement with Zhang et al. (2012), who claimed that shyness in Asian students usually results in a lack of active

participation and interaction in e-learning environments.

Another area highlighted in the questionnaires and interviews was related to additional burdens such as additional financial costs of e-learning, which could be challenging for the students. Compared to traditional education, e-learning needs financial capabilities (Maatuk et al., 2022). Our findings highlighted some additional financial costs as a result of e-learning among students too. Purchasing a new or a suitable technological device such as a PC or a laptop and paying for the internet fees were among these costs.

Assessments have been reported as one of the most challenging aspects of e-learning. All the educators who were interviewed highlighted their concerns about the assessments in an e-learning environment. The shift to online education due to the COVID-19 pandemic was sudden and unexpected, and therefore, it did not leave any room for preparation or premeditation (Garcia-Penalvo et al., 2020; Watermeyer et al., 2021). In addition to this, most educators did not have enough experience in designing online assessments (Bennett et al., 2017). Lack of familiarity with online assessments along with potential technical failures may cause uncertainty among students (Paechter & Maier, 2010). According to Sanchez-Cabrero et al. (2021), to compensate for such surrounding factors, educators tended to design assessments that were significantly easier than face-to-face assessments.

Based on the findings, effective e-learning requires proper training, especially for students. Lack of experience with e-learning techniques among students has been reported by other researchers (Maatuk et al., 2022). Likewise, a lack of educators' prior experience, training, and IT support has been reported by Farooq et al. (2020).

Concerning the accessibility and convenience of e-learning environments, our findings were in line with several other studies. E-learning was found to make the process of learning faster, more efficient, and more flexible (Sayiner & Ergonul, 2021). According to Agarwal et al. (2021), ease of access to e-learning platforms was found to be the best advantage of this education medium and some students would prefer to maintain using some

features of these e-learning tools in their daily classroom education. Digital learning platforms can support learning with the convenience of time, place, and pace (Kumar & Sharma, 2021). The findings of our study also supported the idea of safety in e-learning environments. Not only e-learning can be safe in health emergencies such as the COVID-19 pandemic, but also can be useful in other emergency circumstances such as wars (Matviichuk et al., 2022; Rajab, 2018).

Finally, concerning the productivity of online education, most of the educators believed that e-learning could not be as productive as traditional face-to-face education. In other words, e-learning mostly fails to create a communicative environment among its immediate users (i.e., students and teachers). This perception was supported by Huynh (2005) who believed that e-learning productivity should be assessed not just based on its instrumental purposes, but also the values of communicative practice. Therefore, increasing the interactive and communicative practices may increase the productivity of e-learning.

Conclusion

With the strike of the COVID-19 pandemic, e-learning became the only available option to replace face-to-face education. However, a lack of preparation and premeditation turned e-learning into a challenging and somewhat problematic area. To date, several studies have focused on the effectiveness of e-learning environments. Subsequently, several factors have been highlighted in making e-learning a successful phenomenon. A strong IT infrastructure, administrative support, and a pedagogical system including tailored course contents and assessments are among these factors (Elumalai et al., 2021). All in all, the findings indicated that a lot more needs to be done to enhance the quality of e-learning.

Recommendations

Based on the findings of the semi-structured interviews and the surveys, the following recommendations were made to facilitate the e-learning process among Iranian undergraduate students of TEFL. This section is also in line with

the second research question which aimed to highlight the possible solutions to mitigate the listed challenges and problems of e-learning in Iran:

When dealing with an entire online education environment,

- The universities and higher education institutions should ensure all students have access to a reliable technological device such as a smartphone, a tablet, or a PC to attend online classes.
- The responsible bodies should ensure the availability of an acceptable and stable Internet connection for those facing difficulties, especially in rural areas.
- The attendance should not be recorded at a certain timespan; instead, the educator should select various times of the class to encode the attendance. This will minimize the possibility of skipping classes.
- Students and educators should turn their cameras on during online classes to ensure the physical and mental presence of the students.
- A dedicated set of course materials, curriculum designs, lesson plans, and activities should be created to be used during the online education period.
- Regular training sessions for both educators and students should be conducted to ensure they are aware of how to utilize the software application and other similar technological features.
- Students with special needs should not be neglected during the online education period.
- Regular breaks should be given to the students to avoid computer fatigue, eye strain, body pain, and other physical and/or mental issues during online classes.

Limitations and Delimitations

The first limitation was related to the sample size of the participants. Although higher sample sizes could better justify the generalizations of the results to a higher population (Cohen et al., 2011), the resources were limited due to the COVID-19 pandemic, and therefore, a limited number of participants could be targeted. To tackle this and to

adhere to the health and safety policies highlighted by the government, all interviews were conducted online. In addition, survey questionnaires were distributed through an online link to ensure an adequate number of participants would be reached.

In addition, the present study only focused on TEFL undergraduate students. In other words, postgraduate students of TEFL were not included in this study. This was to narrow down the findings and ensure the manageability of the study. The undergraduate courses act as the foundation of learning. Additionally, most M.A. and Ph.D. courses focus on presentations, talks, and lectures given by the students; as a result, there would not be much interaction among the students, their peers, and the educators. Therefore, only undergraduate students were selected to be studied.

Likewise, the freshman students (1st-year students studying in their 1st or 2nd semester) had to be excluded from the target sample. The reason was that in September 2022, just before the survey was conducted, most universities, including the Islamic Azad University resumed on-campus education. Therefore, to ensure the students had the real-life experience of e-learning as undergraduate students, the 1st year students were eliminated from the target sample.

Finally, TEFL courses in Iran usually focus on the language skills of the students (i.e., speaking, listening, reading, and writing) throughout the first year. One of the limitations of the work was to draw a borderline between such general English courses, and the other courses taught from the second year onwards. Since this study did not include freshman students, it could be claimed that the focus was on courses other than general English skills.

Declaration of Conflicting Interests

The authors declare no conflicts of interest.

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Appendix A

Questionnaire 1 (Validated)

Gender: Male ☐　Female ☐　*Age:* Below 20-29 ☐　30-39 ☐　40-49 ☐　50 and above ☐
In which year of your Bachelor's program are you now? 2ⁿᵈ Year ☐　3ʳᵈ Year ☐　4ᵗʰ Year ☐
Please choose one answer only (Note: 5=Strongly Agree, 4= Agree, 3= Neutral, 2= Disagree, 1= Strongly Disagree):

No.	Statement	1	2	3	4	5
Challenges and Problems Associated with E-Learning						
A.	Technical Issues					
1	During my online classes, I faced poor internet connection which led to disruptions and/or disconnections.					
2	I had an appropriate device such as a laptop, a tablet, or a smartphone to participate in online classes.					
3	The university provided me with all the necessary software, applications, and programs required for online classes.					
4	The university provided me with the necessary guidelines on how to use the online platform, applications, or software.					
B.	Physical and Mental Issues					
5	Attending online classes caused me physical issues such as fatigue.					
6	Attending online classes affected my eyes negatively as I had to focus on a digital screen for long periods.					
7	Attending online classes caused me body pain, such as pain in my neck, back, and shoulders.					
8	Attending online classes caused me headaches and migraines.					
9	I faced issues such as stress, anxiety, and depression because of studying online.					
10	I faced burnout symptoms (sense of failure, feeling helpless or trapped, loss of motivation, detachment, decreased sense of satisfaction and self-achievement, and increased negative outlook) due to online classes.					
C.	Interaction Issues					
11	My interaction with teachers was negatively affected.					
12	My interaction with other students was negatively affected.					
13	I had less interaction with the course content such as course materials during online classes as compared to face-to-face classes.					
14	E-learning caused me social isolation.					
15	I could not participate actively in online classes because of shyness or lack of self-confidence as compared to face-to-face classes.					
D.	Additional Burdens and Assessments					
16	Teaching and learning time in an e-learning environment is longer than in face-to-face classes.					
17	E-learning added to my responsibilities, workload, and pressure during the semester.					
18	Using test banks may increase exam security during the pandemic.					
19	Lack of time, motivation, interest, and pressure for performance from my family and friends may have tempted me to cheat in online exams.					
E.	Proper Training, IT Literacy, and Pedagogy					
20	Students and instructors should receive regular training to enhance their IT skills.					
21	During the online classes, some instructors struggled to utilize specific technological features.					
22	Course materials are more difficult to understand in an e-learning environment.					
23	E-learning inhibits holistic learning. In other words, I was not able to learn in connection with the community, society, and natural world due to online education.					
24	E-learning requires a dedicated pedagogical approach that fits its environment and meets the certain needs of its users.					
Please add any other point related to your experience that was not mentioned in this questionnaire.						

Appendix B

Questionnaire 2 (Validated)

Gender: Male ☐   Female ☐   *Age:* Below 20-29 ☐   30-39 ☐   40-49 ☐   50 and above ☐
In which year of your Bachelor's program are you now? 2ⁿᵈ Year ☐   3ʳᵈ Year ☐   4ᵗʰ Year ☐
Please choose one answer only (Note: 5=Strongly Agree, 4= Agree, 3= Neutral, 2= Disagree, 1= Strongly Disagree):

No.	Statement	1	2	3	4	5
	Opportunities and Solutions Associated with E-Learning					
	A. Communication, Interaction, Teaching, and Learning Improvements					
1	E-learning resulted in improved communication with my teachers.					
2	E-learning resulted in improved communication with other students.					
3	E-learning enhanced my interaction with my teachers.					
4	E-learning enhanced my interaction with other students.					
5	Using digital technologies in education improved my overall learning as a student.					
6	Teaching can be improved in an e-learning environment.					
	B. Accessibility and Convenience					
7	I prefer e-learning because it is more accessible (it is available 24/7 and students and teachers may adjust or change a class timing).					
8	The e-learning application we used during the pandemic was easily accessible and it worked all the time.					
9	In addition to the e-learning platform, I used social media applications such as WhatsApp to handle my daily activities and learning.					
10	E-learning was more convenient for me than face-to-face classes.					
11	I liked e-learning because I could participate in classes and exams from any place remotely (my bedroom, another city, or even another country).					
12	Tasks and activities like presentations, tests, and evaluations were more convenient in an e-learning environment as compared to traditional classroom environments.					
	C. Productivity and Safety					
13	Feedback from teachers was given more quickly during online classes.					
14	For me, e-learning was more productive than face-to-face classes.					
15	E-learning is more affordable and cost-effective compared to traditional learning.					
16	Health safety during the COVID-19 pandemic was one of the advantages of e-learning.					
	Please add any other point related to your experience that was not mentioned in this questionnaire.					