International Journal of Research in English Education (IJREE)

Original Article **Published online: 20 September 2023.**

Predictors of Satisfaction in Virtual English Classrooms: The Case of Iranian EFL Learners

Farshad Sameni Keivani*

* Correspondence:
farshadsameni@gmail.com
1. Department of Management and Economics, Roudsar and Amlash Branch, Islamic Azad University, Roudsar, Iran

Received: 28 April 2023
Revision: 30 June 2023
Accepted: 24 July 2023
Published online: 20 September 2023

Abstract

The concept of an old-style teaching approach has changed totally over the past decade. Face-to-face classes have not been a unique method of learning with the advent of information technology. Improving information technology has changed the education system. The goal of the study is to determine what factors impact student satisfaction in online English classes. To achieve this goal, the questionnaires were distributed to a random sample of students in three branches of Islamic Azad University in Guilan province, Iran, in 2022. The branches of the university were Roudsar and Amlash, Langroud, and Lahijan. This paper explains the impact of the interaction in online English classes and technology tools as independent variables on the level of student satisfaction as the dependent variable. A simple linear multivariate regression was used to determine the significant relationship between the independent and dependent variables of the research. The regression model was estimated by applying the OLS approach using SPPS software. All hypotheses were accepted, which means that both independent variables impact the dependent variable. In addition, technology tools are more important than interaction to influence student satisfaction. In the end, several solutions were presented to improve the level of student satisfaction in online English classes.

Keywords: online English classes, technology tools, student satisfaction

[Downloaded from mail.ijreeonline.com on 2026-11-19]

[DOR: 20.1001.1.25384015.2023.8.3.2.2]

1. Introduction

Recently, one can easily access high-quality educational resources anywhere, anytime, as long as one can access a computer or a smartphone. This new era of the educational system is called the online education revolution (Josep, 2020). The Internet offers a tremendous treasure of educational resources (Shin & Hickey, 2021; Williamson, Eynon, & Potter 2020). Although in recent decades, the education system has tremendously improved towards online classes all over the world, the outbreak of Covid-19 is the biggest challenge that education systems have faced. With the spread of the virus and turning it into an epidemic, considering that the virus transmission mechanism depends on direct contact and airborne droplets, it is possible to transmit it in crowded and closed spaces. The country's universities decided to suspend face-to-face classes. Based on this, international organizations such as the World Health Organization requested the implementation of distance education for students in all universities. Online teaching has become a practical and beneficial technique for curriculum globally, concerning the safety of that as a result of coronavirus disease (COVID-19). Online learning can be offered to teach everybody, far and wide good hygiene practices to stop the spread of disease. It is also a weapon to combat the climate crisis which is a global issue (Ackerman, Beier, & Bowen, 2000; Dhawan, 2020; Ghavidel, 2022; Mathews & Basco, 2020; McWherter, 2017; Roach & Lemasters, 2006; Sintema, 2020; Winters & Patel, 2021).

The biggest advantage of online learning is that as long as one owns a computer or a laptop even a smartphone and an internet connection can access information from anywhere, anytime no matter in which part of the world he or she lives. Learning becomes much easier when it provides the needs and preferences of learners. Online education allows pupils to study at their own pace, whether they are busy adults, workers, or students. Also, its cost-effectiveness of it is quite impressive, with reusable online content, and no more travel and accommodation expenses. It can be planned to different wants. Different people learn in different ways and online education tries to do its best to make sure that all learning requirements are met. Not only students can commence their online education instantly, but they are also able to get instant outcomes, whether self-paced or trainer-led. It is unlimited. With online education location is no longer an obstacle, neither is culture and race. Online learning is better these days than it was past, and online education of the future will be better than now. Learners in online courses can effectively manage their time, learn the materials, and complete assignments on their plans to name just a few advantages of online education (AlShlowiy, Al-Hoorie, & Alharbi, 2021; Baber, 2020; Beltekin & Kuyulu, 2020; Di-Pietro, Biagi, Costa, Karpiński, & Mazza, 2020; Kite, Schlub, Zhang, Choi, Craske, & Dickson, 2020; Noori, 2021; Shenoy, Mahendra, & Vijay, 2020).

In contrast, online learning has some disadvantages. It is an alone action. Some people totally must have personal contact with their coaches or teachers to learn successfully. It may be impersonal (Banks, Gowen, Munro, & Adank, 2015). No matter how hard the teacher tries to fully transfer social communication to online boards, no matter how natural it appears to form contacts behind a laptop, computer or any smart device screen, a virtual environment is just not human. Nothing can be replacing social contact. Too much time spent in front of a computer or a tablet all the time can cause physical problems such as poor vision, strain injuries and so on. It requires self-discipline, if the online education audience looks for self-discipline, it is unlikely that they will be motivated to self-study. Traditional training and learning have the advantage of effortlessly getting results both improvement and falling behind. This acts for numerous pupils as well as many people who desire their progress to be closely checked to do. No matter how carefully you design your online learning course, there is no guarantee that your messages will get across. There is continually the hazard of your students just going through the material lacking paying any attention. It is tough to measure program results. Students must be self-motivated and disciplined to progress through their program promptly (Aitchison, 2012; Hakami, 2020; Malkawi, Bawaneh, & Bawa'aneh, 2021; Novikov, 2020; Shih & Chen, 2013).

In summary, the facts are that there are advantages and disadvantages to each kind of education environment. Pupils have to examine both advantages and disadvantages factors which contribute greatly to making an informed decision about the path of their occupation path in a centralized educational system like Iran. Students have to decide how they are going to complete their goals online, in the teaching space or a mixture of both. Hence, the main goal of this study is to increase the level of student satisfaction in online English classes to improve their skills and knowledge. To gain this goal, the effectiveness of some predictors of satisfaction in virtual English classrooms such as interaction and technology tools were discussed in this paper. The current study can contribute to discovering the faults, difficulties, challenges, and requirements of virtual English classrooms. It also tried to enrich the English skills by answering the following questions:

1. Has interaction had a significant impact (positive or negative) on student satisfaction in online English classes?

[Downloaded from mail.ijreeonline.com on 2026-11-19]

[DOR: 20.1001.1.25384015.2023.8.3.2.2]

2. Have technology tools had a significant impact on student satisfaction in online English classes?

Accordingly, the hypotheses are:

1. Interaction has a significant impact on student satisfaction in online English classes.

2. Technology tools have a significant impact on student satisfaction in online English classes.

2. Literature Review

Online education was helpful for universities to continue teaching in the course of the COVID-19 pandemic to control the outbreak of the illness. The capacity of traditional universities is limited and the capacity of virtual universities is almost unlimited, although this case can be different depending on the country that uses the virtual university and the existence of the necessary infrastructure. In traditional universities, full-time attendance is required, while in virtual universities it is possible to participate in meetings part-time, also by using recorded content that is used offline, the limitations of traditional universities can be covered to a large extent. The traditional form of universities has been in such a way that the lecturer is a talker. It has been held in a professor-oriented manner, while in virtual universities, it is more comprehensive and student-oriented. To form traditional universities, large and expensive infrastructures are needed, while for the creation of virtual universities if there is a suitable web infrastructure, it is possible to carry out far more and wider educational and learning activities with a smaller physical space and more dynamic activity. Even though online education is the only accessible solution to the disease, student satisfaction is vital for a successful learning and teaching procedure. Student satisfaction can be described as outcomes of attitude from an estimate of learning services, facilities, and experiences. Student satisfaction is associated with the worth of education practices. The level of student satisfaction in online English classes is related to numerous factors such as flexibility, course structure, communication, feedback, interaction, course structure, instructor skills, and technology tools. In addition, interaction between students and teachers is treasured in the learning procedure. Involving learners in formal extra program activities is a factor that can improve student satisfaction (AlShehri & Cumming, 2020; Davari, 2022; Mokhtarzadeh, 2021; Swartz, Gachago, & Belford, 2018).

However not much research has been done discovering the factors influencing student satisfaction in online English classes, but the study made an effort to explain the most related research concerning the current research. The research explained the effects of COVID-19 limitations on the performance of pupils at the advanced education level (Gonzalez Rubia et al., 2020). It applied a sample size of 458 pupils in two groups: experimental and control. Amazingly, the study showed that COVID-19 limitation had a positive effect on the act of the pupils and aided them to improve their learning plans of the pupils. Also, another research reviewed whether environmental factors impact student performance during the period of COVID-19. The study proved that the environmental factors during the period of the COVID-19 virus impacted learners' educational performance (Realyvásquez-Vargas et al., 2020).

Another study in Turkey by Elhadary et al. (2020) estimated the changes in the educational performance of social science students due to COVID-19 disease. The results exhibited many factors impact the educational performance of the pupils during the period of the COVID-19 disease. The paper also showed that both social and science students are satisfied with using online education. Loton et al. (2020) looked at virtual erudition and satisfaction and performance during the period of the COVID-19 disease. The outcome clarified that online education has a significant impact on student satisfaction and performance during the period of COVID- 19 crisis.

Another study conducted by Fatoni showed the advantages, solutions, and restrictions of online education for the period of the COVID-19 disease in the Indonesian context. The authors have discussed the performance of virtual education on student satisfaction during the period of the COVID-19 crisis (2020). Therefore, based on the results of the study, the COVID-19 crisis impacts the approach, performance, and learners' satisfaction. Another research by Almusharraf and Khahro evaluated the learners' satisfaction with virtual education during the period of the COVID-19 pandemic (2020). The outcomes of their research showed that all of the students were gratified with virtual erudition platforms and tools. The research as well displayed those learners had a high level of satisfaction based on the staff supporting their educational system during the disease. A more recent study in Kazakhstan by Bokayev and his colleagues investigated the satisfaction of parents and learners with virtual education during the COVID-19 crisis (2021). So, the studies revealed that the educational system and student performance have changed because of COVID disease.

[Downloaded from mail.ijreeonline.com on 2026-11-19]

[DOR: 20.1001.1.25384015.2023.8.3.2.2]

To the best of my knowledge, no study discussed the factors influencing student satisfaction in online English classes at the Iranian universities focused on Guilan province. Thus, the goal of this study is to determine whether interaction and technology tools impact student satisfaction in online English classes in three branches of IAU in Guilan province-Iran in 2022.

3. Methodology

3.1 Study Design

The current research is a quantitative study. The main purpose of the research is to investigate the influencing factors on the level of student satisfaction with online English classes at the university. Hence interaction and technology tools were assumed to function as the predictors of levels of student satisfaction. So, the regression analysis was utilized to predict the degree of change in one dependent variable, namely levels of student satisfaction, associated with the changes in the independent variables, namely interaction and technology tools.

3.2 Participants

The research targeted English as a Foreign Language (EFL) students in three branches of IAU in Guilan province, Iran. They were Roudsar and Amlash, Langroud, and Lahijan Branches. The statistical population of this research is all the students of these universities who took English courses for the first semester of the academic year 2021-2022. The sampling process used is based on the sampling technique of simple random to make an equal chance for all of the statistical population of this research. Cochran's formula was used to determine the statistical sample size. According to Cochran's Formula, the sample size should be 384 for a large population.

3.3 Instruments

The study carried out a questionnaire (See Appendix) to find out the relationship between the variables to test the hypotheses of the study based on the literature background and the attitudes of academic experts. The five points Likert scale was applied to design the questionnaire from one, strongly disagree, to five, strongly agree. It consists of two sections such as demographic of responders with 4 questions and 15 questions, five Likert options, related to the factors influencing student satisfaction and their satisfaction in the online English classes in the first semester of the academic year of 2021-2022.

3.4 Validity and Reliability

To check the validity of the questionnaire, feedback was obtained from four professors at IAU. The questionnaire was pilot-tested with 45 students at IAU who were not included in the research. The questionnaire was modified after receiving comments from the pilot study. Cronbach's Alpha coefficient was used to determine reliability. When the coefficient of Cronbach's Alpha is greater than 70 percent, the reliability of the questionnaire is acceptable. The Cronbach's Alpha values are displayed in Table 1. As it shows all of the values are more than 70 percent, so the reliability of the questionnaire is accepted.

Table 1. The results of the reliability test for the questionnaire

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.733	.742	15

3.5 Data Collection Procedure

To collect the data, the questionnaires were sent to university students directly and to the English lectures demanding them to share the questionnaire with their online English classes (See Appendix). They were asked to fill out the questionnaire and return them within two weeks. To make sure the participants for the privacy matter, was mentioned

[Downloaded from mail.ijreeonline.com on 2026-11-19]

[DOR: 20.1001.1.25384015.2023.8.3.2.2]

the aim of the questionnaires is just to do research. Since the sample size was 384 students based on Cochran's formula, questionnaires were distributed and data collection was stopped after receiving them.

3.6 Data Analysis

After getting data from questionnaires, the process of data analysis was begun via the Statistical Package for Social Science (SPSS) software. The descriptive statistical analysis was applied to estimate the frequency, percentage of relative frequency, percentage of cumulative frequency of demographic profile of respondents and the mean, and standard deviation of all study variables. Whereas the inferential statistical analysis was worked to evaluate the factors that impact student satisfaction with online English classes in the three branches of IAU. For this purpose, the study estimates simple linear multivariate regression. Regression analysis allows the decision maker to determine how much of the change in the dependent variable, here the levels of student satisfaction, can be caused by changes in other variables, the interaction in online English classes and technology tools. The paper also used multiple regression to determine them.

4. Results

Descriptive statistical analysis and inferential analysis were engaged to find out the factors influencing student satisfaction with online English classes at the universities. First, the descriptive statistics technique was used to describe the demographic characteristics of the statistical population. In this regard, frequency, percentage of relative frequency, and percentage of cumulative frequency were investigated. Central indices and dispersion indices were also computed for the variables. Tables 2 and 3 illustrated the descriptive statistics of participants based on gender and age, respectively. As the tables show, the majority of respondents are female with a percentage of relative frequency of 59.37. And most of them are young people between 18 and 25 years old.

Table 2. Descriptive statistic of participants based on gender and age

Gender	Frequency	Percentage of Relative Frequency
Male	156	40.63
Female	228	59.37
Total	384	100

Table 3. Descriptive statistic of participants based on gender and age

Age	Frequency	Percentage of Relative Frequency
18-25	193	50.26
25-30	132	34.38
Above 30	59	15.36
Total	384	100

In Table 4, statistical indicators including the mean and standard deviation of the research variables are presented. As can be seen from the average of the variables, the respondents have a relatively close opinion on most of the variables because the average of most are close to each other. Interaction and technology tools have the lowest and highest mean values 2.86 and 3.07, respectively.

[Downloaded from mail.ijreeonline.com on 2026-11-19]

[DOR: 20.1001.1.25384015.2023.8.3.2.2]

Table 4. Descriptive statistic of the average mean score of variables

Variables	Mean	Std. Deviation
Interaction	2.86	1.61
Technology Tools	3.07	1.54

For interpretation, first, the paper checked the R-Square value. Here, R-Square states what percent of the variability in the dependent variable, the levels of student satisfaction, is accounted for by the independent variables which are interaction in online English classes and technology tools. On the other hand, R-Square shows how much independent variables are predicting the dependent variable. This value illustrates the variability or the percentage that how much is predicted.

Table 5 presents the model summary. It shows the R-Square value is 0.52. So, it means that 52 percent of the independent variables are explaining the dependent variable. Hence, interaction in online English classes and technology tools are predicting the levels of student satisfaction by 52 percent.

Table 5. Results of the model summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimated
1	.69[a]	.524	.519	.65371

a. Predictors: (constant), interaction and technology tools

To interpret the model of the study, the second thing that must be checked is the probability of F-Statistics. The survey has to take a decision based on the F-Statistics and its significance. The probability of F-Statistics depicts the overall or combined effect of the model. It illustrates whether the model is fit or not. When the probability of F-statistic is lesser than 0.05 it means that it is significant and the overall model is fit. And the study can proceed further. But if the probability of F-Statistics is greater than 0.05 then the researcher will have to again peruse the conceptual model. He has to do some immense amendments to the model. The study cannot proceed and infer based on the results. But if the value is suitable, it is meeting the criteria which is fine. So, the study can proceed. Table 6 represents the results of F-Statistics and its probability. It shows the F-Statistics significant value is lesser than 0.05. Hence, it concludes that the overall model is fit and significant.

Table 6. The results of ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	68.257	2	21.561	69.734	.000[b]
	Residual	97.351	382	.272		
	Total	165.608	384			

a. Dependent Variable: Levels of Student satisfaction

b. Predictors: (Constant), Interaction and Technology Tools

For interpreting the model of the study, the third thing is Beta-Coefficients or the slope values which display the change in a dependent variable concerning change in independent variables. In addition, it illustrates the direction in that one variable has what type of effect, positive or negative. So, based on these values the study is going to interpret the results. The sig value shows a significant level. It shows the significance level of the relationship whether the

[Downloaded from mail.ijreeonline.com on 2026-11-19]

[DOR: 20.1001.1.25384015.2023.8.3.2.2]

relationship, whether the two relationship is significant or insignificant. T value depicts the same, it also states the significance level of the relationship. Whereas Beta illustrates the change, change in magnitude. It is a slope. Table 7 is the Beta-Coefficients results of the paper.

Table 7. The Beta-Coefficients results

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	0.926	.236		7.021	.000
	Interaction	.327	.051	.364	5.761	.000
	Technology_Tools	.469	.059	.482	6.924	.000

a. Dependent Variable: Levels of Student Satisfaction

The first relationship is the relationship between the interaction in online English classes and the levels of student satisfaction. Here, it shows that the interaction has a positive and significant impact on the levels of student satisfaction because the significance level is lesser than 0.05 and whenever the significance level is less than 0.05, it is concluded as significant. Here, we have a positive and significant impact of interaction on the levels of student satisfaction. According to the Beta-Coefficients in Table 7, when interaction increases by one unit the levels of student satisfaction increase by 0.327 Units. The relationship is positive. That is why it is increasing these values. They depict change. These magnitudes are showing the change in the dependent variable concerning an independent variable. So, it can interpret another variable in the same manner.

The second relationship is the relationship between the technology tools and the levels of student satisfaction. Here, it shows that the technology tools have a positive and significant impact on the levels of student satisfaction because the significance level is lesser than 0.05. Based on the Beta-Coefficients in Table 7, when technology tools increase by one unit the levels of student satisfaction increase by 0.469 Units. So, technology tools are more important than interaction to influence student's satisfaction. The amount of constant in the model is 0.926. It means that when all the variables are zero, all coefficients are zero, then the dependent variable is equal to constant. By assuming that interaction in online English classes and technology tools has no coefficient then the levels of student satisfaction are equal to 0.926 which is the interpretation of constant in this model.

Based on these results, the hypothesis mentioned earlier would be tested. The conceptual model has two hypotheses. The first hypothesis is that the interaction has a significant impact on student satisfaction in online English classes in three branches of IAU in Guilan province-Iran. It was hypothesized as the interaction has a positive impact on student satisfaction in online English classes. Now, the paper wants to check whether it is supported or not supported by applying the results of the regression. As Table 7 shows, it is getting the same result. So, in this case, the study will conclude that the hypothesis is supported.

Now, the paper checks the multi-collinearity, which is the illness of regression. If it exists in the model there is some distortion that gives inaccurate results. Multi-collinearity occurs when independent variables are correlated. It means that they are not independent variables, they are correlated with each other. If the relationship between independent variables is high, it causes problems and especially distorts the model results and gives false results. So, it is very important to detect and remove multi-collinearity problems from the model. It can be detected with the help of the variance inflation factor (VIF) which is an indicator of multi-collinearity. If the value of VIF is equal or lesser than 10 it will be concluded that there is no multi-collinearity. If the value is greater than 10 then there is some problem and have to fix it first. If there is any issue of multi-collinearity in the model, it should be detected those independent variables that are correlated with each other and after detecting it, can be removed from the model. Also, by applying factor analysis in the model, the survey can reduce multi-collinearity from the model. Now, the study checks the multi-collinearity by applying Table 8.

[Downloaded from mail.ijreeonline.com on 2026-11-19]

[DOR: 20.1001.1.25384015.2023.8.3.2.2]

Table 8. The Multi-Collinearity

Model		Tolerance	VIF
1	(Constant)	-	-
	Interaction	.623	1.506
	Technology Tools	.748	1.217

a. Dependent Variable: Levels of Student satisfaction

Based on the result, the values of VIF are about one which is far lesser than 10. So, it can conclude there is no multi-collinearity in the model. And the estimated results are accurate and unbiased.

5. Discussion and Conclusion

The current research aimed at studying mainly to improve the advantages of online English classes by determining the factors such as the interaction in online English classes and technology tools that impact the level of student satisfaction in online English classes in three branches of IAU in Guilan province, Iran. So, the five points Likert scale was applied to design the questionnaire. It consists of two sections as demographic of responders with 4 questions and 15 questions, related to the factors influencing student satisfaction in the online English classes in the first semester of the academic year of 2021-2022. They were distributed among 384 students to ask about influencing factors on their satisfaction in virtual English classes.

To check the validity of the questionnaire, feedback was obtained from four professors at IAU. The questionnaire was pilot-tested with 45 students at IAU. The questionnaire was modified after receiving comments from the pilot study. Cronbach's Alpha coefficient was used to determine reliability. All of the Cronbach's Alpha coefficients were more than 70 percent, so the reliability of the questionnaire was accepted. The data were analyzed via the Statistical Package for Social Science (SPSS) software. Descriptive statistical analysis showed that the majority of respondents are female with a percentage of the relative frequency of 59.37. And most of them are young people between 18 and 25 years old. Also, the finding illustrated that the average of the variables, the respondents have a relatively close opinion on most of the variables because the average of most are close to each other. Interaction and technology tools have the lowest and highest mean values 2.86 and 3.07, respectively. The findings of the inferential analysis showed that the interaction in online English classes and technology tools are predicting the levels of student satisfaction by 52 percent. The results of the paper revealed that both independent variables have a positive significant impact on the dependent variable in three branches of IAU. Also, technology tools are more important than interaction to influence student satisfaction. The outcomes of the research are in line with the studies conducted by (Aristovnik et al., 2020; Baber, 2020; Beltekin & Kuyulu, 2020; Elhadary et al., 2020; Khan et al., 2021; Mahdy, 2020; Novikov, 2020; Oyinloye, 2020; Realyvásquez-Vargas et al., 2020; Surahman & Sulthoni, 2020).

Based on the research, there are many barriers to online learning for both students and teachers. Online teaching is not the same as face-to-face teaching. Unlikely, most online English classes are not successful, because it does not focus on human nature. It does not consider the way that one learns. Science proved that humans learn and refocus much more through telling stories. Scenario and story-based learning can reduce the spending time on expertise on a specific topic because stories simulate the way of learning through real experience. Those stories and scenarios engage learners more than taking part in the quiz online learning. They create empathy more and drive engagement. Story and scenario-based learning is the best way to teach compound skills like problem-solving, collaboration, and creativity. It would be simulating an actual world practice and therefore accelerating expertise. Story and scenario-based learning empower learners and improve their level of satisfaction in online English classes and others. Everyone loves a public quiz. Online quizzes and challenges are great for helping students get motivated for the lesson and enhance their level of satisfaction. Also, if students are required to cooperate in class projects, their motivation and interaction will increase.

Collaboration is a critical skill for students of all ages to learn and can be worked on through class discussions, team-building exercises, or group projects. Students often sit at home by themselves to attend a classroom environment, Wi-Fi connections can drop, and it is difficult to set up presentations. It is challenging and all this causes a lack of

[Downloaded from mail.ijreeonline.com on 2026-11-19]

[DOR: 20.1001.1.25384015.2023.8.3.2.2]

motivation in students. The unpreparedness of the country's internet infrastructure has caused students to not be able to use the class well because students are more involved in connecting and disconnecting the sound during the class. Infrastructural problems such as high costs and internet disconnection, lack of sound and image quality, the most important of which was the professor's lack of familiarity with the virtual teaching environment, which created many risks for students. Some of the students get bored and leave the class quickly due to the internet problem and the frequent disconnections and connections. For this reason, solutions have been provided to motivate students in online English classes. Improving the internet infrastructure of the country and expanding the bandwidth of the educational site is one of the requirements to increase the level of satisfaction of students from online English classes. Adequate training to use the necessary technology improves student satisfaction with online classes. Therefore, to improve the level of student satisfaction with virtual education, improving the internet infrastructure should be done by the government.

References

Ackerman, P. L., Beier, M. E., & Bowen, K. R. (2000). Explorations of crystallized intelligence: Completion tests, cloze tests, and knowledge. *Learning and Individual Differences, 12*(1), 105–121. https://doi.org/10.1016/S1041-6080(00)00034-0

Aitchison, J. (2012). *Words in the mind: An introduction to the mental lexicon*. John Wiley & Sons.

Almusharraf, N. M., & Khahro, S. H. (2020). Students' satisfaction with online learning experiences during the COVID-19 pandemic. *International Journal of Emerging Technologies in Learning, 15*(21), 246–267. https://doi.org/10.3991/ijet.v15i21.15647

AlShehri, A., & Cumming, T. M. (2020). Mobile technologies and knowledge management in higher education institutions: Student and educators' perspectives. *Wje, 10*(1), 12-22. https://doi.org/10.5430/wje.v10n1p12

AlShlowiy, A., Al-Hoorie, A., & Alharbi, M. (2021). Discrepancy between language learners' and teachers' concerns about emergency: Remote teaching. *Journal of Computer Assisted Learning, 37*(6), 1528-1538. https://doi.org/10.1111/jcal.12543

Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on the life of higher education students: A global perspective. *Sustainability (Switzerland), 12*(20), 1–34. https://doi.org/10.3390/su12208438

Baber, H. (2020). Determinants of student perceived learning outcome and satisfaction in online learning during the pandemic of COVID19. *Journal of Education and E-Learning Research, 7*(3), 285–292. https://doi.org/10.20448/journal.509.2020.73.285.292

Banks, B., Gowen, E., Munro, K. J., & Adank, P. (2015). Cognitive predictors of perceptual adaptation to accented speech. *The Journal of the Acoustical Society of America, 137*(4), 2015-2024. http://dx.doi.org/10.1121/1.4916265

Beltekin, E., & Kuyulu, İ. (2020). The effect of Coronavirus (Covid19) outbreak on education systems: Evaluation of distance learning system in Turkey. *Journal of Education and Learning, 9*(4), 1-9. https://doi.org/10.5539/jel.v9n4p1

Bokayev, B., Torebekova, Z., & Davletbayeva, Z. (2021). Distance learning in Kazakhstan: Estimating parents' satisfaction of educational quality during the coronavirus distance learning in Kazakhstan: Estimating parents' satisfaction abstract. *Technology, Pedagogy, and Education, 30*(3) 1–13. https://doi.org/10.1080/1475939X.2020.1865192

Davari, M. (2022). Online reformulation and collaborative feedback: Its effect on EFL learners' writing performance during the COVID-19 pandemic. *International Journal of Research in English Education (IJREE), 7*(2), 101-

118. http://ijreeonline.com/article-1-656-en.html

Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *J. Educ.Technol. Syst., 49*(1), 5-22. https://doi.org/10.1177/0047239520934018

[Downloaded from mail.ijreeonline.com on 2026-11-19]

[DOR: 20.1001.1.25384015.2023.8.3.2.2]

Di Pietro, G., Biagi, F., Costa, P., Karpiński, Z., & Mazza, J. (2020). *The likely impact of COVID-19 on education: Reflections based on the existing literature and recent international datasets.* In Publications Office of the European Union, Luxembourg, EUR 30275 EN, ISBN 978-92-76-19937-3. doi:10.2760/126686, JRC121071

Elhadary, T., Elhaty, I. A., Mohamed, A., & Alawna, M. (2020). Evaluation of academic performance of science and social science students in Turkish Universities during COVID-19 Crisis. *Journal of Critical Reviews, 7*(11), 1740–1751. doi:10.31838/jcr.07.11.280

Ghavidel, M. (2022). Exploring Iranian EFL students' reflections of E-learning during the COVID-19 pandemic. *IJREE, 7*(4), 25-36. http://ijreeonline.com/article-1-697-en.html

Gonzalez, T., De La R-ubia, M. A., Hincz, K. P., Comas-Lopez, M., Subirats, L., Fort, S., & Sacha, G. M. (2020). Influence of COVID-19 confinement on student performance in higher education. *PLoS One, 15*(10), 239-

246. https://doi.org/10.1371/journal.pone.0239490

Hakami, M. (2020). Using Nearpod as a tool to promote active learning in higher education in a BYOD learning environment. *Journal of Education and Learning, 9*(1), 119-126. https://doi.org/10.5539/jel.v9n1p119

Khan, M. A., Vivek, Nabi, M. K., Khojah, M., & Tahir, M. (2021). Student perception towards e-learning during the covid-19 pandemic in India: An empirical study. *Sustainability (Switzerland), 13*(1), 1–14. https://doi.org/10.3390/su13010057

Kite, J., Schlub, T. E., Zhang, Y., Choi, S., Craske, S., & Dickson, M. (2020). Exploring lecturer and student perceptions and use of a learning management system in a postgraduate public health environment. *E-Learning and Digital Media, 17*(3), 183-198. https://doi.org/10.1177/2042753020909217

Loton, D., Parker, P., Stein, C., & Gauci, S. (2020). Remote learning during COVID-19: Student satisfaction and performance. *EdArXiv, 7*(3), 1-9. doi:10.35542/osf.io/n2ybd

Mahdy, M. A. A. (2020b). The impact of COVID-19 pandemic on the academic performance of veterinary medical students. *Frontiers in Veterinary Science, 7,* 1–13. doi: 10.3389/fvets.2020.594261

Malkawi, E., Bawaneh, A. K., & Bawa'aneh, M. S. (2021). Campus off, education on Uaeu student satisfaction and attitudes towards e-learning and virtual classes during the covid-19 pandemic. *Contemporary Educational Technology, 13*(1), ep283. https://doi.org/10.30935/cedtech/8708

Mathews, Y., & Basco, L. (2020). Social presence, synchronous tool sage and learning performance in the e-learning classroom: What is the bottom line? *IJREE, 5*(4), 80-100 http://ijreeonline.com/article-1-458-en.html

Mcwherter, S. (2017). The effects of teacher commitment on student achievement. *International Journal of Social Sciences & Educational Studies, 3*(3), 51-54. https://doi.org/10.23918/ijsses.v3i3p51

Mokhtarzadeh, M. (2021). Investigating the relationship between engagement and achievement in Iranian online English classes in the COVID-19 era. *International Journal of Research in English Education (IJREE), 6*(4), 75-90. http://ijreeonline.com/article-1-611-en.html

Noori, A. Q. (2021). The impact of COVID-19 pandemic on student learning in higher education in Afghanistan. *Heliyon, 7*(10). https://doi.org/10.1016/j.heliyon.2021.e08113

Novikov, P. (2020). Impact of COVID-19 emergency transition to on-line learning on international student perceptions of educational process at Russian University Philipp Novikov 1. *Journal of Social Studies Education Research, 11*(3), 270–302. Retrieved September 10, 2023 from https://www.learntechlib.org/p/217752/

Oyinloye, O. M. (2020). The possible impact of COVID-19 on senior secondary school student performance in science education in Nigeria. *Journal of Pedagogical Sociology and Psychology, 2*(2), 80–85. https://doi.org/10.33902/jpsp.2020263901

Realyvásquez-Vargas, A., Maldonado-Macías, A. A., Arredondo-Soto, K. C., Baez-Lopez, Y., Carrillo-Gutiérrez, T., & Hernández-Escobedo, G. (2020). The impact of environmental factors on academic performance of university

[Downloaded from mail.ijreeonline.com on 2026-11-19]

[DOR: 20.1001.1.25384015.2023.8.3.2.2]

students taking online classes during the COVID-19 pandemic in Mexico. *Sustainability (Switzerland), 12*(21), 1–22. https://doi.org/10.3390/su12219194

Roach, V., & Lemasters, L. (2006). Satisfaction with online learning: A comparative descriptive study. *Journal of Interactive Online Learning, 5*(3), 317–332. https://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=25F06184A22BE350880FE3E3EDB3E088?doi=10.1.1.455.9954&rep=rep1&type=pdf

Shenoy, V., Mahendra, S., & Vijay, N. (2020). COVID-19 lockdown technology adaption teaching, learning, student engagement and faculty experience. *Mukt Shabd Journal, 9*(4), 698-702. https://www.researchgate.net/publication/340609688_COVID_19_Lockdown_Technology_Adaption_Teaching_Learning_Students_Engagement_and_Faculty_Experience

Shih, Y. Y., & Chen, C. Y. (2013). The study of behavioral intention for mobile commerce: via integrated model of TAM and TTF. *Qual. Quant., 47*(2), 1009-1020. https://doi.org/10.1007/s11135-011-9579-x

Shin, M., & Hickey, K. (2021). Needs a little TLC: Examining college student emergency remote teaching and learning experiences during COVID-19. *Journal of Further and Higher Education, 45*(7), 973-986. https://doi.org/10.1080/0309877X.2020.1847261

Sintema, E. J. (2020). Effect of COVID-19 on the performance of grade 12 students: Implications for STEM education. *Eurasia Journal of Mathematics, Science and Technology Education, 16*(7), 1–6. https://doi.org/10.29333/ejmste/7893

Surahman, E., & Sulthoni. (2020). Student satisfaction toward quality of online learning in Indonesian higher education during the Covid-19 pandemic. *6th International Conference on Education and Technology (ICET)*, Malang, Indonesia, 2020, pp.120–125. https://doi.org/10.1109/icet51153.2020.9276630

Swartz, B. C., Gachago, D., & Belford, C. (2018). To care or not to care-reflections on the ethics of blended learning in times of disruption. *South African Journal of Higher Education, 32*(6), 49-64. https://doi.org/10.20853/32-6-2659

Williamson, B., Eynon, R., & Potter, J. (2020). Pandemic politics, pedagogies and practices: digital technologies and distance education during the coronavirus emergency. *Learn. Media Tech., 45*(2), 107-114. https://doi.org/10.1080/17439884.2020.1761641

Winters, N., & Patel, K. D. (2021). Can a reconceptualization of online training be part of the solution to addressing the COVID-19 pandemic? *J. Interprof. Care, 35*(2), 161-163. https://doi.org/10.1080/13561820.2021.1892615

[Downloaded from mail.ijreeonline.com on 2026-11-19]

[DOR: 20.1001.1.25384015.2023.8.3.2.2]

Appendix:

The Questionnaire

A. Interaction

1- Interaction is adequately maintained with the lecturer when he/she is on the other side of the online learning classroom.

2- I am satisfied with the way I interact with other students.

3- I am satisfied with the quality of interaction between all involved parties.

4- I am dissatisfied with the process of collaboration activities during the course.

5- I am satisfied with my participation in the class.

6- An online learning session keeps me always alert and focused.

7- An online learning course makes it more important for students to visit the lecturer during office hours.

8- I cannot interrupt the lecturer to ask a question when he/she is on the other side of the online learning classroom.

9- Having students from the opposite gender on the other side of the online learning classroom listening to what I say might restrict my participation.

B. Technology Tools

10- The instructor's voice is audible.

11- Course content shown or displayed on the smart board is clear.

12- The microphone is in good working condition.

13- The video image is clear and comprehensive when the lecturer is on the other side of the online learning classroom.

14- The technology used for online teaching is reliable.

15- Technical problems are not frequent and they do not adversely affect my understanding of the course.

[Downloaded from mail.ijreeonline.com on 2026-11-19]

[DOR: 20.1001.1.25384015.2023.8.3.2.2]