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Student Satisfaction with E-learning Applications in Teaching Turkish as a Foreign Language[1]

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Abstract

This study investigates students' satisfaction with e-learning applications for learning Turkish as a foreign language on the Microsoft Teams platform. It uses a convergent mixed-methods design that combines quantitative data from 110 learners with qualitative insights gained from focus group interviews. Quantitative results suggested no significant effect of gender on satisfaction levels, but significant differences were observed across age groups, geographical origin, and native language. A higher level of satisfaction was found among younger learners, Asian students, and non-Arabic speakers. Although the data meet the assumptions of a parametric test, the results for gender should be considered with care because there is an imbalance in participants and variance. The qualitative results confirm the quantitative ones by underlining core advantages of e-learning such as flexibility, accessibility, reduction of fatigue, and improvement in writing skills, and pinpoint a number of challenges related to limited interaction, technical issues, and loss of attention. The findings together attest that satisfaction with online TFL instruction results not only from technological features but also from demographic and linguistic diversity. The study adds to the growing literature on digital language learning by offering a nuanced understanding of the experiences of the learners and has some practical implications for designing more inclusive, responsive, and learner-centered online TFL environments.

Keywords: e-learning, Google Teams. online learning, student satisfaction, Teaching Turkish as a foreign language

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Introduction

Due to the development of digital technologies in the last two decades, learning environments worldwide have been transformed, and foreign language education has been among the areas of learning most affected by this transformation. During the pandemic period, this transformation has been in progress at an amazing speed, and synchronous and asynchronous tools have started to be applied in many institutions not only as a remedy to the pandemic but as a natural part of learning environments. The same has been true in the area of TFL, and thus, Microsoft Teams has started to be widely applied in the organization of interactive learning, etc. The integration of digital technologies into teaching practices may sometimes face various kinds of resistance due to the lack of sufficient institutional support or concerns that human interaction will decrease in education.

The pandemic period has caused a significant rise in the number of academic studies related to e-learning in higher education, ranging from the attitudes of students to online assessment practices and curriculum design (Fauzi, 2022; Brika et al., 2022). Among other characteristics, e-learning offers a set of advantages, like being able to work independently of time and space, the ability to personalize learning processes, structures that immediately offer feedback, and easier access to study materials (Zheng et al., 2023).

Ufuophu-Biri and Ijeh (2021) highlight that e-learning promotes adaptability in learning; students, from diverse geographical perspectives or with varied difficulties in accessing education, can better adapt to personalized online learning. Secondly, e-learning helps in the balancing of students' academic and personal responsibilities by providing access anywhere and anytime, as stated by Vanslambrouck et al. (2018). It also provides enhanced learning through e-learning, collaborative digital networks, multimedia contents, and other learning resources. This is an economically viable solution because it cuts down on the cost of infrastructure.

Despite the flexibility and structured delivery that online platforms provide, and despite the fact that learning and participation can be continued beyond geographical boundaries, the effectiveness of these learning platforms is inevitably dependent upon the perception and experience that students have. Despite the focus that past research has placed upon the general attitude that students have towards e-learning, little is known about the influence that demographic and linguistic factors have upon levels of satisfaction. The main research aims include obtaining the views that learners have about e-learning and assessing the influence that these views have upon other variables, including age, native language, and geographical background, with the thoughts that learners have about these variables being assessed in relation to e-learning. The research that has been conducted into e-learning satisfaction has, it seems, largely been based upon technological and quantitative results, with qualitative values often overlooked, or at least not always.

In this study, both quantitative and qualitative data were collected regarding learners' satisfaction during the training process delivered via Microsoft Teams, and a mixed-methods design was adopted for the research process. While the effects of the variables mentioned above were evaluated through quantitative analysis, qualitative data were also assessed through focus group interviews.

Problem Situation

Problem Statement

The change to online education has led to a substantial change in the language teaching paradigm. Nevertheless, the nature of the factors affecting the level of satisfaction of TFL students in synchronous online classes delivered through Microsoft Teams is not clear enough. Although there are many studies discussing the benefits of online learning, such as convenience and ease of access, and the drawbacks, including a lack of interaction and mental overload, most of these studies are of a descriptive nature. This study attempts to address this gap by focusing on the level of satisfaction of B2 level TFL students in online classes delivered through Microsoft Teams. The current study is informed by a convergent mixed-methods approach, in which the results of quantitative studies in which the level of satisfaction is correlated to demographic and linguistic variables are integrated with the results of focus group studies in which students' impressions about the benefits and weaknesses of online education are discussed.

In the literature, e-learning has been associated with certain well-documented advantages, including flexibility in time and space (Aslan 2006; Cantoni 2004; Martin et al. 2011; Tymoshchuk, 2022) and increased access to information (Grosu & David 2013; Indreica 2014). An e-learning environment can provide opportunities for participation for learners who experience difficulty in communication in person, or for high numbers of students, independent of physical limitations. E-learning systems also enable learning paths that are individualised in order to allow each student to progress at their own pace.

However, there are still some disadvantages: reduced interaction can demand a higher level of motivation from learners (Aslan, 2006; Koç, 2015) and online learning may be seen as less effective compared to traditional instruction. Some possible drawbacks include diminished communication competencies, difficulties in the reliability of assessment, and limited potential for socialization (Grosu & David, 2013). E-learning is also not as functional for those fields that include practical work, and sometimes needs special technical expertise to develop qualitatively good material (Klein & Ware, 2003).

Despite these limitations, the COVID-19 pandemic spurred online platforms to be widely adopted in all areas of education, including foreign language instruction. Existing studies have highlighted the fact that student satisfaction is related to academic achievement and participation in online environments (Rashidi & Moghadam 2014; Bolliger & Erichsen 2013). Meta-analyses reveal various levels of satisfaction among learners, instructors, and parents in online learning settings (Xu & Xue 2023) and prove that online learning can be as effective, or even more effective, than classroom instruction in some contexts (Sitzmann et al., 2006).

In foreign language teaching and learning, studies show that it has become an essential part of modern pedagogies (Abdelouahed, 2019; Tymoshchuk, 2022). While it allows learning outside the classroom, it also has its challenges, especially because there is less face-to-face communication (Trajanovic et al., 2007). Research both during and after the pandemic suggests that learners tend to have positive feedback over online language courses (Ayaz & Yağcı, 2023; Atan & Diop, 2024; İltar & Öztürk, 2022), especially when course structure and instructor presence support engagement (Shin & Sok, 2023).

Against this background, the current study aims at an in-depth understanding of the factors shaping satisfaction with e-learning in TFL by examining how demographic and linguistic variables relate to the satisfaction outcomes and by exploring learners' interpretations

of their experiences. This duality provides insights for improving the design and delivery of online TFL instruction.

Purpose and Significance of the Study

The purpose of the current research is to investigate the level of satisfaction in the learning process of the Turkish foreign language through the use of the electronic learning environment based on Microsoft Teams. Although the use of the electronic learning environment has already become an essential component of the teaching process of the foreign language, particularly after the conditions brought by the pandemic, there is a lack of research on the ways in which the complex characteristics of learners contribute to the satisfaction process in the electronic environment of the TFL. The majority of the previous research in the literature has focused on the general perceptions of the electronic environment without taking into account the particular characteristics of the learners that can lead to the process of satisfaction, as well as the experience of the learners in the technologically mediated environment.

This paper fills this gap by adopting a convergent mixed-methods design that combines quantitative satisfaction scores with qualitative insights based on focus group interviews. Investigating such variables as gender, age, geographical origin, and native language along with language family, the current study is underpinned by the expectation to make more informed statements about factors that condition online TFL learning satisfaction. In so doing, it also extends the current literature by assessing the pedagogical effectiveness, accessibility, and perceived quality of online instruction from the learners' perspective. By identifying for which groups of learners' satisfaction is higher or lower, and why, the study provides guidance in how more responsive, equitable, and student-centered e-learning environments may be designed.

Research Questions

RQ1. To what extent are B2-level TFL students satisfied with e-learning delivered via Microsoft Teams, and do satisfaction levels differ by gender, age, geographical origin, native language, and language family?

RQ2. How do students explain their satisfaction/dissatisfaction with e-learning in terms of communication, access to materials, instructor presence, course clarity, and system usability?

Method

Research Design

In the present study, a convergent mixed-methods design was followed. This study integrates both quantitative and qualitative approaches for the development of a holistic understanding regarding the satisfaction levels of students with the application of e-learning tools for the teaching of TFL. In the quantitative component of the mixed-methods approach, the researchers aimed at the measurement of the satisfaction levels through the application of a standard scale.

The quantitative component of the study enabled the researchers to reach a large number of participants, analyze the data statistically, and generalize the results for the larger

population. The qualitative component of the study was included for the purpose of supporting the results obtained from the quantitative component, which helped the researchers develop a rich understanding regarding the results obtained from the quantitative component. In the quantitative approach, both types of data were collected simultaneously, analyzed separately, and then integrated for the purpose of interpretation. The overall research question guiding this study was formulated as follows:

How do the quantitative satisfaction levels and qualitative opinions of students learning Turkish as a foreign language through the Microsoft Teams application relate to their e-learning experiences?

Rationale for Mixed-Methods Approach

The mixed-method design is more applicable for the purpose of this research, as it encompasses the quantitative outcome of the learners' satisfaction and the qualitative aspect that forms the basis for it. Quantitative research would have only shown the outcome without the context or culture that formed the basis for the learners' perception, while the qualitative research takes it a step further and provides a better understanding of the reasons for the higher or lower satisfaction levels for specific groups. The strands combine and improve the internal validity, providing a holistic understanding of the interaction between the demographic, linguistic, and technological aspects in TFL e-learning.

Study Group

Stratified purposive sampling was selected from purposive sampling methods. This method is preferred in order to show and describe the characteristics of certain subgroups of interest and to enable comparisons between them. (Büyüköztürk et al., 2013).

Table 1

Gender, Age and Geography of Language Learners

Group		n	%
Gender	Male	69	62.73
	Female	41	37.27
Age	17-25	42	38.18
	26-34	40	36.36
	35+	28	25.45
Geography	Asia	75	68.18
	Africa	35	31.82

One hundred and ten B2 level students took part in the research. 69 of them were male, and 41 were female. 42 out of 110 participants were 17-25 years old, 40 were 26-35 years old, and the rest were 28 people over 35. Out of the 110 participants, 75 were from Asia, while 35 were from Africa. This study investigates the independent variables of gender, age, geographical origin, mother tongue, and family language that may impact students' satisfaction with e-learning. Gender is taken into consideration because male and female students may be

different in terms of adapting themselves to digital learning environments. Age is investigated, bearing in mind that digital natives and digital immigrants have different perspectives on learning. Geographical origin is studied since variability in access to the internet and educational background may influence students' feelings about learning online. Mother tongue and family language are also studied since this influences the linguistic understanding of course material. The choice of these variables is based on earlier studies since this paper aims to see whether these factors will make a difference in the shaping of students' e-learning experiences.

Data Collection Tools

In this study, both quantitative and qualitative data collection tools were utilized within the framework of a convergent mixed-methods design. Quantitative data were collected by using the “Online Course Satisfaction Scale” developed by Bayrak, Tibi, and Altun (2020). The scale is a 10-item, 5-point Likert instrument, assessing students' satisfaction with the processes of online courses, instructor interaction, clarity of course structure, and perceived usability. None of the items is reverse-coded. The reliability coefficients reported by the authors were above .70 for all dimensions, and permission for scale use was granted prior to data collection.

Data for the qualitative strand were gathered through focus group interviews designed to elicit students' detailed perceptions about learning Turkish online. The researchers prepared a semi-structured interview form with 10 questions and asked three experts in the field to examine it in terms of the content relevance and appropriateness to the research purpose. Based on expert feedback, three items that did not correspond fully to the research problem were removed, and the remaining questions were revised and finalized.

The focus group interviews were conducted with 12 volunteer B2-level students, selected according to the following purposive criteria:
(a) regular participation in online Turkish courses for at least eight weeks,

(b) active engagement with the Microsoft Teams platform, and

(c) willingness to share experiences in a group discussion environment.

Interviews were conducted in two separate sessions, each lasting approximately 35–40 minutes. Discussions were held synchronously on the Microsoft Teams platform, and all interviews were audio-recorded with participants’ consent. Data saturation was reached by the end of the second session, as no new themes emerged.

Throughout the interviews, students were encouraged to elaborate on their experiences regarding the advantages, disadvantages, and perceived effectiveness of online Turkish language courses. The collected audio data were transcribed verbatim and prepared for qualitative analysis**.**

Data Analysis

Quantitative data were derived from the Online Course Satisfaction Scale and analyzed with SPSS 25.0. The values for skew and kurtosis ranged from -1.5 to +1.5, showing that the data were normally distributed. Thus, the satisfaction scores were compared based on demographic variables using independent samples t-tests and one-way ANOVA.

The qualitative data analysis started with the transcription of recordings of discussions in focus groups. The descriptive and content analysis took place through independent coding by two different experienced researchers. With multiple readings, codes were developed. These codes eventually took the form of themes on strengths, limitations, and overall effectiveness in relation to online instruction in Turkish. To assess coder agreement, Cohen's Kappa coefficient was calculated at 0.82, which is high. Disagreements were discussed and resolved, and the point where data saturation was reached was when no more new themes were emerging.

Table 2

Group Standard Deviation, Skewness and Kurtosis Coefficients

Group		SD	Skewness	Kurtosis
Gender	Male	4,641	-1,023	-,118
	Female	6,671	-,713	-1,433
Age	17-25	2,646	-,096	-1,238
	26-34	6,393	,766	-1,334
	35+	1,750	-1,325	1,490
Geography	Asia	5,233	-1,223	,107
	Africa	3,561	-,561	-1,386
Native Language	Arabic	2,489	-,474	-1,455
	Turkish dialects	2,632	,975	-1,243
	Persian	6,188	-,821	-1,170
	Russian	3,832	-1,366	,501
Language family	Semitic	1,783	-,287	-1,348
	Indo-European	5,901	-1,015	-,672
	Uralic	1,681	-1,175	-,243

Ethical Issues

The study was approved by the Ethics Committee of İstanbul Nişantaşı University (07.03.2024 – 2023/03). Participation in the survey and focus group interviews was voluntary, with informed consent from all participants. All quantitative and qualitative data were anonymized before analysis, and audio recordings with transcripts were kept confidential and used only for research purposes.

Findings

3.1. First Research Question

To assess whether a significant difference existed between the mean satisfaction scores of the participants with e-learning applications based on gender, the mean group scores were compared with the independent samples t-test and the findings are presented in Table 3.

Table 3

Comparison of Participants' Satisfaction with E-Learning Applications Based on the Gender Variable

Gender	N	Mean	SD	t	Sig.
Male	69	43,75	4,641	-,642	,52
Female	41	44,51	6,671		

Although Table 3 shows no statistically significant difference in satisfaction scores based on gender (t = –.642; p = .52), this finding should be interpreted with caution due to noticeable imbalances in the sample distribution. The number of male participants (n = 69; 62.73%) is considerably higher than the number of female participants (n = 41; 37.27%). In addition, the standard deviations of the groups differ markedly (SD_{male} = 4.641; SD_{female} = 6.671), suggesting a potential violation of the assumption of homogeneity of variances. Although the dataset satisfied normality assumptions (skewness and kurtosis within –1.5 and +1.5), such variance differences and unequal group sizes typically warrant the use of more robust statistical alternatives. For instance, *Welch's t-test* is recommended when group variances are unequal, as it does not assume homogeneity of variances. Additionally, a non-parametric alternative such as the *Mann–Whitney U* test could be employed to examine whether the finding remains consistent when distributional assumptions are relaxed. Using these alternative approaches would strengthen the robustness of the gender-based comparison and provide methodological confirmation of the current results.

3.2. Second Research Question

To assess whether a significant difference exists between the mean satisfaction scores of the participants with e-learning applications based on the age variable, the mean group scores were compared with one-way ANOVA test and the findings are presented in Table 4.

Table 4

Comparison of Participants' Satisfaction with E-Learning Applications Based on the Age Variable

Age Range	N	Ave.	SD	F	Sig.
17-25	42	47,14	2,646	5,310	***,00****
26-34	40	39,55	6,393		
35+	28	45,79	1,750		

As seen in Table 4, there was a significant difference between the mean satisfaction scores of the participants with e-learning applications based on the age variable (F=5,310; p=.00<.05). Tukey multiple comparison analysis was conducted to determine the source of the difference. The findings are presented in Table 4.

Table 5

Comparison of Participants' Satisfaction with E-Learning Applications Based on the Age Variable Sub-Dimensions

Age	Sub-Groups	SD	Sig.	95% Range Variable	
				Lower Limit	Upper Limit
17-25	26-34	7,593*	,000	5,34	9,84
	35+	1,357	,399	-1,13	3,84
26-34	17-25	-7,593*	,000	-9,84	-5,34
	35+	-6,236*	,000	-8,74	-3,73
35+	17-25	-1,357	,399	-3,84	1,13
	26-34	6,236*	,000	3,73	8,74

As seen in Table 5, the significant difference between the mean satisfaction scores with e-learning applications based on the age variable was between 17-25 and 26-34 (p=,00< .05), and 26-34 and 35+ age groups (p=,00< .05).

3.3. Third Research Question

To assess whether a significant difference exists between the mean satisfaction scores of the participants with e-learning applications based on geographical origin, the mean group scores were compared with the independent samples t-test and the findings are presented in the table.

Table 6

Comparison of Participants' Satisfaction with E-Learning Applications Based on Geographical Origin

Origin	N	Mean	SD	t	Sig.
Asia	75	45,43	5,233	4,189	***,00***
Africa	35	41,06	4,783		

As seen in Table 6 there was a significant difference between the mean satisfaction scores of the participants with e-learning applications based on the geographical origin variable (t= 4,189; p=.00< .05). As seen in the data, it was determined that there was a significant difference between the mean satisfaction scores of African and Asian students that favored the Asian students.

3.4. Fourth Research Question

To assess whether a significant difference exists between the mean satisfaction scores of the participants with e-learning applications based on the native language variable, the mean group satisfaction scores were compared with one-way ANOVA, and the findings are presented in Table 7.

Table 7

Comparison of Participants' Satisfaction with E-Learning Applications Based on Native Language

Native Language	N	Mean	SD	F	Sig.
Arabic	35	41,06	4,783	8,072	,00
Turkish dialects	16	46,00	,000		
Persian	45	44,40	6,188		
Russian	14	48,07	3,832		

As seen in Table 7, there was a difference between the mean satisfaction scores of the participants with e-learning applications based on the native language variable (F=8,072; p=.00< .05). Tukey multiple comparison analysis was conducted to determine the source of the difference. The findings are presented in the table.

Table 8

Comparison of Participants' Satisfaction with E-Learning Applications Based on Native Language Variable Sub-Dimensions

Language	Sub-Group	SD	Sig.	95% Range Variable	
				Lower Limit	Lower Limit
Arabic	Turkic dialects	-3,678*	,008	-8,88	-1,00
	Persian	-3,343*	,019	-6,29	-,40
	Russian	-7,014*	,000	-11,14	-2,88
Turkic dialects	Arabic	4,943*	,008	1,00	8,88
	Persian	1,600	,691	-2,20	5,40
	Russian	-2,071	,671	-6,85	2,71
Persian	Arabic	3,343*	,019	,40	6,29
	Turkic dialects	-1,680	,691	-5,40	2,20
	Russian	-3,671	,084	-7,67	,33
Russian	Arabic	5,671*	,000	2,88	11,14
	Turkic dialects	2,071	,671	-2,71	6,85
	Persian	3,671	,084	-,33	7,67

As seen in Table 8, the difference between the mean satisfaction scores based on native language was significant in Arabic-Turkish (p=,00< .05), Arabic-Persian (p=,01< .05) and Arabic-Russian (p=,00< .05) groups.

3.5. Fifth Research Question

To assess whether a significant difference exists between the mean satisfaction scores of the participants with e-learning applications based on the language family variable, the groups were compared with one-way ANOVA and the findings are presented in Table 9.

Table 9

Comparison of Participants' Satisfaction with E-Learning Applications Based on the Language Family

Language family	n	Mean	SD	F	Sig.
Semitic	35	41,06	4,783	8,841	,00
Indo-European	59	45,27	5,901		
Uralic	16	46,00	2,761		

Table 10

Comparison of Participants' Satisfaction with E-Learning Applications Based on the Language Family Variable Sub-Dimensions

Language family	Alt Groups	SD	Sig.	95% Range Variable	
				Lower Limit	Lower Limit
Semitic	Indo-European	-4,214*	,001	-6,81	-1,62
	Uralic	-4,943*	,005	-8,61	-1,28
Indo-European	Semitic	4,214*	,001	1,62	6,81
	Uralic	-,729	,869	-4,15	2,70
Uralic	Semitic	4,943*	,005	1,28	8,61
	Indo-European	,729	,869	-2,70	4,15

As seen in Table 10, the significant difference between the mean satisfaction scores with e-learning applications based on language family variable was observed between Semitic and Indo-European (p=,00<.05) and between Semitic and Uralic language families (p=,00<.05).

3.6. Sixth Research Question

In addition to Bayrak's “Online Course Satisfaction Scale” (2020), focus group interviews were conducted with 12 volunteer B2-level students. The answers to the question “What are your views on the advantages of online courses?” were as follows: S76: “We can participate whenever we want, this is very nice.” S1: “It improved my writing”. S10: “Online courses were very good.” S17: “It was very good, and I learned a lot.” S9: “It was comfortable and not tiring.” S41: “The advantage of online courses is the ability to study without leaving home.” S56: “Offline is better, I like face-to-face classes better.”

Participants' perceptions about the benefits of online courses were different depending on their experiences. Some students stressed the temporal and spatial flexibility of online courses, which enabled them to attend courses at any time and place that fitted their daily schedules. Moreover, online courses could enhance some kinds of skills, such as writing skills. Students thought that online courses could create a convenient environment while decreasing

physical fatigue, which, in other words, means that they were not so tiring and the classes were easier to attend.

On the other hand, some students reported that online courses could never replace face-to-face interaction. Students explaining face-to-face classes as more productive and satisfactory mentioned direct interaction and social contact in the physical classroom as something lacking. Such a result indicated that online and face-to-face learning modes have different advantages and disadvantages according to individual learning styles.

The answers to the question “What are your views about the disadvantages of online courses?” were as follows: S2: “Poor wifi can be a problem.” S35: “Online courses require a lot of concentration.” S10: “We could not see each other; I think this was the biggest disadvantage. The teacher could not notice the students who looked at their phones instead of following the instruction, because only their faces were visible, not their hands.” S34: ” The teacher did not communicate with the student except in exceptional cases and vice versa.” S11: “For me, the biggest disadvantage was communication difficulties.” S8: “It was a little difficult because I think it is better if it is not online.” Other students stated that online classes were quite good, and there were no disadvantages.

Participants' views about the disadvantages of the online course revealed various problems and limitations. One of the most obvious disadvantages was technical problems, e.g poor internet connection could halt instruction, which would negatively affect learning. Further, online courses required high concentration which could distract the students and reduce productivity. Another major problem was the lack of interaction between the students. Since only faces were visible on video, this could prevent an accurate assessment of the student's performance.

Answers to the question “Do you think online classes are effective in the instruction of the Turkish language? Elaborate” were as follows: S25: “Sometimes they were, sometimes they were not. It depended on the syllabus.” S10: “Yes, they were effective because students can learn from anywhere.” S18: “Yes, they were very effective.” S39: “Yes, but not always, they should be preferred in difficult times like COVID.” S45: “If the effectiveness of offline learning is 100%, then I think online courses were 75% effective.”

Table 11.

Students' responses to interview questions and themes

Question	Theme	Student Responses
Advantages	Time and Space Flexibility	"We can participate whenever we want, this is very nice." (S76) "The ability to study without leaving home." (S41)
	Improvement of Writing Skills	"It improved my writing skills." (S1)
	General Satisfaction	"Online courses were very good." (S10) “It was very good, and I learned a lot." (S17)
	Comfort and Reduced Physical Fatigue	“It was comfortable and not tiring." (S9)
	Lack of Face-to-Face Interaction	“Offline is better, I prefer face-to-face classes." (S56)
Disadvantages	Technical Issues	"Poor wifi can be a problem." (S2)
	High Concentration Requirement	"Online courses require a lot of concentration." (S35)
	Lack of Interaction and Engagement	“We could not see each other; I think this was the biggest disadvantage. The teacher couldn’t notice students who were looking at their phones instead of following the instructions because only their faces were visible, not their hands." (S10) “The teacher did not communicate with the students except in exceptional cases." (S34) “For me, the biggest disadvantage was communication difficulties." (S11)
	General Dissatisfaction	“It was a little difficult, I think it would be better if it was not online." (S8)
Effectiveness in Teaching Turkish	Variable Effectiveness	“Sometimes they were effective, sometimes not. It depended on the syllabus." (S25) “Yes, they were effective because students can learn from anywhere." (S10) "Yes, they were very effective." (S18)
	Limitations of Online Courses	"Yes, but not always. They should be preferred in difficult times like COVID." (S39)
	Comparison with Face-to-Face Learning	“If the effectiveness of offline learning is 100%, then online courses were 75% effective." (S45)

Participant comments on the effectiveness of online courses in the instruction of the Turkish language differed based on various factors. Certain students stated that online courses were effective. Since online courses are flexible and accessible, students can learn from anywhere. This was especially important for students in different geographical regions, and it facilitated access to instructional materials. Thus, online courses were considered highly effective by certain students.

Discussion, Conclusion and Implications

These findings extend the current understanding of the factors that influence students' satisfaction with e-learning environments while learning TFL. The quantitative results indicated that gender did not have a significant effect on the scores of satisfaction; however, the serious imbalance between male and female participants should be considered with caution. Prior research has reported mixed patterns related to gender (Lu & Chiou, 2010; Cuadrado-García

et al., 2010; Pham & Nguyen, 2021); the current study also supports such a view that gender may not, by itself, be a strong factor in determining satisfaction in online learning. However, differences in group sizes and dispersion highlight the importance of more balanced samples in future research. In this context, the absence of a significant gender effect could also be related to the design of online courses and to the institutional culture in which these courses were delivered. Course structure, instructor presence, and assessment procedures were identical across all groups of students, and this may have reduced any potential gender-based differences in access, participation, or support. In addition, overall satisfaction levels are relatively high for both male and female students, suggesting a possible ceiling effect that reduces the likelihood of finding small gender-based differences. Although the 26–34 age group showed significantly lower satisfaction than both younger (17–25) and older (35+) subjects, this finding is understandable in view of the unique characteristics associated with this developmental stage.

The main reason for low satisfaction with online courses among the 26–34-year-old students is that work and family, and similar responsibilities increase cognitive load. The qualitative results also highlight how difficult it is for this age group to focus on the course. Geographic origin is another predictor; Asian students generally reported higher satisfaction than African students since they usually have better internet and digital experience. Native language was an influential factor too; Arabic-speaking students had lower satisfaction when compared to other language groups since they are linguistically distant, with even alphabet differences.

There are studies containing similar results to our study. Functional and psychological barriers are mostly related to low levels of digital literacy, trust issues, and resistance to change (Muqtadiroh et al., 2019; Ma & Lee, 2019; Alshallaqi et al., 2022). Besides, other technical constraints include a lack of adequate infrastructure, use of outdated hardware, and lack of technical support, especially in settings where resources are constrained, and this may increase (Bouyzem & Al Meriouh, 2020).

Moreover, the diversification of teaching materials and the use of different assessment approaches together have been found to be the effective methods in enhancing stakeholders' participation and maintaining academic integrity (Bouyzem & Al Meriouh, 2020).

Various studies using different theoretical approaches comprehensively explain the barriers to the adoption of online learning, as they bring together technological, organizational, psychological, and sociocultural dimensions (Mushtaq et al., 2021; Ma & Lee, 2019). The results confirm other research studies conducted by Bond et al. (2018), Sagafe and Wendebon (2023), and Oktoma et al. (2023) that, indeed, various kinds of digital tools can enrich teaching and learning processes.

Qualitative data showed that although students saw flexibility as an advantage of TÖD, they mentioned lack of interaction, shortage of feedback, and attention problems among its important limitations. In this light, it is clear that online TÖD satisfaction is a multidimensional structure dependent not only on the platform but also on demographic characteristics, language background, and individual learning conditions.

Targeted Recommendations Based on Empirical Findings

For the 26–34 age group:

Design online modules that comprise shorter segments, with micro-breaks built in and reduced demands on concentration. Incorporating interactive checkpoints, attention-renewal activities, and asynchronous alternatives may directly address the cognitive load difficulties reported by this group.

For learners from the Semitic language family / Arabic-speaking learners:

Provide supplementary materials prepared to minimize linguistic distance: pre-lesson vocabulary lists, visual glossaries, transliteration support, and slowed-down content explanations. Instructors may also insert contrastive linguistic explanations in order to reinforce contextual understanding and facilitate switching between the Arabic script and the Latin-based Turkish alphabet.

For learners from regions with limited technological infrastructure (especially African participants):

Make the course design more bandwidth-friendly: offer downloadable content, audio-only alternatives, offline practice tasks, and low-resolution options for participation to mitigate connectivity-related dissatisfaction.

For older learners (35+):

Provide optional digital literacy mini-tutorials and platform navigation guides aimed at increasing comfort and reducing initial resistance toward online environments.

Limitations

This study has a number of limitations that should be borne in mind when interpreting these findings. First, while the sample size was sufficient to perform the analyses, the distribution of participants across demographic categories was not well matched. For instance, the number of male students was considerably higher than that of female students, while a similar imbalance could be seen between participants from Asia and those from Africa. Such unequal group sizes may have had an impact on the statistical comparisons. Although the parametric assumptions were met, the use of more robust alternatives, such as Welch's t-test or non-parametric methods, would further validate the stability of the gender- and origin-based results.

The second limitation is that the qualitative strand of this study involves only two focus group sessions with 12 volunteer students. Although data saturation was reached, a greater range of participants or multiple interview rounds could provide more diversity in their insights. Besides, even though inter-rater reliability was ensured through dual coding and calculation of Cohen's Kappa, results should also allow for interpretation within the context of the specific learning environment and institutional setting in which the study was conducted.

Third, although Microsoft Teams was the primary e-learning platform studied, students' previous familiarity with similar platforms or even the individual levels of digital literacy might

have affected their ratings of satisfaction. Comparing multiple platforms in one study or evaluating the impact of digital competencies on satisfaction are avenues for further studies.

The study was also carried out with B2-level learners in only one private institution in Istanbul. Therefore, the findings cannot be fully generalized to other proficiency levels, types of institutions, or other regions. Different replication studies might increase external validity through the use of larger and more diverse samples.

Declaration of Generative AI Use

Generative Artificial Intelligence (AI) tools were used solely for language editing purposes to improve the clarity, coherence, and readability of the manuscript. The authors reviewed and verified all content to ensure the accuracy and integrity of the final version. No AI tool was used for data analysis, interpretation, or generation of original research content.

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