

The Impact of Collaborative Learning on Speaking Anxiety Among Foreign Language Learners in Online and Face-to-Face Environments

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ABSTRACT

While speaking anxiety is one of the most problematic aspects observed in English as a foreign language (EFL) context, a limited number of studies focused on the impact of collaborative learning on speaking anxiety in different learning environments. This study investigates the effects of collaborative tasks on foreign language learners' speaking anxiety in face-to-face and online learning contexts. In this experimental study, the data were collected from 34 foreign language students with a questionnaire consisting of a background part and a scale for measuring speaking anxiety. Even though the results revealed changes in speaking anxiety levels after the collaborative instruction in the face-to-face environments, no differences were found between face-to-face and online environments in terms of the impact of collaborative instruction on learners' speaking anxiety.

KEYWORDS

Collaborative Learning, English as a Foreign Language, Face-to-Face Environments, Online Environments, Speaking Anxiety

INTRODUCTION

Speaking is considered one of the most important language skills. The main reason why this skill is so important is that it is the most efficient method to convey meaning, and thus, it is considered the primary means of communication (Sudarmo, 2021). However, learning speaking skills can be much more complicated since it consists of various components such as phonetic, phonologic, lexical, and pragmatic knowledge. A great speaker not only knows what to speak and when to speak, but he is also aware of the delivery of the structures and how they are socially appropriate. Since speaking is a complex skill that requires the ability to produce the language within a context, mastery of it is crucial in language learning. Therefore, most language learners measure their competency through speaking abilities and performance (Burns & Goh, 2012). In other words, speaking well is believed

DOI: 10.4018/IJVPLE.316973

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to be a concrete sign of language learning. Another reason is that learners can build an understanding of the foreign culture and language through interaction since the speech includes the message and some cultural and contextual clues based on the way the speech is delivered. Finally, even though most language teachers are aware of the importance of speaking and try to follow a communicative approach in language teaching, students usually master the reading and listening skills before speaking which is a concrete sign of how challenging it is to teach and acquire.

On the other hand, foreign language learners are affected by both cognitive and affective factors when it comes to speaking. One of the most problematic affective factors is believed to be speaking anxiety since it is also the most frequently observed in an EFL classroom. Anxiety is mostly seen in language classrooms because learners are expected to be cognitively active and ready to produce an output. These complex mental procedures challenge learners to become more competent speakers and trigger feelings like fear and panic (Horwitz et al., 1986). Along with learners' cognitive performance, the capacity to comprehend and learn the language will also decrease as this feeling mostly acts as a barrier leading learners to failure (Wörde, 2003). However, even though speaking anxiety is a common research topic that attracts researchers, there is still no precise way to solve this problem that is frequently encountered in EFL classrooms.

Interaction that may influence speaking anxiety is also one of the core concepts in language teaching. However, it is a rather complex concept involving various processes such as cognitive, social, and psycholinguistic. Learners are the ones that need to develop these skills and decode the hidden messages to give a relevant reaction and keep the conversation going. This is why many scholars state that learning a language is only possible if there is meaningful and authentic interaction between learners (Vygotsky, 1978). Especially in face-to-face classroom environments where there is foreign language input abundance, teachers and students can create more opportunities for meaningful interaction and motivate learners to communicate more (Yu, 2009). Therefore, classroom interaction is more than just practicing a foreign language; it affects the whole language learning process. As an alternative to face-to-face interaction, online interaction increases student participation since it provides a non-threatening and entertaining environment for language learning (Seneff et al., 2004). Effective online interaction decreases teacher authority, and students are encouraged to contribute more. It is even possible to create interactive environments without the teacher's presence. As a result, they have a greater chance to use the functions of the language within different contexts and learn more about the real usages of that language and may have facilitative effects on speaking anxiety. In this perspective, in unnatural learning contexts like traditional classroom environments, learners' anxiety levels may increase due to several reasons such as the dominance of the teacher, fear of negative evaluation, and fear of speaking in front of an audience. In other words, oral communication skills could be harder to develop especially in traditional classroom environments where learners have restricted opportunities to communicate with their peers and teacher. Therefore, developing learning contexts to support language learning and reduce anxiety is crucial. By creating real-life situations and using authentic materials, learners become less obliged to learn the language and thus more open to receiving input (Wei & Elias, 2011). Within this scope, collaborative learning allows students to select specific goals, provide options, value learners' interests, and scaffold learners in the assessment process. Integrating collaborative activities into the learning procedure encourages learners to participate more in group discussions by letting them express their points of view freely, which alleviates their anxiety (Osman et al., 2010) since collaboration creates a successful learning atmosphere making students feel less worried about their own performance. Dramatically enough, how collaborative learning via face-to-face and online activities affects speaking anxiety is not clarified in the related literature, as can be seen below. However, a theoretical framework is drawn before presenting a research synthesis on the issue.

THEORETICAL BACKGROUND

Some terms, concepts, and definitions should be clarified regarding speaking, speaking anxiety, interaction, learning environments, and collaborative learning. First, Burns and Hill (2013, p232) define speaking as “a complex mental process combining various cognitive skills, virtually simultaneously, and drawing on working memory of words and concepts, while self-monitoring”. It is also described as an “oral expression resulting from an interactive process of constructing meaning that contains systems such as phonology, lexis, and grammar” (Argawati, 2014). Second, according to Horwitz et al. (1986), *foreign language anxiety* is a specific type of reaction that differs from the general term of anxiety that is used to describe people who are usually in a state of nervousness. Horwitz et al. (1986) state that there are three types of language anxiety: communication apprehension, test anxiety, and fear of negative evaluation. McCroskey (1977, p78) defines *speaking anxiety* or communication apprehension as “an individual’s level of fear or anxiety associated with either real or anticipated communication with another person”. Third, Lorschach and Tobin (1995, p20) describe the classroom environment as “a construction of the individuals in a given social setting, an individual’s socially mediated beliefs about the opportunities each have to learn and the extent to which the social and physical milieu constrains learning”. Fourth, Wagner (1994, p8) defines interaction as “reciprocal events that require at least two objects and two actions,” and that interaction happens when these two aspects mutually affect one another. Allwright (1984) considers classroom interaction as “a general sense that all classroom pedagogy proceeds” and that everything that happens in the classroom is due to interactions between individuals. Fifth, while Goffman (1971) broadly defines face-to-face interaction as “public life”, Duncan and Fiske (2015) prefer a more comprehensible explanation in which they consider individuals’ small and observable behaviors that are the keystones of larger activities. Sixth, according to Tallent-Runnels et al. (2006), online classes refer to lessons that are completely conducted on the internet. Online classes are divided into two groups; *asynchronous* and *synchronous* classes. While the former refers to the lessons that are not conducted at the same time and can be attended later when the lesson has ended, the latter refers to lessons in which learners need to be online at the same time. Online interaction can occur through various technological materials such as two-way interactive videos, computer networks, and classroom applications (Wagner, 1994). Last, Dillenburg (1999, p1) defines collaboration as “the interactions that take place between the group members” and emphasizes that learners should have more or less the same level and a common goal for the collaboration to happen.

Several theories and hypotheses should also be introduced regarding speaking anxiety and interaction. First, in terms of the relationship between language acquisition and anxiety, Krashen (1985) puts forward the *Affective Filter Hypothesis* claiming that affective factors such as motivation, self-confidence, and anxiety have an impact on second language acquisition. Second, according to the *Constructivism Approach*, learners actively construct knowledge by creating meaning through prior events rather than receiving it directly from external ways (Arends, 1998). In other words, learners construct meaning by actively engaging themselves in real-world events like problem-solving or experimenting and interacting in various situations. Third, according to *the Socio-Cultural Theory* proposed by Vygotsky (1978), psychological processes are socially constructed and shared activities and concepts. Fourth, *the Interaction Hypothesis* suggests that oral interactions in the target language are one of the major input sources in learning a foreign language. According to the Interaction Hypothesis (Long, 1996), learners are exposed to negative feedback through interaction. Last, the *Output Hypothesis* developed by Swain (1993) claims that learners become aware of their interlanguage and see the gap between target language forms and their actual knowledge. Based on these, pair and group activities in which learners work in collaboration may create opportunities for learners to interact and receive meaningful input both in face-to-face and online learning environments.

REVIEW OF LITERATURE

Research indicates that anxiety has a negative impact on learners' language performance, especially while speaking. Many studies have been conducted to understand the reasons behind speaking anxiety and cope with this highly common issue encountered in almost every language classroom (Horwitz et al., 1986). From this perspective, Ahmed et al. (2017) found that learners were stressed due to the interlanguage meaning system and the fear of making grammatical mistakes during speaking activities. Melouah (2013) also found that some reasons behind speaking anxiety were fear of making mistakes, being evaluated and judged by peers, and low self-confidence. Şenel (2012) also noted similar results and revealed that learners' level of anxiety was highly dependent on teachers' negative attitudes, ways of teaching, and the curriculum. In addition, Bozavlı and Gülmez (2012) suggested that learners were less self-conscious in non-native teachers' lessons when they knew their peers and prepared beforehand. In line with this, Aghajani and Amanzadeh (2017) concluded that anxiety could have a debilitating effect on learners' oral performance because it acts like a barrier impeding students' improvement. Last, Demirdaş and Bozdoğan (2013) found a strong negative link between foreign language anxiety and language performance.

Research shows that learners have positive attitudes towards collaborative learning in face-to-face environments since it improves language skills and production. Some studies showed that collaborative activities positively affect the language learning process and thus contribute to language acquisition (Kowal & Swain, 1994; Liao, 2014; McDonough, 2004). Considering this, McDonough (2004) studied instructors' and students' perceptions of collaborative activities in an EFL context. The findings indicated that learners who actively participated in pair and group tasks showed improved production of target language forms, although they did not believe in the usefulness of collaborative activities. Another study by Chen (2017) concluded that learners were satisfied with the scaffolding, expressed feeling more responsible for their learning, and had more chances to develop their thinking than individual learning. Koç (2018) also found that collaborative learning effectively motivated students, encouraged interaction, and increased student participation and communication during the lessons. In addition, Bao (2020) found that collaborative dialogues were beneficial, especially for low-level language learners, since they offered chances to participate and share information.

Studies show that collaborative learning in online environments influences learners positively by facilitating language learning and improving learners' communication skills. For instance, Uribe et al. (2003) found that learners working in pairs spent more time-solving problems and had positive attitudes toward computer-mediated collaborative activities. Zeng and Takatsuka (2009) also noted that dialogues in online collaborative tasks positively impacted language development. A recent study implemented by Avci and Adıgüzel (2017) reached similar results.

Research also shows that including collaborative-based tasks in the learning process helps learners improve their speaking skills. For instance, a study carried out by Babiker (2018) concluded that most teachers were unaware of collaborative teaching techniques and were following a more traditional approach. Similar results were found in a study conducted by Pattanpichet (2011) that investigated the impact of collaborative tasks on learners' speaking achievement. In a recent study concerning learners' perceptions, Govindasamy and Shah (2020) found similar results to previous studies. Learners believed that collaborative tasks positively influenced their speaking proficiency as they expressed feeling more confident, motivated, and engaged in the process. Last, Buitrago (2017) concluded that collaboration could be a great way to encourage self-directed learning and personal evaluations. Later, educational technology advancements shifted the focus toward the effects of collaborative teaching in online learning environments. In one of the studies concerning this impact carried out by Badr (2020), it was found that online collaborative teaching was effective in improving English speaking skills and social presence.

Studies demonstrated that there are many reasons behind speaking anxiety which can be reduced through the use of collaborative tasks in the learning process (Korucu-Kis & Sanal, 2020;

Kamarulzaman et al., 2020; Tsiplakides & Keramida, 2009). Aliyu et al. (2019) observed a decrease in speaking anxiety including fear of negative evaluation, social-environmental, and English classroom speaking anxiety after collaborative activities. A study by Gedikli and Başbay (2020) recommended creating a positive and enjoyable learning atmosphere and offering strategy training for both teachers and students to alleviate tension in language classrooms. Moreover, some studies directly focused on the effects of the collaborative approach on learners' speaking anxiety levels. For instance, a study by Kamarulzaman et al. (2020) concluded that learners benefited from collaborative learning since they expressed feeling less anxious due to increased confidence resulting from constant practice with their peers. In another study that examined the impact of collaboration on speaking achievement and speaking anxiety, Tabatabaei et al. (2015) found that collaborative learning had a significant positive impact on speaking anxiety. Badr (2020) who examined the effects of collaborative online learning on speaking anxiety concluded that learners were more comfortable sharing their ideas since they believed that the environment was safer and free of negative evaluation.

OVERVIEW OF THE STUDY

As emphasized above, speaking anxiety negatively affects learners' language performance, whereas collaborative teaching contributes to language learning to a great extent as it provides a pleasant and interactive classroom atmosphere where learners share more and feel relaxed. In other words, collaborative learning positively impacts learners' language production and communication skills both in face-to-face and online learning environments. On the other hand, studies that focus on speaking anxiety in the EFL context mainly deal with the reasons behind speaking anxiety. Moreover, while research concentrates on attitudes toward collaborative learning in face-to-face environments, there is a lack of research on the effects of online collaborative activities on speaking anxiety in experimental settings. In other words, studies mostly focus on the effects of collaborative learning in online environments on communication skills rather than speaking anxiety. With concerns in mind, the study aims to investigate the influence of collaborative activities on two different learning environments which are face-to-face and online, and asks three questions:

- Does the use of face-to-face collaborative activities affect the level of speaking anxiety among foreign language learners in face-to-face EFL classrooms?
- Does the use of collaborative activities performed in an online environment affect speaking anxiety among foreign language learners?
- Is there a significant difference in speaking anxiety in the use of collaborative activities between online and face-to-face classrooms?

METHOD

Research Design

This study examines whether collaborative classroom activities in face-to-face and online environments can alleviate EFL learners' speaking anxiety. Therefore, the study is based on the practical research type which is conducted to solve a specific real-life problem with specific participants and context. Moreover, the study can be considered deductive and experimental because it aims to test a hypothesis rather than simply trying to understand and describe speaking anxiety and specifically adopts the before-and-after experimental design as it measures the same phenomenon with the same participants before and after an intervention process (Moissenko et al., 2016). Considering these issues, the study used a two-group experimental research design with pre-and post-tests to understand the impact of collaborative learning in different learning environments on speaking anxiety.

Participants

The study participants were 34 EFL students from two different classes, 17 from a face-to-face classroom and 17 from an online classroom in which speaking lessons were conducted. While the online classroom had eight female and nine male participants, the face-to-face classroom had seven female and ten male participants. There were 15 (44.1%) female students and 19 (55.9%) male students in total. According to the Proficiency exam conducted by the Preparatory school, students had the same language level as the elementary level of English (A2). The levels were identified based on The Common European Framework of Reference (CEFR). While students' minimum age was 18, the maximum was 25, and the mean was 18.7. As for the students' departments, the majority of the students were from the engineering departments: 4 (11.1%) are from Bioengineering, 2 (5.5%) were from Industrial Engineering, 2 (5.5%) were from Chemical Engineering, 1 (2.7%) was from Environmental Engineering, 4 (11.1%) were from Metallurgical and Materials Engineering, and 1 (2.7%) was from Mechanical Engineering. The rest of the participants were from various other departments: 3 (8.3%) were from Physics, 3 (8.3%) were from Medicine, 2 (5.5%) were from Cinema and Television Arts, 2 (5.5%) were from Political Science and Public Administration, 1 (2.7%), 2 (5.5%) were from Management Information Systems, 2 (5.5%) were from Economics, 1 (2.7%) was from Public Relations and Publicity, 1 (2.7%) was from International Relations, 1 (2.7%) was from Business Administration, 1 (2.7%) was from Philosophy, 1 (2.7%) was from Dentistry, and 1 (2.7%) was from Theology.

Tools

In the study, two instruments were used. First, a background questionnaire collecting information about learners' age, gender, and departments was administered. Then, the Foreign Language Anxiety Scale (FLCAS) aimed at identifying the extent of learners' foreign language anxiety in a language classroom was given to the students. FLCAS which was developed by Horwitz et al. (1986) is a valid and reliable scale made up of 33 items. It was a 5 Likert-type scale asking learners to rate from one to five (5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree). The internal consistency based on Cronbach's Alpha coefficient was measured as .93, while % of variance was not reported in the study by Horwitz et al. (1986). The translated version of FLCAS by Aydın et al. (2016) was administered to the students. The Turkish version of the scale included 33 items, a 5-point Likert scale, and the same content as the original FLCAS. Aydın et al. (2016) found that Cronbach's Alpha for the Turkish version was .86 which made the scale reliable. Moreover, the percentage variance of the scale was 73.58 meaning that it was valid. The rationale behind preferring the Turkish version of the FLCAS was to prevent conceptual and linguistic misunderstanding since the participants were at the level of A2 regarding their proficiency in the target language. As a final note, since the purpose of the study was to see the influences of collaborative learning on speaking anxiety in face-to-face and online environments, the levels of speaking anxiety were measured in an experimental research setting.

Procedure

The study was conducted in a Preparatory School at a state university in Istanbul, Turkey during the Spring Semester of the 2021-2022 academic year. Students received 24 hours of language lessons per week consisting of basic language skills, grammar, and main course lessons. They had three days of online lessons and two days of face-face lessons per week during the academic year. The online lessons were conducted through Zoom. To understand the impact of collaborative learning on students' speaking anxiety in different environments, one of the experimental groups was chosen from an online classroom, and the other group from a face-to-face classroom. Students received five lessons in listening and speaking every week. The lessons consisted of vocabulary and listening activities accompanied by open-ended discussion questions. The implementation of collaborative tasks required students to adjust themselves to the process.

Before administering the FLCAS as a pre-test, necessary permissions were received both from the institution where the data was going to be collected and the ethics committee. The scale was transferred to Google Forms and delivered to both face-to-face and online classes as the next step. Students were informed about the aim and the importance of the research along with the implementation process. Moreover, the researcher also made sure to inform students about the confidentiality of their responses and personal information. The pre-test was sent to both face-to-face and online classes in April 2022. After the implementation process that lasted for five weeks, the FLCAS as a post-test was sent to the same face-to-face and online classes through Google forms. The whole procedure is shown in Figure 1.

As seen in Table 1, various collaborative tasks were conducted for two hours each week during listening and speaking lessons in the implementation process. In online lessons conducted on Zoom, breakout rooms were used to create an environment suitable for group work. The same collaborative task contents were used for both classes in addition to their regular curriculum. The teacher-researcher developed most of the materials, while others were adopted from a web-based source. The main aim of the tasks chosen for the implementation process was to encourage learners to work together to achieve a certain goal and express their choices easily.

Data Analysis

The data collected were analyzed by the Statistical Package for Social Sciences. First, a descriptive analysis involving participants’ gender and departments was run to reveal the mean scores, frequencies, and percentages. As for the age, the mean, minimum and maximum values were calculated. Next, the reliability coefficients were computed through Cronbach’s Alpha. The Cronbach’s Alpha reliability value for the FLAS as pre-tests was .92. The Cronbach’s Alpha reliability value for post-tests was .91. The results demonstrated in Table 2 indicated that the data was reliable. While the percentage of variance of the pre-test was 40.1, it was 41.6 for the post-test.

As for the analysis of data, non-parametric methods were chosen since the number of participants was too small to assume a normal distribution. First, descriptive analysis for the pre and post-tests was done to reach the mean values. The mean values are later compared to find out any differences between the pre-test and post-tests. Next, the Wilcoxon Test was conducted on each item in the scale to compare the pre and post-test results of both groups. Later, the Mann-Whitney U analysis was utilized to understand the differences in the anxiety levels between online and face-to-face groups after the implementation process.

Figure 1. The flowchart of the randomized pretest-posttest control and experimental group design (Fraenkel et al., 2012)

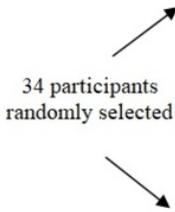
| | | | | |
|---|--|--|---|---|
| 34 participants randomly selected  | R | O | X | O |
| | Random assignment of 17 EFL learners to experimental group | Pre-test The Foreign Language Anxiety Scale Dependent variable | Instruction Content Sessions • Problem Solving Activity 1 • Creating Study Tips 1 | Post-test The Foreign Language Anxiety Scale Dependent variable |
| | R | O | | O |
| | Random assignment of 17 EFL learners to control group | Pre-test The Foreign Language Anxiety Scale Dependent variable | • Critical Thinking Activity 3 | Post-test The Foreign Language Anxiety Scale Dependent variable |

Table 1. The instruction period

| Weeks | Aim | Procedure | Materials |
|--------|--|---|-------------------------|
| Week 1 | To practice how to make suggestions | <i>Problem Solving Activity</i> • Preparing a list of solutions for the given everyday problems by brainstorming in groups • Creating suggestions by using the solutions formed by brainstorming • Oral discussion based on the suggestions | PowerPoint presentation |
| Week 2 | To practice how to make suggestions | <i>Creating Study Tips</i> • Pre-task questions to warm up before the task • Brainstorming tips on how to study before an exam • Creating recommendations by considering the tips • Oral discussion based on the suggestions | PowerPoint presentation |
| Week 3 | To encourage the use of critical thinking skills by creating a holiday plan | <i>Critical Thinking Activity</i> • Preparing a holiday plan in groups based on the information that is presented • Sharing travel plans in a class discussion • Commenting on each travel plan in groups | Worksheet |
| Week 4 | To encourage the use of critical thinking and problem-solving skills to survive on a deserted island | <i>Critical Thinking Activity</i> • Choosing four items from the ship and listing the reasons in groups • Creating a survival plan by using the items chosen • Brainstorming the escape from the island • Sharing survival and escape plans in an oral discussion | Worksheet |
| Week 5 | To make choices in difficult ethical situations | <i>Critical Thinking Activity</i> • Saving a limited number of passengers from a sinking ship and preparing a list • Discussing the reasons behind the choices • Sharing group decisions in an oral session | Worksheet |

Table 2. Reliability coefficients and % of variances of the pre- and post-tests

| | Reliability Coefficients (Cronbach's Alpha) | % of variance |
|------------|--|---------------|
| Pre-tests | 0.92 | 40.1 |
| Post-tests | 0.91 | 41.6 |

RESULTS

Speaking Anxiety in the Face-to-Face Environment

Table 3 demonstrates that there is a difference between speaking anxiety regarding pre- and post-tests in the face-to-face group. The mean score of learners in the pre-test was found to be 2.49, and in the post-test, it was found to be 2.44, meaning that there was a decrease in the level of speaking anxiety in the face-to-face group.

Table 4 demonstrates that there is no significant difference between pre- and post-test scores regarding speaking anxiety except for these four items. First, the significance level of the first item on learners' anxiety about making mistakes in English class was found to be .02 which showed a significant difference between the pre- and the post-test results. The second item which was on learners' anxiety when they were called on in an English class showed a considerable change since

Table 3. Descriptives for speaking anxiety in the face-to-face environment

| | | Mean | Std. Deviation | Std. Error Mean |
|--------------------|-----------|------|----------------|-----------------|
| Face-to-face group | Pre-test | 2.49 | .59 | .14 |
| | Post-test | 2.44 | .60 | .14 |

Table 4. Speaking anxiety for the face-to-face group (The Wilcoxon Test)

| Items | Ranks | N | Mean Rank | Sum of Ranks | Asymp. Sig. (2-tailed) |
|---|----------------|------------------|-----------|--------------|------------------------|
| 2) I don't worry about making mistakes in English class. | Negative Ranks | 1 ^d | | | .02 |
| | Positive Ranks | 7 ^e | 1.50 | 1.50 | |
| | Ties | 9 ^f | 4.93 | 34.50 | |
| | Total | 17 | | | |
| 3) I tremble when I know that I'm going to be called on in English class. | Negative Ranks | 7 ^g | | | .02 |
| | Positive Ranks | 0 ^h | 4.00 | 28.00 | |
| | Ties | 10 ⁱ | .00 | .00 | |
| | Total | 17 | | | |
| 14) I wouldn't be nervous speaking English with native speakers. | Negative Ranks | 2 ^{an} | | | .03 |
| | Positive Ranks | 11 ^{ao} | 7.50 | 15.00 | |
| | Ties | 4 ^{ap} | 6.91 | 76.00 | |
| | Total | 17 | | | |
| 32) I would probably feel comfortable around native speakers of English. | Negative Ranks | 1 ^{cp} | | | .01 |
| | Positive Ranks | 9 ^{ca} | 3.50 | 3.50 | |
| | Ties | 7 ^{cr} | 5.72 | 51.50 | |
| | Total | 17 | | | |

the significance score was .02. The third item that had a significant difference between the pre- and post-test results was the anxiety learners felt when they were speaking with native English speakers. The significance value for that item was .03. The value for the last item was .01, meaning that there was a considerable difference between the pre and post-test regarding how comfortable learners felt when speaking English with native speakers.

Speaking Anxiety in the Online Environment

The values in Table 5 show that there is a difference between speaking anxiety regarding pre- and post-tests. Similar to the face-to-face group, there was a decrease in the mean scores of the speaking anxiety test in the online group from 2.67 to 2.53.

As shown in Table 6, the results of the Wilcoxon test revealed no significant difference between the pre- and post-tests in the online group except in one statement on feeling more comfortable

Table 5. Descriptives for speaking anxiety in the online environment

| | | Mean | Std. Deviation | Std. Error Mean |
|--------------|-----------|------|----------------|-----------------|
| Online group | Pre-test | 2.67 | .72 | .17 |
| | Post-test | 2.53 | .71 | .17 |

Table 6. Speaking anxiety for the online group (The Wilcoxon Test)

| Item | Ranks | N | Mean Rank | Sum of Ranks | Asymp. Sig. (2-tailed) |
|--|----------------|------------------|-----------|--------------|------------------------|
| 32) I would probably feel comfortable around native speakers of English. | Negative Ranks | 1 ^{ep} | | | .01 |
| | Positive Ranks | 10 ^{eq} | 4.00 | 4.00 | |
| | Ties | 6 ^{cr} | 6.20 | 62.00 | |
| | Total | 17 | | | |

around native speakers of English. The significance level of this statement was .01 which was a sign of significant difference.

Comparison of Online and Face-to-Face Environments

Table 7 illustrates no significant difference between the online and face-to-face pre-tests in total. While the mean rank for the face-to-face group was 16.47, it was 18.53 for the online group. However, there was no significant difference between these groups, as the significance value was .54.

As can be seen in Table 8, only three items showed a significant change between face-to-face and online groups in the pre-tests. Regarding anxiety about making mistakes in English class, the pre- mean rank score was 13.59 for the face-to-face group and 21.41 for the online group. The significance value of the item was .02. The item related to getting upset over English classes had a mean rank score of 14.09 for the face-to-face class and 20.91 for the online class. The significance value of the item was .03. Finally, the item on feeling comfortable when speaking English with native speakers had a mean rank score of 12.21 for the face-to-face group and 22.79 for the online group. The significance value of the item was .00.

Table 9 demonstrates no significant difference between *the* online and face-to-face groups. The mean rank for the face-to-face group was 17.26, and it was 17.74 for the online group. The significance value was .89 which did not show a significant difference between the face-to-face and online groups in terms of speaking anxiety after the implementation.

Table 7. Comparison of the pre-tests of the online and face-to-face groups (Mann-Whitney U Test)

| | | Mean Rank | Sum of Ranks | Asymp. Sig. (2-tailed) |
|-----------|--------------|-----------|--------------|------------------------|
| Pre-tests | Face-to-face | 16.47 | 280.00 | .54 |
| | Online | 18.53 | 315.00 | |

Table 8. Comparison of the items in the pre-tests of the online and face-to-face groups (Mann-Whitney U Test)

| Items | Group | N | Mean Rank | Sum of Ranks | Asymp. Sig. (2-tailed) |
|---|--------------|----|-----------|--------------|------------------------|
| 2) I don't worry about making mistakes in English class. | Face-to-face | 17 | 13.59 | 231.00 | .02 |
| | Online | 17 | 21.41 | 364.00 | |
| 11) I don't understand why some people get so upset over English classes. | Face-to-face | 17 | 14.09 | 239.50 | .03 |
| | Online | 17 | 20.91 | 355.50 | |
| 32) I would probably feel comfortable around native speakers of English. | Face-to-face | 17 | 12.21 | 207.50 | .00 |
| | Online | 17 | 22.79 | 387.50 | |

Table 9. Comparison of the items in the post-tests of the online and face-to-face groups (Mann-Whitney U Test)

| | | Mean Rank | Sum of Ranks | Asymp. Sig. (2-tailed) |
|------------|--------------|-----------|--------------|------------------------|
| Post-tests | Face-to-face | 17.26 | 293.00 | .89 |
| | Online | 17.74 | 301.50 | |

CONCLUSION

According to the findings of this study that aims to examine the impact of collaborative learning on EFL learners' speaking anxiety in two different learning environments, three conclusions were drawn. First, the use of collaborative tasks in face-to-face environments does not impact learners' speaking anxiety, while there is a slight decrease in learners' speaking anxiety levels regarding making mistakes, being called on in the English class, and feeling nervous in speaking with native English speakers. Second, collaborative activities have no effects on EFL learners' speaking anxiety in online environments, while there is a slight decrease in anxiety while speaking with native English speakers. Third, there are no significant differences between face-to-face and online groups regarding the effects of collaborative activities on speaking anxiety except for anxiety experienced during speaking in the class and with native English speakers, making mistakes. In other words, face-to-face and online environments reflect similar anxiety levels after collaborative instruction.

Pedagogical Implications

Some pedagogical implications can be noted. These results contradict many studies conducted to understand the effects of collaborative learning which resulted in drastic changes in learners' speaking anxiety levels (Gedikli & Başbay, 2020; Kamarulzaman et al., 2020; Tabatabaei et al., 2015). To be more specific, the mentioned studies demonstrate a significant decrease in foreign language learners' anxiety levels and an improvement in their language skills. On the other hand, research conducted by Liao (2014) indicates that collaborative tasks alone do not directly impact learners' speaking anxiety. In other words, students have similar levels of anxiety during a speech regardless of working in a group or individually. However, learners in the face-to-face group express being less anxious about making mistakes in English class after the implementation. Considering that the fear of making mistakes, wrong vocabulary choice, and mispronunciation are believed to be the major reasons for anxiety in an English classroom (Gedikli & Başbay, 2020), including collaborative tasks in the teaching process can be successful in reducing anxiety. EFL learners are also less nervous about being called on in the class after collaborative instruction. This finding can be considered a way of reducing 'communication apprehension,' which is defined by Horwitz et al. (1986) as "a type of shyness characterized by the fear of or anxiety of communicating with people" (p.127). However, the existing literature investigating the effects of computer-assisted learning suggests that virtual learning environments can encourage shy learners to overcome their anxiety about participating in online classes by creating positive attitudes and interaction opportunities (Huang & Hwang, 2013; Saud Alahmadi & Muslim Alraddadi, 2020). Moreover, foreign language learners perceive virtual environments as less threatening and therefore feel less nervous (Aydın, 2018). On the other hand, some studies support the idea that difficulties such as technical constraints, internet problems, limited opportunities provided by online platforms, and the lack of non-verbal communication make online interaction less effective compared to face-to-face interaction (González-Lloret, 2020; Yang & Lin, 2020). Therefore, the results of this study could provide a perspective for language teaching, showing that there is still much to know about online processes. Finally, no significant differences exist regarding the comparison between face-to-face and online environments. Since related literature mostly examines the impact of different environments on learners' speaking anxiety, it is possible to say that there is no consensus on the differences between face-to-face and online environments. For

instance, research suggests that different learning environments can negatively and positively affect learners' speaking anxiety (Alla et al., 2020; Davis et al., 2019). As a contradiction, the comparison in the current study demonstrated no serious impact on foreign language learners' speaking anxiety levels. Even though this research does not present major changes in learners' speaking anxiety levels after the implementation of collaborative instruction in two different learning contexts, it still contributes to the literature by filling the gap on the effect of collaborative learning and the analysis of this effect by comparing face-to-face and online environments. Furthermore, the study contributes to the existing literature in the Turkish EFL context, especially since there is a lack of research comparing different learning environments in terms of collaborative learning and speaking anxiety.

Practical Recommendations

Some practical recommendations can be drawn based on the results presented above. First, while collaborative learning in face-to-face environments could provide opportunities for learners to experience a decrease in their speaking anxiety level, it should be noted that collaborative learning has higher metacognitive requirements including technical, social, and self-regulation skills (Falkner et al., 2013). Therefore, the teacher should determine guidelines and objectives related to collaborative learning in the beginning to reduce anxiety (Jacobs et al. 2002). Moreover, teachers should guide learners during the process and provide environments in which learners can interact easily without the fear of negative evaluation. As Alla et al. (2020, p 6690) suggest, educators can teach their learners "how to become attentive listeners, use compensatory strategies, use back channeling signals and provide peer support". Thus, learners should be familiar with the process and cognitively, socially, and psychologically ready to take part in collaborative tasks and work in groups. Second, collaborative teaching in online learning environments may have the potential to reduce speaking anxiety. However, teachers should not only know about the factors that may create anxiety in e-learning environments but also help learners adapt to online contexts. In order for teachers to be helpful in this process, they should be provided with special training based on computer-mediated teaching and ways to integrate teaching approaches into online learning environments. Online tools such as *Skype* and *Zoom* may necessitate more focus and effort than face-to-face learning environments since the interaction may feel unnatural due to the lack of gestures, body language, and a difference in pause units. In other words, communication breakdowns may happen more frequently compared to face-to-face contexts. Therefore, it is worth mentioning that difficulties such as internet connection problems, lack of non-verbal communication, technical malfunctions, and problems related to voice communication should be considered during lesson planning. Other factors such as technological environments and tools, learners' computer skills and their access to online contexts, and the amount and suitability of the content should also be considered before the implementation of collaborative tasks in online learning environments. Third, since face-to-face and online learning contexts were found to have similar effects on learners' speaking anxiety after collaborative implementation, it is recommended that one learning environment should not displace another in terms of reducing speaking anxiety. Thus, EFL teachers and curriculum developers are recommended to search for the best approaches suitable to their teaching environments. In other words, rather than choosing one learning environment over the other, these environments can be used in completion with each other as each may have different effects on learners' speaking anxiety.

Limitations

Several limitations can be noted. First, the participants are limited to only 34 EFL learners in a Preparatory School of a state university in Turkey. Second, this experimental study involves a background questionnaire and a five-point Likert-type scale developed by Aydın et al. (2016). Third, due to time limitations caused by heavy pacing, the implementation process only lasted for five weeks.

Recommendations for Further Research

The results of the study also lead to several recommendations for further research. First, qualitative research could provide more insight into learners' speaking anxiety and their perceptions and

motivation levels in cases where collaborative work is conducted. Second, more research can focus specifically on the effect of collaborative tasks on learners' speaking anxiety in various online learning environments including virtual learning, video conferencing, and social media-based tools. In addition, comparing how learners work individually and collaboratively on different tasks is likely to be helpful in comprehending its effects on learners' speaking anxiety. Another point is that further research comparing face-to-face and online environments can be conducted to better grasp the impact of collaborative work in different learning contexts.

ACKNOWLEDGMENT

This article is a version of the first author's an MA thesis advised by the second author. The authors thank the journal reviewers and editors who helped to improve the paper.

CONFLICT-OF-INTEREST STATEMENT

No potential conflict of interest was reported by the authors.

FUNDING INFORMATION

No funding or financial was obtained for the study.

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