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The effects of synchronous and asynchronous speaking activities on foreign language speaking anxiety and pronunciation development among intermediate EFL learners

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Abstract

This study investigated the effects of synchronous and asynchronous technology-mediated speaking activities on foreign language speaking anxiety among intermediate EFL learners. To investigate the research problem, a quantitative quasi-experimental design with pretest-post-test control group methodology was used, involving 60 university students at B1 CEFR level who were enrolled in two intact classes of speaking. Thirty participants engaged in synchronous speaking activities via Zoom application, while another thirty took part in asynchronous speaking activities through Flip for eight weeks. The Foreign Language Classroom Anxiety Scale (FLCAS) was used to measure speaking anxiety before and after intervention, and participants performed live three-minute speaking assessment that was further analysed for pronunciation with the help of Praat software. In order to analyse collected data, descriptive statistics, repeated measures analysis of variance, paired samples t test, and independent samples t test were applied. The results obtained indicate the decrease in speaking anxiety in both groups of participants after intervention. There is a significant main effect of time which indicates that technology-mediated speaking activities significantly decreased anxiety, $F(1, 58) = 442.59$, $p < .001$, partial $\eta^2 = .884$. In addition, there is a significant interaction between Time and Group variables which suggests that synchronous speaking activities decreased anxiety to a greater extent than asynchronous ones, $F(1, 58) = 44.91$, $p < .001$, partial $\eta^2 = .436$. Based on the above results, one can conclude that although both learning strategies contribute to affective domain development, real-time interaction gives better preparation for spontaneous communication and, thus, decreases speaking anxiety.

Introduction

Speaking in a foreign language is known to be one of the most stressful elements of second language acquisition. In contrast to reading and writing, speaking requires learners not only to perceive the information but to simultaneously activate linguistic knowledge and produce the response to it, a combination making speaking especially vulnerable to the influence of affects (Asysyfa et al., 2019; Harmer, 2001). Foreign Language Speaking Anxiety (FLSA) or the feelings of tension, apprehension, and nervousness related to speaking in a second language, has been consistently linked to learners' unwillingness to speak, reduced speaking opportunities, and decreased oral proficiency (Côté & Gaffney, 2021; Hanafiah et al., 2022). Therefore, the identification of pedagogical techniques helping to overcome speaking anxiety is a crucial issue in the field of second language acquisition and teaching. The recent progress in educational technologies opened some innovative ways to solve this problem. The mobile-assisted language learning and computer-assisted language learning environments provide flexible conditions for speaking practice, helping to create the context of non-threatening, low-pressure communication (Bashori et al., 2020; Rajendran & Yunus, 2021). Besides, technology-enhanced education goes well along with the task-based language teaching approach, which focuses on the meaningful communication and does not pay attention to form-focused accuracy of the speech, thus reducing learners' anxiety (Wen et al., 2021; Ramamurthy, 2019). Overall, technology and task-based language teaching seem to have great potential to create optimal conditions for developing speaking skills. However, there is one key gap in the relevant literature that needs to be addressed. Almost all existing researches examined the effectiveness of a particular platform of technology-assisted language learning or compared the impact of technology-enhanced speaking activities and conventional classroom activities (Farangi et al., 2015; Ebadi & Ebadijalal, 2020; Rahimi & Fathi, 2022). At the same time, very few studies paid attention to the aspect of synchronicity or whether real-time (synchronous) speaking activities and self-paced (asynchronous) speaking activities are equally effective or not. However, this issue is quite important in pedagogical terms since the ability to plan, rehearse, and repeat an assignment in asynchronous conditions may help learners to reduce performance anxiety, while in case of synchronous activities, learners need to produce oral language instantly just like during a face-to-face interaction, which increases their anxiety. Thus, knowing whether synchronous and asynchronous activities have equal or different effects on learners' anxiety is vital for designing a curriculum of online speaking.

For this purpose, the present study aims at investigating the effect of synchronous and asynchronous speaking activities on foreign language speaking anxiety. Specifically, it will be examined whether synchronous and asynchronous speaking activities affect foreign language speaking anxiety among intermediate EFL learners; whether there is any significant difference in the effectiveness of synchronous and asynchronous speaking activities on foreign language speaking anxiety.

Literature review

Foreign language speaking anxiety in EFL learning

Speaking is known to be one of the most difficult skills for English as a foreign language (EFL) learners because it requires learners to think of what to say and communicate it orally in real-time conditions while receiving input information simultaneously (Asysyfa et al., 2019). In contrast to reading and writing, speaking requires instant answers and constant communication with the interlocutor, thus being extremely vulnerable to the influence of affects. One of such factors is anxiety that has been proved to be one of the most significant obstacles to language acquisition (Tai & Chen, 2022). Foreign Language Anxiety (FLA) is a term denoting feelings of tension, apprehension, and nervousness associated with learning or using a second language (MacIntyre & Gardner, 1994). Many studies prove that the FLA level is negatively correlated with the language acquisition and overall language proficiency (Guo et al., 2018; Zhang, 2019). Nevertheless, speaking seems to be the most anxious aspect of language learning since the learner needs to perceive the information, understand the task, and produce the response immediately (Harmer, 2001). Consequently, Foreign Language Speaking Anxiety (FLSA) became one of the most studied affects in second language acquisition. Horwitz et al. (1986) developed the Foreign Language Classroom Anxiety Scale (FLCAS), which became one of the most popular measures of anxiety in second language learning. Later, Öztürk and Gürbüz (2014) modified the instrument to assess the Foreign Language Speaking Anxiety level. It has been demonstrated in many studies that highly anxious learners tend to be less active in the classroom discussion and have poorer oral proficiency (Côté & Gaffney, 2021; Bashori et al., 2020; Hanafiah et al., 2022). Similarly, Bensalem (2018) found that language anxiety had a negative effect on the language learning process, while Harjanto and Aguila (2016) showed that high anxiety levels are related to poor speaking performance. Therefore, reduction of speaking anxiety may be regarded as a means of enhancing the language learning process.

Technology-enhanced speaking activities and task-based language learning

The development of educational technology brought some opportunities to go beyond the traditional classroom in terms of speaking practice. Mobile-assisted language learning (MALL) and computer-assisted language learning environments provide flexible learning conditions enabling learners to perform speaking activities independently of time and place (Bashori et al., 2020). Technology-assisted learning also helps to provide learners with a less stressful condition for practicing oral communication as well as additional speaking opportunities (Rajendran & Yunus, 2021). Moreover, since mobile technologies provide learners with additional time to analyse the language input and prepare the answer before speaking, they may contribute to reduction of the stress associated with instant communication (Baralt & Gurzynski-Weiss, 2011). However, there is still comparatively little research on the effect of MALL on language anxiety (York et al., 2021).

Furthermore, technology-assisted learning has been always associated with the task-based language teaching approach, which is characterised by the predominance of meaningful communication over the manipulative practice of linguistic forms (Ziegler, 2016). Using technology, learners are able to perform communicative tasks, collaborate with each other, negotiate meaning, and construct their own knowledge via authentic communication (Canals & Mor, 2023; Ortega, 2007). All these principles are consonant with the theory of Second Language Acquisition which puts emphasis on the importance of interaction, collaboration, and social communication in the language acquisition process (Annamalai et al., 2022; Chapelle, 2003; Lantolf & Thorne, 2006; Levy & Stockwell, 2013).

The theoretical basis of task-based language teaching was laid by Prabhu (1987), then some definitions were offered by Long and Crookes (1992), Skehan (1998), and Ellis (2003). According to the definition of Ellis (2003), a task is a communicative activity, during which the learner needs to process the language information pragmatically in order to achieve some meaningful result. Unlike the teacher-centred instruction, the task-based language teaching encourages learners to pay attention to the message transmission and communication rather than to grammar and pronunciation (Lai & Li, 2011; Anjum et al., 2019). Since fear of negative evaluation and pronunciation mistakes is one of the main components of the speaking anxiety (MacIntyre, 2017), the task-based approach provides learners with an opportunity to develop their speaking skills in a psychologically comfortable environment.

In addition, previous research has shown that task-based language teaching has positive effects on learner affect and speaking performance. Wen et al. (2021) found out that task-based instruction significantly reduces learners' speaking anxiety among learners of Mandarin, while Ramamurthy (2019) noted that task-based speaking activities lower speaking anxiety and improve oral proficiency. Technology additionally complements the task-based approach since it provides the authentic conditions for performing communicative tasks, which makes it possible to involve learners in meaningful interaction outside the classroom (Doughty & Long, 2003; Skehan, 2003). Consequently, technology and task-based language teaching have become complementary approaches to enhance language learning and learner engagement (Ziegler, 2016).

Empirical studies on technology-supported speaking practice

There are growing numbers of empirical studies investigating the effectiveness of technology-assisted speaking activities in the development of speaking skills. It has been demonstrated that mobile technologies promote learners' interaction, personalisation of the learning process, increase learners' mobility, and motivate learners to communicate in various conditions (Kukulska-Hulme & Shield, 2008; Rosman, 2008; Sung et al., 2015; Ruofei & Di, 2022). Farangi et al. (2015) demonstrated that mobile podcasting had significant positive effects on speaking skills of upper-intermediate EFL learners, while Hwang et al. (2015) found out that mobile game-based learning improved both speaking

and listening skills. Similarly, Ebadi and Ebadijalal (2020) found out that the virtual role-playing increased learners' fluency and coherence, and Rahimi and Fathi (2022) revealed that language exchange applications improved fluency, lexical resource, grammatical accuracy, and pronunciation. Besides, the influence of technology on speaking anxiety has been researched. Bashori et al. (2021) revealed that ASR-supported speaking activities increased the frequency of speaking practice and reduced the levels of speaking anxiety. Qualitative research earlier showed that the level of learners' anxiety in case of interacting with technology was lower than their anxiety in case of face-to-face communication with peers and teachers (Bashori et al., 2020). Additionally, Ebadijala and Yousofi (2021) showed that mobile-assisted oral peer feedback could reduce learners' foreign language anxiety, while Yen-Chen (2022) concluded that technology-enhanced learning environments effectively reduced the public speaking anxiety among EFL learners.

However, there are still some gaps in the relevant literature. Although there are many studies on technology-assisted speaking activities, the majority of them examines a single technology platform or compares technology-assisted language learning with the conventional face-to-face instruction. There is comparatively little research on the difference between the effects of the different modes of technology-mediated speaking practice on learners' speaking anxiety and pronunciation development. In particular, only few studies examined the effectiveness of synchronous speaking activities, which required the instant oral interaction from learners, compared to the asynchronous speaking activities, which gave additional time to plan and evaluate learners' performance. Therefore, it is important to know which mode is more effective or whether these two approaches may be considered equivalent.

Research Questions

Question 1: To what extent do synchronous and asynchronous speaking activities reduce foreign language speaking anxiety among intermediate EFL learners?

Question 2: Is there a significant difference between synchronous and asynchronous speaking activities in improving foreign language speaking anxiety among intermediate EFL learners?

Methodology

Research design

In this research, a quantitative quasi-experimental pre-test-post-test design was used to study the effect of synchronous and asynchronous speaking on foreign language speaking anxiety and pronunciation development in intermediate English as a foreign language learners. To this end, two university speaking classes were assigned to synchronous and asynchronous speaking. Since the participants

were assigned based on the class they were enrolled in rather than random assignment, a quasi-experimental design was used in this study. Speaking mode (synchronous versus asynchronous) was the independent variable whereas speaking anxiety and pronunciation achievement were the dependent variables.

Participants

The participants consisted of 60 intermediate EFL learners enrolled in two university speaking classes. Thirty learners were assigned to synchronous speaking group and the rest of the 30 learners to asynchronous speaking group. The participants aged between 18 to 22 years and had a proficiency level of B1 according to Common European Framework of Reference for Languages (CEFR).

Prior to conducting the experiment, a speaking pre-test was done to see if there were any statistically significant differences between the two groups in terms of oral proficiency. It was found that no statistically significant difference existed between the two groups using an independent-samples t-test. The participation in the study was voluntary and the students were made aware that participating or withdrawing from the study would not affect their grade and course standing.

Materials and instruments

Foreign Language Classroom Anxiety Scale (FLCAS)

The speaking anxiety was measured using the Foreign Language Classroom Anxiety Scale (FLCAS) designed by Horwitz et al. (1986). The scale comprises 33 items rated on a five-point Likert scale and evaluates learners' communication apprehension, fear of negative evaluation, and test anxiety in foreign language learning. The FLCAS was filled before and after the experiment to see if any change occurred in speaking anxiety.

Speaking assessment

The speaking assessment involved doing an individual 3-minute spontaneous speaking task before and after the intervention. In each of the assessments, learners responded to unseen prompts related to a familiar topic without any preparation. Sample prompts were Describe a memorable trip and describe a person who has influenced your life. Both assessments were done live using Zoom to make sure that the pre-test and post-test situations were comparable.

Pronunciation analysis

All speaking assessments were analysed using the Praat acoustic analysis software (Boersma & Weenink, 2024). The analysis focused on two pronunciation factors related to speech intelligibility:

- **vowel reduction through accurate schwa (/ə/) production;**
- **accurate production of the English dental fricatives /θ/ and /ð/.**

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To ensure scoring reliability, two trained raters independently analysed a randomly selected 25% of the recordings. Inter-rater reliability was calculated before the remaining recordings were analysed.

Learning platforms

Speaking activities were performed by the synchronous speaking group via Zoom. The participants took part in live question-and-answer exercises with the tutor and gave spontaneous answers without any chance to repeat or revise their answers. Speaking activities were done by the asynchronous speaking group via Flip. The participants had the right to record themselves answering questions up to three times and then submit the answer they liked most. After that, the tutor gave written comments to each task.

Procedure

The study was conducted over a ten-week period.

Week 1: Pre-test

All participants completed the Foreign Language Classroom Anxiety Scale (FLCAS) questionnaire before the study commenced. After the questionnaire, participants underwent an individual three-minute live speaking assessment using the prompt not seen before via Zoom. Speaking assessments were recorded audio files and later analysed using Praat.

Weeks 2 – 9: Intervention

The intervention period lasted eight weeks during which participants were required to complete one speaking task per week based on the same prompts for discussion. In the case of the synchronous group, participants engaged in five-minute live question-and-answer sessions with the instructor via Zoom. Students responded spontaneously without any preparation or chances to do retakes. Follow-up questions were asked by the instructor in order to promote spontaneous interaction.

Asynchronous participants also completed speaking tasks via Flip. Students were able to make up to three attempts to record the speaking tasks, and then to submit the best attempt. This allowed participants to prepare and improve their performance. Written feedback was given to students by the instructor after each speaking task.

Week 10: Post-test

After the intervention period, all participants completed the Foreign Language Classroom Anxiety Scale (FLCAS) questionnaire once again. Then, they were asked to perform another three-minute live speaking assessment via Zoom using a different unseen prompt. There was no time for preparation. All speaking tasks were recorded in audio files and then analysed using Praat.

Data analysis

IBM SPSS Statistics (Version 30) was used to analyse quantitative data. Before conducting hypothesis testing, the data were checked for missing values, outliers, and conformity with normality requirements (using Shapiro-Wilk test, histograms, and normal Q-Q plots). Descriptive statistics, including means, standard deviations, minima and maxima, skewness, and kurtosis of all variables were calculated. Paired-samples t-tests were conducted in order to compare pre-test and post-test scores in each group and to see whether there was a significant change in speaking anxiety and pronunciation performance due to the intervention. Independent-samples t-tests were conducted in order to compare post-test scores of the synchronous and asynchronous groups and to see whether there was a significant difference between the two modes of practice.

Effect sizes were estimated using Cohen's d. Statistical significance was set at $p < .05$ for all tests.

Ethical considerations

Approval from the Research Ethics Committee of the University was obtained prior to starting the research. Participants were provided with the information sheet containing the purpose, methods, possible risks and benefits of the study. Written informed consent was obtained from all participants before collecting data. Participants had full right to withdraw from the study at any point without any academic penalties. In order to protect participants' privacy, all personally identifiable information was excluded from the datasets, and anonymous ID codes were used for each participant. All

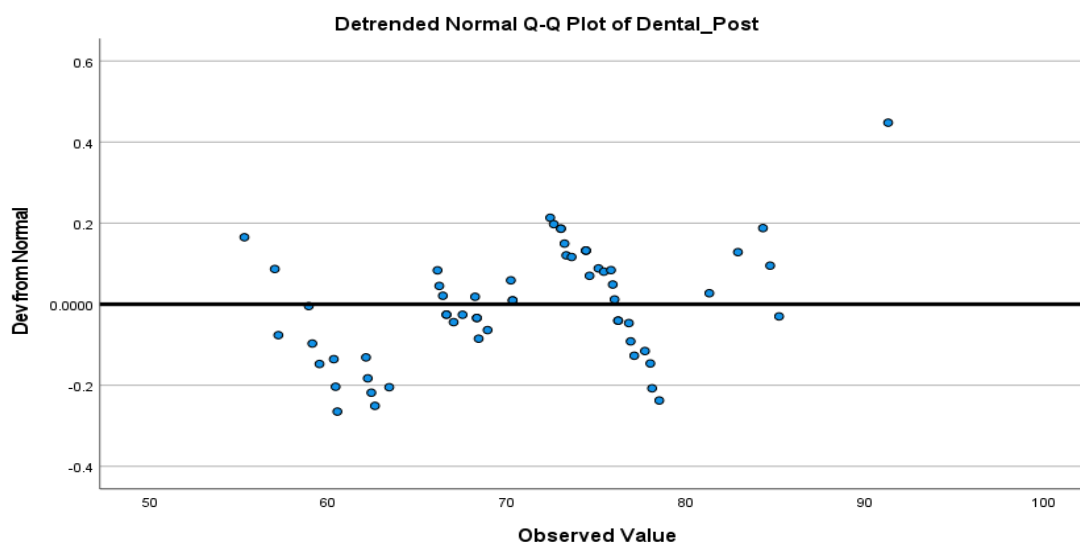
questionnaire responses and audio files were stored safely on password-protected computers available for the research team only.

Analysis

Figure 1 shows the mean FLCAS scores for both asynchronous and synchronous groups at pretest and post-test levels. It is evident from the results that both groups showed significant decrease in anxiety after the intervention which implies that engaging in the speaking tasks helped reduce foreign language anxiety. While the mean score of the asynchronous group dropped from 102.23 to 95.07, the mean score of the synchronous group was significantly reduced from 107.10 to 93.23. Even though the synchronous group had higher levels of anxiety compared to the asynchronous group at the initial level, it recorded the lowest level of anxiety during the post-test stage. This steep fall in anxiety scores for the synchronous group is clearly depicted in Figure 1 below and it agrees with the findings in Table 2.

Figure 1

Mean FLCAS scores by group



As illustrated in Figure 2, the paths of decreased foreign language anxiety were not identical for the two instructional groups. Even though both groups improved in their anxiety levels, the synchronous group demonstrated a more significant reduction in FLCAS scores compared to the asynchronous group. The slopes of the two lines are not parallel, indicating an interaction between the time

factor and instructional treatment, which can be supported by the statistically significant Time × Group interaction found in Table 2 ($F(1, 58) = 44.91, p < .001$).

Figure 2
Interaction between time and group

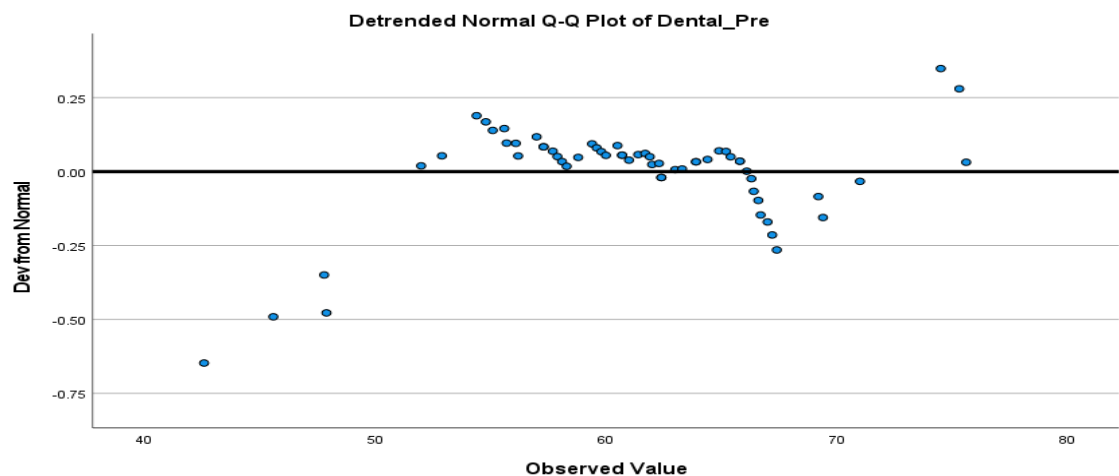


Table 1
Descriptive statistics for FLCAS scores

	Group	Mean	Std. Deviation	N
FLCAS_Pre	Asynchronous	102.23	10.582	30
	Synchronous	107.10	9.935	30
	Total	104.67	10.468	60
FLCAS_Post	Asynchronous	95.07	11.377	30
	Synchronous	93.23	9.877	30
	Total	94.15	10.604	60

The descriptive statistics in Table 1 present the pre-test and post-test Foreign Language Classroom Anxiety Scale (FLCAS) scores for the asynchronous and synchronous groups. At the pre-test stage, the asynchronous group recorded a mean anxiety score of 102.23 (SD = 10.58), whereas the synchronous group demonstrated a slightly higher mean of 107.10 (SD = 9.94), indicating that participants

in the synchronous condition initially experienced greater foreign language speaking anxiety. Following the intervention, both groups exhibited lower anxiety scores, suggesting an improvement over time. The asynchronous group achieved a post-test mean of 95.07 (SD = 11.38), while the synchronous group obtained a lower mean of 93.23 (SD = 9.88). This finding indicates that although both instructional approaches contributed to reducing foreign language classroom anxiety, the synchronous speaking activities resulted in a greater reduction in anxiety levels than the asynchronous activities. The relatively similar standard deviations across both testing occasions further suggest a consistent spread of scores within each group.

Table 2

Within-subjects contrasts for FLCAS scores

Measure: MEASURE_1

Source	Time	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Time	Linear	3318.008	1	3318.008	442.588	.000	.884
Time * Group	Linear	336.675	1	336.675	44.909	.000	.436
Error(Time)	Linear	434.817	58	7.497			

The repeated-measures ANOVA within-subjects contrasts presented in Table 2 examined changes in foreign language classroom anxiety over time and whether these changes differed between the two instructional groups. A statistically significant main effect of time was identified, $F(1, 58) = 442.59$, $p < .001$, partial $\eta^2 = .884$, indicating that participants' anxiety levels decreased significantly from the pre-test to the post-test regardless of group membership. The very large effect size demonstrates that the intervention period accounted for a substantial proportion of the variance in anxiety scores. In addition, a statistically significant interaction between time and group was observed, $F(1, 58) = 44.91$, $p < .001$, partial $\eta^2 = .436$. This significant interaction indicates that the magnitude of improvement differed between the asynchronous and synchronous groups, with the synchronous speaking activities producing a greater reduction in foreign language classroom anxiety than the asynchronous ac-

tivities. Overall, these findings demonstrate that both instructional approaches were effective in reducing speaking anxiety, although synchronous speaking practice yielded significantly stronger improvements.

Discussion

This paper sought to investigate the extent to which synchronous and asynchronous speaking activities with the help of technologies helped to reduce foreign language speaking anxiety in intermediate EFL learners, and to identify whether there was a significant difference between the two instructional methods. According to the findings, both synchronous (Zoom) and asynchronous (Flip) speaking activities resulted in significant anxiety reduction in intermediate EFL learners. It is worth noting that a very large main effect of time (partial $\eta^2 = .884$) has been found. The results of this study are in line with many other empirical studies conducted in recent years that prove that technology-enhanced speaking practice creates a more secure psychological environment for oral communication and thus helps to decrease learners' anxiety (Bashori et al., 2020, 2021; Rajendran & Yunus, 2021; Yen-Chen, 2022). However, an interesting and new finding was the interaction effect between Time and Group (partial $\eta^2 = .436$) suggesting that synchronous activities caused a considerably larger reduction in anxiety than asynchronous activities despite the fact that the former started with higher levels of anxiety. Therefore, this study allows us to reveal some new aspects of the mechanism of the effect of technology-mediated speaking practice on foreign language speaking anxiety.

Both synchronous and asynchronous instructional methods used in this study resulted in anxiety reduction can be explained in the light of Task-Based Language Teaching (TBLT) as the tasks used in this study were based on its principles. The two groups practiced in communicative activities focusing on meaning rather than form what helped learners to reduce their fear of making errors in grammar or pronunciation which is one of the major sources of foreign language speaking anxiety (Lai & Li, 2011; Anjum et al., 2019; MacIntyre, 2017). The tasks used in this study helped learners to reduce their fear of negative evaluation, which is a major constituent of foreign language anxiety (Horwitz et al., 1986). These findings are supported by the results of previous empirical studies proving that the implementation of task-based instruction helps to reduce significantly learners' anxiety (Wen et al., 2021) and speaking anxiety in particular (Ramamurthy, 2019). What is more, using

mobile and online technologies allowed learners to participate in oral practice in low-stress situations, which is in line with the arguments that CALL and MALL environments help to overcome the affective barriers to speaking (Baralt & Gurzynski-Weiss, 2011; Bashori et al., 2020).

Although both instructional methods turned out to be effective, it is worth paying special attention to the significantly larger reduction in anxiety in the synchronous group. It seems strange that the results of this study contradict the assumption that the use of asynchronous tools providing extra time for planning and repeating contributes better to reducing anxiety as they help to eliminate the immediate pressure of real-time interaction (Baralt & Gurzynski-Weiss, 2011). According to the results of the current study, although asynchronous activities may create some relief during the performance of the task, it does not mean that it will decrease the level of anxiety during real-time speaking, which causes the highest level of foreign language speaking anxiety (MacIntyre, 2017). The post-test required students to respond to an unseen prompt through Zoom what created the same context as during the synchronous practice but not the asynchronous one. The close correspondence of the synchronous practice context and the post-test context, from the viewpoint of the transfer-appropriate processing, helped to facilitate anxiety transfer to the post-test situation in the synchronous group. In the case of asynchronous practice where participants were asked to record their responses multiple times and then choose the best one, this type of practice could not help to develop learners' ability to deal with the demands of spontaneous oral production what, as a result, made them anxious about the possibility of real-time interaction.

Another reason why there was a bigger reduction in anxiety in the synchronous group is the concept of habituation and desensitisation. Learners' exposure to the feared stimulus which in the current case is speaking with an interlocutor helps to reduce communication apprehension and increases willingness to communicate (MacIntyre, 2017; Tai & Chen, 2022). In the synchronous condition, learners were expected to process the linguistic input, come up with the response and produce it without any rehearsal. Thus, in the synchronous condition, the demands of the speaking task closely simulated the demands of real-life oral interaction. Over time, this kind of training could help learners to reduce their physiological and cognitive reactions and increase the level of comfort with the spontaneous speaking. Asynchronous tasks with the possibility of multiple recording attempts did

not help to overcome this problem as they focused on planning and editing of responses which helped learners to develop more accuracy but did not help to overcome the core reason of speaking anxiety—the inability to control one's output in real time. These findings supplement the results obtained in the study conducted by Bashori et al. (2020) proving that learners experience lower anxiety when interacting with technology rather than human interlocutors. According to the findings of this study, if human interaction takes place in the structured, supportive and repetitive synchronous context, it is possible to overcome learners' anxiety effectively.

Thus, the results of the current study add to the existing literature on comparison of synchronous and asynchronous speaking activities in terms of their effect on foreign language anxiety. The vast majority of the literature focuses on one tool only (Farangi et al., 2015; Ebadi & Ebadijalal, 2020; Rahimi & Fathi, 2022) or on the comparison of technology-mediated practice with face-to-face instruction. Isolating the aspect of synchronicity in this study, it was possible to find support to the idea that real-time interaction even if mediated by technology plays a vital role in reducing foreign language speaking anxiety. This finding corresponds with the idea that synchronous communication creates the sense of immediacy and social presence that may increase learners' engagement and decrease the emotional distance that characterises asynchronous exchanges (Ziegler, 2016; Canals & Mor, 2023). In addition, these findings correspond to the ideas of second language acquisition theorists who emphasise the importance of interaction, collaboration, and negotiation of meaning in second language learning and positive learners' affect formation (Lantolf & Thorne, 2006; Chapelle, 2003). From a pedagogical perspective, these findings provide important recommendations for the development of technology-enhanced speaking courses. Asynchronous speaking activities that help learners to reflect on their linguistic knowledge, self-monitoring and practice pronunciation are extremely helpful, but it seems that they do not help to reduce learners' anxiety connected with real-time communication. Therefore, instructors and curriculum developers should include regular speaking tasks into their online or blended courses in order to help learners to become more comfortable with spontaneous oral interaction. It would be beneficial to combine both types of activities:

asynchronous activities may help to give learners some experience in linguistic form and get individualised feedback, and synchronous activities are a good opportunity to get used to real-time communication.

It is necessary to mention several limitations of the current study. Firstly, it used quasi-experimental design with intact groups what prevents researchers from making claims of causality which are possible to make in the case of random assignment. Secondly, the sample of this study has been recruited at the one private university only and consisted of B1-level learners, which limits the generalisability of the findings. Absence of a no-treatment control group makes it difficult to measure the specific contribution of the speaking tasks in the anxiety reduction. In addition, the self-report measure has been used to assess anxiety only. Future researchers should pay attention to the combination of physiological indicators of anxiety and qualitative data like stimulated recall interviews. Finally, the intervention lasted only eight weeks, and it is necessary to conduct further long-term studies in order to see whether the effects of synchronous and asynchronous practice on speaking anxiety are stable.

Conclusion

The purpose of this study was to compare the effectiveness of synchronous and asynchronous speaking activities in reducing foreign language speaking anxiety in intermediate EFL learners. It provided strong evidence of the significant reduction in anxiety both in synchronous (Zoom) and asynchronous (Flip) groups. This finding reinforces the growing consensus regarding the fact that well-designed digital speaking environments help to overcome the affective barriers in oral language development, especially when tasks are communicative and prioritise meaning over accuracy (Bashori et al., 2021; Wen et al., 2021). However, what makes the results of this study more interesting is the significant interaction effect: although synchronous group started with higher anxiety, it experienced a significantly bigger reduction than asynchronous group. Contrary to the intuition, this finding proves that real-time interaction helps more to decrease anxiety.

The implications for the teaching practice are obvious: although asynchronous speaking activities provide valuable opportunities for reflection, self-monitoring and scaffolded oral production, they do not help to prepare learners for managing the stress of spontaneous communication. Thus, instructors and curriculum developers should integrate regular speaking tasks into online and blended

courses, using them not only for the performance assessment but for habituation of learners to the demands of real-time interaction. A sequential approach with the implementation of asynchronous tasks for initial practice and form-focused rehearsal followed by synchronous tasks for interactive language use may provide the optimal path for learners from controlled practice to real-time performance.

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Conflict of interest

The researcher confirms that there is no conflict of interest associated with this study.

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