



Research Paper

The Effect of Online Learning on Interaction and Satisfaction of EFL Students

Bahram Dehghanpour^{1*}, Shima Ghobadi²

*Assistant professor, English Department, Lenjan Branch, Islamic Azad University
bdehghanpour@gmail.com*

*²Ph.D., Department of English, Islamic Azad University of Shahreza, Shahreza, Iran
Shimagh1987@yahoo.com*

<http://doi.org/10.71528/202403151105359>

Received: 09 October, 2023

Accepted: 20 January, 2024

ABSTRACT

The goal of this study was to see how technology affected EFL students' interaction and satisfaction when they were learning in online classes. Following the identification of the study's homogeneous participants, the participants were exposed to two types of treatment, namely, online through the Sky Room platform and face-to-face, traditional education. The treatment lasted for 10 sessions, 60 min each. In order to investigate the participants' satisfaction, the satisfaction scale developed by Wu et al. (2010) was administered among the participants at the end of the treatment. In addition, to investigate the effect of online education on EFL learners' interaction, the interaction scale established (Karaman, 2015) was run among the participants after the treatment. The results of the *Chi-square* test revealed a significant difference between the interaction and satisfaction levels of the participants in online and traditional classes, with the interaction and satisfaction levels being higher in online classes. The results have pedagogical implications for policymakers as well as practitioners.

Keywords: *EFL students; Interaction; Online learning; Satisfaction.*

INTRODUCTION

In the field of research, the role that technology plays in the educational setting has long been a subject of study. Both strong and convincing arguments are made for and against the use of technology instruments in the classroom. Many instructors and students today view technology as a revolutionizing and remodeling agent in education that can be traced back to its high accessibility and convenience of use, in addition to the fact that it has opened the door for a type of Learning which can occur beyond walls and a type of Learning in which the utmost emphasis is on student-centered Learning and the creation of autonomous lifelong learners. Turekeeva (2021) stated that thanks to technological advancements, the world has starts evolving rapidly to the point that today's creation and innovation are obsolete tomorrow. Technological advancements have invaded all aspects of life, including the education system. The educational field, therefore, has witnessed many changes, and E-learning finally recognizes its initial idea (Ja'ashan, 2020). Much research recently has focused on the growth of E-learning as a new trend in the educational environment. Abdelaziz, Riad & Sensousy (2014) noted that the traditional learning styles and methods changed due to the emergence of E-learning and the relationship between learners and instructors. Darcy (2012) mentioned that E-learning has a pivotal role in the learning process, especially in higher education, because it brings many benefits for instance facilitating the process of communication presentations between students and professors, delivering and sharing course materials, and recording lectures and presentations. In the same vein; Bilal (2015) stated that E-learning could be a sound equalizer of our times because it gives a chance to universities to reach their students at any time and to deliver courses in different innovative ways that suit their interests and circumstances. Technological advancements have dramatically influenced the process of teaching and learning. The transition from a traditional learning environment to an online learning environment brings new benefits, but at the same time, presents new challenges.

With the constant rise in instances and the resulting consequence of college closures, quarantines, and social distancing efforts to scale down the spread, it has emerged as a pressing urgency to "migrate online" (WHO, 2020).

According to Article 30 of the Iranian constitution, the government is supposed to "supply all residents with training as much as university students need to decorate training to the amount required by the country to attain self-sufficiency" as a special administrative (The Constitution of the Islamic Republic of Iran, 1980). Education went online to ensure the continuation of their pedagogical operations and to reduce the harmful effects of closures.

Particular online factors that have a remarkable impact on their gaining knowledge, along with their usefulness and effectiveness, are, nonetheless interactions and satisfaction, which have less scholarly interest, in particular in the coaching of EFL students. While ideas and practice are nonetheless important factors in the process of gaining knowledge of technique, interaction, and satisfaction have gotten much less emphasis (Jong et al., 2019). In reaction to the pandemic problem, international education has been driven to undertake "non-conventional" learning environments, together with online teaching and learning. The goal of this study was to see how technology affected EFL students' interaction and satisfaction when they were learning in online classes. Since the 2020, the educational system has been impacted, with an increase in online classes, particularly for EFL students. Previous research has examined student interaction and satisfaction. Similar studies have not been conducted in Iranian



universities, particularly in Isfahan. To complete past studies, this study focuses on the effect of the online learning platform experience, specifically Sky Room, on EFL students' interaction and satisfaction in a higher education context at Isfahan University.

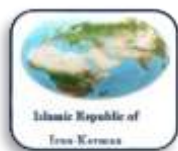
Students who choose to study online earlier are prepared for what to anticipate in the online classes (Gopal, Singh, & Aggarwal, 2021). Although many students were compelled to evolve to this unexpected transition because of the unanticipated unpreparedness of several instructional systems, and special universities. Because of the surprising shift from conventional to non-conventional pedagogical procedures, most students had been unsure what to anticipate (Chen et al., 2020), and improving their delight could necessitate understanding how they rated their reports on the online learning platform. Online learning knowledge of environments is defined by using diffusion of tutorial practices that include energetic student-targeted techniques (Keengwe & Kidd, 2010). At some point, current online teaching and learning studies point to a developing studies interest in online coaching instructional techniques (Bao, 2020b), coaching facilitation (Cheng & Chau., 2016), educational assets, practices, and policies (Huang, Tlili, Chang, Zhang, Nascimbeni, et al., 2020). However, little research has been undertaken to measure the effect of online knowledge acquisition on EFL students' interaction and satisfaction (Domalewska, 2015; Bao, 2020).

Consistent with Wang et al. (2013), students' willingness to apply and be given online training is important to their lengthy-term purpose. As a result, they investigated the continuance aim of the Expectation confirmation theory (ECT) and an extended task-technology fit (TTF) to show that affirmation and perceived usefulness encouraged satisfaction and non-stop purpose among EFL students. Further, research on EFL students' options and perceptions of online training displays a sturdy choice of learning knowledge as a manner to cope with the online classroom. In the meantime, Gopal et al. (2021) contended that, little attention is paid to EFL students' interaction and satisfaction with online learning.

REVIEW OF LITERATURE

This part covers online studying, interaction, and satisfaction with English learning. The disruptive influence of online classroom on interaction and satisfaction is first highlighted, setting the stage for a comprehensive review of the literature on the outcomes that tell us about online learning, interaction, and satisfaction. The next sections go over those subjects in further depth.

While the word "online learning" has many meanings, it refers to "studying that is mediated via the net," as opposed to standard face-to-face learning in a school environment (Rapanta et al., 2020). Online learning is part of distance education and includes the expansion of technical packages and learning methodologies. The pedagogical version of online learning stresses the learner's position and potential to be answerable for their learning, irrespective of whether or not it is implemented synchronously or asynchronously (Sisson & Kwon, 2020; Sigala, 2002). As classroom conversations flow through, numerous researchers have alluded to the advantages of online learning as being flexible and student-focused, allowing students sufficient time to contemplate before replying to questions. However, poor net connectivity, a loss of technical ability, inadequate equipment and software programs, and a loss of learner orientation can all sabotage online learning (Keengwe & Kidd, 2010).



The qualities of the virtual lecture room that permit interaction between the trainer and the learner are called online learning knowledge of attributes (Kuo et al., 2014). Flexibility, software, company structure, perceived use of online systems, and teacher satisfaction are a number of these traits (Wilkins & Huisman, 2013). Distance schooling applications have numerous benefits, but they are able to have them. The first of those restrictions is interplay (Simpson & Anderson, 2012; Cheng & Chau, 2016). Distance training is not successful without learner-trainer interaction. This must be planned and performed on a frequent basis for distance training to be successful.

One of the drawbacks of distance education, which has become increasingly popular during the pandemic, is the lack of interaction (Cheng & Chau, 2016). Studies reveal that in distance education, interaction is not at the appropriate level for learning English. From this perspective, Sisson and Kwon (2020) argue that more research is needed to improve remote education interaction. The ability to interact is one of the most important variables in language learning success (Domalewska, 2015). According to Domalewska (2015), EFL learners' comments were most prevalent in EFL speaking sessions. Similarly, Hitotuzi (2005) found that learners' participation is critical to their learning process and that it controls the majority of the discussions. Furthermore, Banafshi et al. (2020) and Asadiet al. (2019) found that online users engage in increased engagement and participation. Given that language conveys meaning, interaction is a critical component of language teaching and learning (Lee et al., 2019). Collaborative/cooperative learning (CL) (Vygotsky, 1978), active involvement, and dynamic interaction (Lee, 2011) are all emphasized in most EFL programs. Because they allow debate and interaction, online learning classes have become a prominent position in education and entertainment (Khodabandeh, 2018), so special attention should be given to interactions among students in such environments (Kumari, 2001).

Students' reviews of such traits will undoubtedly impact their satisfaction with their online learning experience, but research on mastering English has paid some attention to it. In this period, "delight" refers to a web consumer's emotional judgment of their experience in addition to the inherently advantageous final results that result from an activity that meets their expectancies (Ryan & Deci, 2000).

These emotions are typically produced by a variety of factors that, once understood, can help students enhance their performance and the quality of their online learning (Jones, 2003).

According to findings from a previous study, the features of electronic learning are crucial in increasing students' satisfaction at universities (Naseri & Khodabandeh, 2019). Student delight is exceedingly influenced by the first-class of an e-learning system, which includes capabilities like software, informativeness, excellent esthetic appeal, and ease of navigating the learning platform. Drennan, Kennedy, and Pisarski (2005) used the technology acceptance model (TAM) to investigate scholarly pleasure with online learning. They observed that scholars' pleasure was substantially improved via the perceived application of bendy online learning. On the other hand, satisfaction becomes unaffected by the perceived ease of use of bendy online learning. According to Asarbakhsh and Sandars (2013), no matter its effect on online learner pleasure, "usability" has little interest in English learning. Similarly, the perceived usefulness of technology has been confirmed to influence system pleasure in a blended learning state of affairs (Lin & Wang, 2012).

In line with a current study performed at some stage, platform availability has the biggest effect on consumer pleasure, at the same time as personal factors have a negligible impact (Chen et al., 2020). Even as research on EFL students is rare, a few pieces of research from more than a decade ago



demonstrate that online getting-to-know capabilities, students' personalities, and e-classroom houses all have an effect on users' involvement and satisfaction (Ding & Zhang, 2018; Gomezelj & Civre, 2012). Importantly, online education is primarily centered on elegance-based teaching as an extension of conventional education. As many learners are involved in the ease of use and practicality of online learning for the duration of the epidemic, this shows that numerous formerly neglected traits may be vast (Chen et al., 2020).

As a way to fill in the gaps left by using earlier research, this study specializes in the factors that have an impact on EFL students' interaction and satisfaction with a web learning platform in a higher education setting at Isfahan University. Extra research among Iranian online students suggests that a lower degree of learning and financial worry increases students' perceptions of online learning and, as a result, their interaction and satisfaction (Khodabandeh, 2018; Tavitiyaman et al., 2021). However, the traits of online learning that help to know the interaction and satisfaction amongst EFL students at the University of Isfahan. This leads us to research questions:

Q1: What is the effect of online learning on EFL students' interaction?

Q2: What is the effect of online learning on EFL students' satisfaction?

METHODOLOGY

Research Design

In the quantitative part of the investigation, a pre-test and post-test quasi-experimental design with a control group was used. Sky Room was used in both groups in the online class.

Research Setting and Participants

This research took place in a language institute in Isfahan, Iran. At the outset of the study, in order to set the participant's homogeneity, the entire Preliminary English Test (PET) modules was utilized. PET was published by ESOL (2006). Then, based on the results of PET, a number of 30 participants whose scores fell one standard deviation above and below the mean were chosen as the participants of the study. The participants were both male and female, and their ages ranged from 18 to 35. The current study's sample was determined by non-random sampling. In order to investigate the participants' interaction, the interaction scale established by (Karaman, 2015), and in order to investigate their level of satisfaction, the satisfaction scale developed by (Wu et al., 2010) was used. Furthermore, all of the students who were recruited for this study were provided with several electronic devices so that they could participate in online learning.

Instruments

Preliminary English Test (PET)

The first instrument that was utilized to homogenize the individuals in this study is the PET. A questionnaire as a pre-test was the second instrument for obtaining data to address the study's research topic. It comprised of 40 multiple-choice questions. In order to ensure the reliability of the test, a pilot study was administered, and its reliability was calculated using the KR-21 methodology ($r = 0.822$). To ensure the validity of the test, it was proofread by two Ph.D. holders in English.



Online Course Interaction Level Determination Scale

The Online Course Interaction Level Determination Scale was originally developed by Karaman (2015), and it was employed to measure the participants' interaction in the study. The scale consists of 25 items and is a 5-point Likert type. The reliability coefficient of the scale was calculated by Cronbach's alpha, and the total reliability of the four factors was found to be 0.89 (Karaman, 2015).

Data Collection Procedure

Following the identification of the study's homogeneous participants, the participants were exposed to two types of treatment, namely, online through the platform of Sky Room and face-to-face, traditional education. The treatment lasted for 10 sessions, 60 min each. Throughout the treatment, the course book taught at the institute, namely *World English*, was taught to the participants. In order to investigate the participants' satisfaction, the satisfaction scale developed by (Wu et al., 2010) was administered among the participants at the end of the treatment. In addition, in order to investigate the effect of online education on EFL learners' interaction, the interaction scale established by (Karaman, 2015) was run among the participants after the treatment. The students were asked to rate their online learning experience as enjoyable, understandable, and easy to items in the interaction and were graded on a five-point Likert scale (Appendix 1). Satisfaction was examined on a four-point Likert-type scale (Appendix 2).

Data Analysis

After acquiring the necessary information, the data was examined under the study's goal. The *Chi-square* test was used to determine differences between the participants' satisfaction and interaction levels in online and traditional classes. The reason why *Chi-square* tests were administered was due to the fact that the data were in the form of frequency. In addition, descriptive statistics, including frequency and percentage, were used to investigate the issue. The data was organized into tables using the Statistical Package for the Social Sciences (SPSS) Version 21. The significance level was set at .05.

RESULTS

The present study aimed to investigate the effects of online learning on EFL students' interaction and satisfaction. In order to answer the research questions, a number of 30 students were exposed to online and traditional methods of teaching.

Effects of Online Learning on EFL Students' Interaction

As mentioned, to investigate the effects of online learning on EFL learners' interaction, a questionnaire was administered after the treatment among the participants, once after they were exposed to online learning and once when they received traditional, face to face treatment. The results obtained from the questionnaire are presented in Table 1.



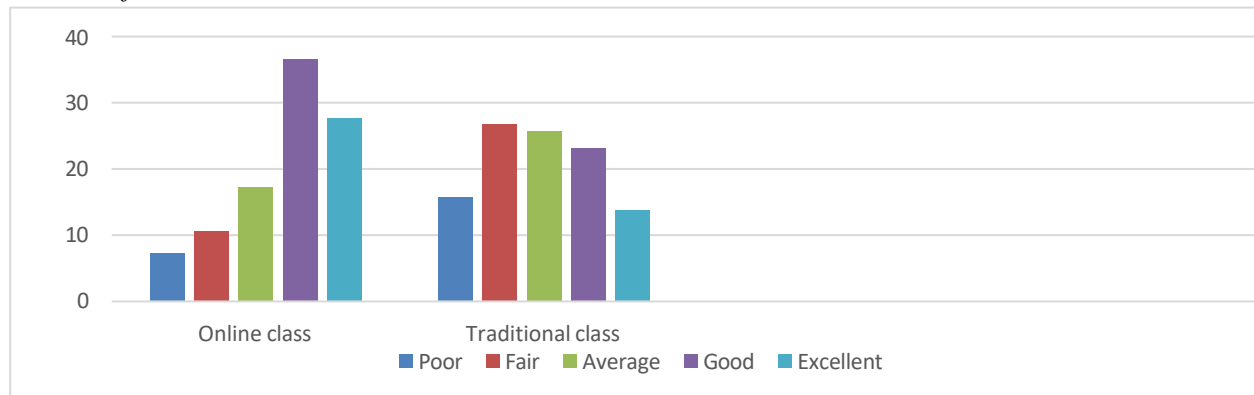
Table 1*Results of Learner's Interaction in Online/Traditional Classes*

Online/Traditional Learning Interaction	Poor		Fair		Average		Good		Excellent		
	F	P	F	P	F	P	F	P	F	P	
I interact with the students to study online/traditionally.	O	3	10%	3	10%	6	20%	10	33%	8	27%
	T	5	16.5%	6	19.8%	12	39.6%	6	19.8%	1	3.3%
I have an active participation in online/traditional class.	O	2	6.6%	4	13.2%	5	16.5%	13	42.9%	6	19.8%
	T	4	13.2%	7	23.2%	10	33%	3	9.9%	3	9.9%
I try to be on time in online/traditional classes	O	2	6.6%	3	9.9%	4	13.2%	10	33%	11	36%
	T	3	9.9%	7	23.1%	7	23.1%	13	42.9%	0	0%
I have presentation in online/traditional classes	O	1	3.3%	4	13.2%	4	13.2%	13	42.9%	8	26.4%
	T	5	16.5%	5	16.5%	5	16.5%	7	23.1%	8	26.4%
I interact with the teacher in online/traditional classes	O	3	9.9%	2	6.6%	7	23.1%	9	29.7%	9	29.7%
	T	5	16.5%	5	16.5%	5	16.5%	6	19.8%	9	29.7%
Total	O	1	7.28%	1	10.58%	26	17.2%	54	36.56%	42	27.74%
	T	1	15.77%	6	26.74%	26	25.74%	54	23.1%	42	13.86%

Note: F= Frequency P=Percentage O=Online T=Traditional

Table 1 presents the participants' responses to the questionnaire about their interaction in online and traditional classes. As shown in Table 1, 27.74% of the participants believed that their experience with interaction in online classes was excellent, while only 13.86% of them claimed that they had an excellent experience with online classes. In addition, 36.56% of them stated that their experience with online classes in terms of classroom interaction was good, and 23.1% of them claimed that they had a good experience in their interaction in face-to-face classes. Only 7.28% of the participants claimed that their interaction in online classes was poor, while twice more (15.77%) of them claimed that they had poor interaction in traditional classes. Figure 1 compares the interaction level of the participants in the two types of classes.



Figure 1*Results of Learner's Interaction in Online/Traditional Classes*

In order to investigate if there were any significant differences between the participants in their interaction in online and traditional classes, a *Chi-square* test was administered. The reason why *Chi-square* was used was the fact that the gathered data were in the form of frequency. The results are presented in Table 2.

Table 2*Chi-square Test between the Participants' Interaction in Online and Traditional Classes*

	groups	interaction	frequency
Chi-Square	.000 ^a	.000 ^b	.000 ^c
df	1	4	9
Asymp. Sig.	1.000	.000	1.000

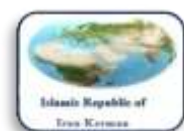
According to the results presented in Table 4., there was a significant difference between the participants' opinions about their interaction pattern in online and traditional classes ($p < .05$). This showed that the participants had a more positive view of interaction in online classes in comparison with traditional classes.

Effects of Online Learning on EFL Students' Satisfaction

The second research question of the present study aimed to investigate the participants' satisfaction with online and traditional classes. In so doing, the satisfaction scale developed by (Wu et al, 2010) was administered among the participants at the end of the two types of treatment. The results are presented in Table 3.

Table 3*Results of Learner's Satisfaction in Online/Traditional Classes*

Online/Traditional Learning Satisfaction	Strongly disagree		Disagree		N/A		Agree		Strongly agree	
	F	P	F	P	F	P	F	P	F	P

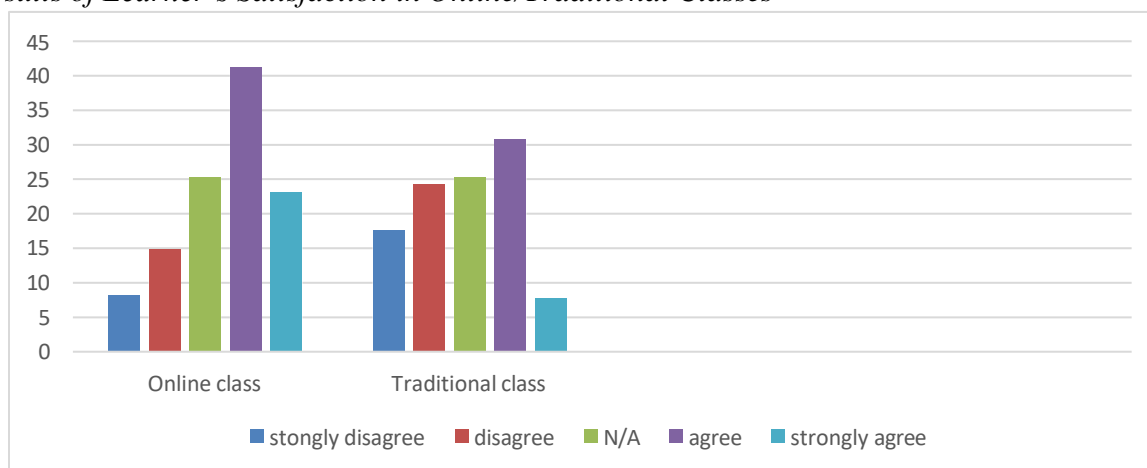


I am satisfied with the online/traditional classes.	O	2	6.6%	6	19.8%	0	0%	1	42.9%	9	29.7%
	T	6	19.8%	7	23.2%	8	26.4%	6	26.4%	3	9.9%
I am satisfied with the speed of the net in the online classes.	O	3	9.9%	5	16.5%	5	16.5%	1	46.2%	3	9.9%
	T	-	-	-	-	-	-	-	-	-	-
I am satisfied with the online/traditional teaching.	O	3	9.9%	4	13.2%	5	16.5%	1	36.3%	7	23.1%
	T	3	9.9%	7	23.1%	7	23.1%	1	42.9%	0	0
I am satisfied with the way that online/interaction classes are held.	O	2	6.6%	3	9.9%	4	13.2%	1	39.6%	9	29.7%
	T	7	23.1%	6	26.4%	6	26.4%	7	23.1%	4	13.2%
Total	O		8.25%	14.85		25.3%		41.25		23.1%	
	T		17.6%	24.23		25.3%		30.8%		7.7%	

Table 4 shows the results obtained from the questionnaire regarding their satisfaction with traditional and online classes. In order to have a clearer picture of the issue, the questionnaire items of strongly disagree and disagree were accumulated, and the items strongly agree and agree were also considered as one item. Accordingly, 64.35% of the participants agreed and strongly agreed that online classes are satisfying, while 38.5% of them believed that the traditional classes were satisfying. On the other hand, 23.15% of the participants claimed that they were dissatisfied with online classes, while 41.83% of them believed that traditional classes, were dissatisfying. Figure 2 compares the satisfaction level of the two types of classes.

Figure 3

Results of Learner's Satisfaction in Online/Traditional Classes



In order to investigate if there were any significant differences between the satisfaction level of the two groups in online and traditional classes, a *Chi-square* test was administered. Table 4 presents the results.

Table 4

Chi-square Test between the Participants' Satisfaction in Online and Traditional Classes

	groups	satisfaction	frequency
Chi-Square	.000 ^a	.000 ^b	.800 ^c
Df	1	4	8
Asymp. Sig.	1.000	.000	.999

According to the results presented in Table 4., there was a significant difference between the Participants' satisfaction in online and traditional classes ($\chi^2 = .8, p < .05$).

DISCUSSION

The first research question investigated the effect of the online classroom on EFL learners' level of interaction. The results of the *Chi-square* test revealed a significant difference between the interaction level of the participants in online and traditional classes with the interaction level being higher in online classes. Moore and Kearsley (2005) believed that interaction is an important aspect of all educational processes, irrespective of whether technology is involved or not. In this regard, the findings of the present research are in line with those of Lundin et al. (2018), who found that the flipped classroom approach positively affects classroom interaction patterns. In addition, interaction plays an essential role in distance education (McIssac et al., 1999). The findings also lend support to the study by Aslan (2022), which investigated the impacts of the flipped classroom approach on interaction levels in distance education classes and revealed that the flipped classroom approach positively affects students' interaction levels.

The second research question of the present research aimed to investigate EFL learners' satisfaction with online classes. The results of the study showed that the participants were more satisfied with online classes than traditional classes. According to findings from previous studies, the features of electronic learning are crucial in increasing students' satisfaction at universities (Naseri & Khodabandeh, 2019). Student delight is influenced by the first class of an e-learning system, which includes capabilities like software, informativeness, and ease of navigating the learning platform (Pham, Limbu, Bui, Nguyen, & Pham, 2019). In addition, in the same vein as the present research, Drennan, Kennedy, and Pisarski (2005) used the technology acceptance model (TAM) to investigate scholarly pleasure with online learning. They observed that scholars' pleasure was greatly improved in online learning. The findings also are comparable with the results obtained by Lin and Wang (2012), which confirmed the usefulness of technology in pleasure in a blended learning class. In addition, Ding and Zhang (2018) showed that online classes have an effect on users' involvement and satisfaction. Moreover, Melvina (2020), in a study, showed that Indonesian EFL learners realized that online learning was the best way. The researcher also showed that implementing online learning leads to more learner autonomy.



CONCLUSIONS

Interaction is an unsolved issue in online learning contexts (McIssac et al., 1999). Moreover, several studies showed that communication in classrooms is effective in online classes. According to some researchers (Ali & Ahmad, 2011; Holmes & Benders, 2012; Kuo et al., 2013), in environments with high interaction, students are happier. Further research may consider the effect of online classes on various variables of interaction patterns. In addition, the effects of interaction patterns on distance education may be investigated in various contexts by incorporating different tools into learning processes. In case it is properly implemented, online learning can be effective. Benefits such as managing time, developing suitable content, and shifting teaching methodologies can help to have a better outcome from online classes. Online learning can lead to more flexible classes. Future studies can consider the barriers to online learning by considering the importance of learners' voices. The findings of the present study can provide policymakers and educators with a new perspective on preparing for the using e-learning to make sure of student satisfaction.

Limitations

Like any other research, the present research has its own limitations. First, the sample consisted of EFL learners in one area of Iran, namely, Isfahan which may not be representative of the entire population of Iranian EFL learners; future research may employ longitudinal designs to investigate further evidence about online classes. In addition, in the present research only a number of 30 EFL learners were investigated, future studies can focus on a wider population. Thirdly, in the present study, a questionnaire was employed; other studies can scrutinize the issue using other instruments.

References

- Abdelaziz, A. M., Riad, M. A., & Senousy, M. B. (n.d.). Challenges and issues in building virtual realitybased. *International Journal of E-Education, E-Business, E-Management and E-Learning*, 4(4), 320–328. <https://doi.org/10.7763/IJEEEE.2014.V4.347>
- Ali, A., & Ahmad, I. (2011). Key factors for determining students' satisfaction in distance learning courses: A study of Allama Iqbal Open University. *Contemporary Educational Technology*, 2(2), 118–134. <https://doi.org/10.30935/cedtech/6047>
- Asarbakhsh & Sandars, J. (2013). E-learning: The essential usability perspective. *The Clinical Teacher*, 10(1), 47–50. <https://doi.org/10.1111/j.1743-498X.2012.00627.x>.
- Aslan, S., K. (2022). The effect of flipped classroom approach on learning achievement, online self-regulation and interaction in synchronous distance education. *Journal of Educational Technology & Online Learning*, 5(3), 535-552.
- Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking university. *Human Behavior and Emerging Technologies*, 2(2), 113–115. <https://doi.org/10.1002/hbe2.191>
- Bilal, S. (2015). E-Learning revolutionise education: An exploratory study. Conference: *E-Learning: A Boom or Curse*, 1–5.



- Bonaccorsi, G., Pierri, F., Cinelli, M., Flori, A., Galeazzi, A., Porcelli, F., ... Pammolli, F. (2020). Economic and social consequences of human mobility restrictions under COVID-19. *Proceedings of the National Academy of Sciences*, 117, 15530–15535.
- Chen, L., Li, B. B., Huang, W., Li, P. P., & Wang, W. (2020). New development of Chinese educational informationization on the twentieth anniversary-Interpretation of the top Chinese ten news of 2015 in educational informationization. *China Educational Technology*, 2, 80–87.
- Cheng, G., & Chau, J. (2016). Exploring the relationships between learning styles, online participation, learning achievement and course satisfaction: An empirical study of a blended learning course. *British Journal of Educational Technology*, 47(2), 257-266. <https://doi.org/10.1111/bjet.12243>
- Darcy, S. (2012). Disability, access and inclusion in the event industry: A call for inclusive event research. *Event Management*, 16, 259–265. <https://doi.org/10.3727/152599512X13461660017475>.
- Ding, L. & Zhang, P. (2018). Do secondary school students make use of effective study strategies when they study on their own? *Applied Cognitive Psychology*, 33(5), 952-957. <https://doi.org/10.1002/acp.3584>
- Domalewska, D. (2015). Classroom Discourse Analysis in EFL Elementary Lessons. *International Journal of Languages, Literature and Linguistics*, 1(1), 6-9.
- Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19 (pp. 1–25). *Education and Information Technologies*. <https://doi.org/10.1007/s10639-021-10523-1>
- Engzell, F. & Verhagen, M. W. (2021). Using the flipped classroom to enhance EFL learning. *Computer Assisted Language Learning*, 30(1–2), 1–21. <https://doi.org/10.1080/09588221.2015.1111910>
- Hitotuzi, N. (2005). Teacher talking time in the EFL classroom. *Profile Issues in Teachers Professional Development*, 4 (6), 97-106
- Holmes, J., & Benders, D. S. (2012). *Comparison between Distance Methods Versus Traditional Classroom in Teaching Intelligence Analysis*. Available at SSRN 2090375
- Huang, Tlili, A., Chang, T.-W., Zhang, X., Nascimbeni, F., & Burgos, D. (2020). Disrupted classes, undisrupted learning during COVID-19 outbreak in China: Application of open educational practices and resources. *Smart Learning Environments*, 7(1), 19. <https://doi.org/10.1186/s40561-020-00125-8>.
- Ja'ashan, M. M. (2020). The challenges and prospects of using e-learning among EFL students in bisha university. *Arab World English Journal*, 11(1), 124–137. <https://doi.org/10.24093/awej>.
- Jong, M. S. Y., Chen, G., Tam, V., & Chai, C. S. (2019). Adoption of flipped learning in social humanities education: the FIBER experience in secondary schools. *Interactive Learning Environments*, 27, 1–17. <https://doi.org/10.1080/10494820.2018.1561473>
- Karaman, E., G. (2015). *Development of an online course interaction level determination scale and design of automated estimation system* (Unpublished Doctor thesis). Atatürk University, Erzurum.
- Keengwe, J. & Kidd, L. (2010). *The challenges of e-Learning initiatives in supporting students with self-regulated learning and executive function difficulties*. Paper presented at the International Congress for School Effectiveness and Improvement (ICSEI), Limassol, Cyprus.



- Kuo, Y. C., Walker, A. E., Schroder, K. E., & Belland, B. R. (2014). Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses. *The Internet and Higher Education*, 20, 35-50. <https://doi.org/10.1016/j.iheduc.2013.10.001>
- Khodabandeh, F. (2018). The impact of storytelling techniques through virtual instruction on English students' speaking ability. *Teaching English with Technology*, 18(1), 24-36
- Kumari, D. S. (2001). Connecting graduate students to virtual guests through asynchronous discussions: Analysis of an experience. *Journal of Asynchronous Learning Networks*, 5(2), 53–63.
- Lee, Y. H., Hsieh, Y. C., Ma, C. Y., (2011). A model of organizational employees' eLearning systems acceptance. *Knowledge. Based Syst.* 24 (3), 355–366.
- Lundin, M., Rensfeldt, A. B., Hillman, T., Lantz-Andersson, A., & Peterson, L. (2018). Higher education dominance and siloed knowledge: a systematic review of flipped classroom research. *International Journal of Educational Technology in Higher Education*, 15(1), 1-30. <https://doi.org/10.1186/s41239-018-0101-6>
- Moore, M. G., & Kearsley, G. (2005). *Distance education: A systems view* (2nd ed.). Belmont, CA:Wadsworth Publishing Company.
- Naseri, E. & Khodabandeh, F., (2019). Comparing the impact of audio-visual input enhancement on collocation learning in conventional and mobile learning contexts. *Applied Research on English Language*, 8(3), 388-422.
- Sigala, M. (2002). The evolution of internet pedagogy: Benefits for learning English. *Journal of educational system*, 1(2), 29–45.
- Simpson, M., & Anderson, B. (2012). History and heritage in open, flexible and distance education. *Journal of Open, Flexible, and Distance Learning*, 16(2), 1-10. <https://www.learntechlib.org/p/147885/>
- Sisson, A. D., & Kwon, J. (2020). Effectiveness of E-learning as seen by meeting planners. *Journal of learning English*, 1–14. <https://doi.org/10.1080/10963758.2020.1791138>
- Tavitiyaman, R. & Fung, K. (2021). Flipping an engineering thermodynamics course to improve student self-efficacy. In *Paper presented at 2017 ASEE Annual Conference & Exposition*, Columbus, Ohio. <https://peer.asee.org/28368>
- Turekeeva, A. J. (2021). The importance of distance education. *Journal of Contemporary Issues in Business and Government*, 27(2), 1626–1632. <https://doi.org/10.47750/cibg.2021.27.02.171>.
- Vygotsky, L. (1978). Interaction between learning and development. *Readings on the development of children*, 23(3), 34-41.
- Wang, C. H., Shannon, D. M., & Ross, M. E. (2013). Students' characteristics, self-regulated learning, technology self-efficacy, and course outcomes in online learning. *Distance Education*, 34(3), 302- 312. <https://doi.org/10.1080/01587919.2013.835779>
- WHO (2020). COVID-19: IFRC, UNICEF and chen Issue Guidance to Protect Children and Support Safe School Operations. Retrieved from <https://www.who.int/newsroom/detail/10-2020-covid-19-ifrc-unicef-and-who-issue-guidance-to-protect-children-and-support-safe-school-operations>



- Wilkins, S., & Huisman, J. (2013). Student evaluation of university image attractiveness and its impact on student attachment to international branch campuses. *Journal of Studies in International Education*, 17(5), 607–623.
- Wu, J. H., Tennyson, R. D., & Hsia, T. L. (2010). A study of student satisfaction in a blended e-learning system environment. *Computers and Education*, 55(1), 155 -164. <https://doi.org/10.1016/j.compedu.2009.12.012>.

Appendices

Appendix 1

Interpretation for 5 items Likert scale for learner's interaction in online classes in Sky Room

Online (SkyRoom) learning interaction	Poor	Fair	Average	Good	Excellent
I interact with the students to study online.					
I have an active participation in online class.					
I try to be on time in online classes					
I have presentation in online classes					
I interact with the teacher in online classes					

Appendix 2

Interpretation for 4 items on the Likert scale for learner's satisfaction in online classes in SkyRoom

Online (SkyRoom) learning satisfaction	Strongly disagree	Disagree	N/A	Agree	Strongly agree
I am satisfied with the online classes					
I am satisfied with the online teaching					
I am satisfied with the speed of the net in the online classes					
I am satisfied with the way that online classes are held					

