

Online Peer-Dynamic Assessment as an Approach for Promoting Listening Comprehension and Relieving Learning Anxiety: Evidence from Iranian EFL Learners

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Abstract

A number of studies have explored the efficacy of peer-dynamic assessment (peer-DA) in enhancing achievement in second language (L2) learning. However, none have specifically examined whether peer-DA can contribute to improving the listening comprehension (LC) of EFL learners and decreasing their learning anxiety (LA) in online learning environments. In light of this gap, the current study investigated the impact of online peer-DA on the LC and LA of intermediate EFL learners in Iran. The research employed a convenience sampling method to select 85 participants who were homogenized based on their Key English test (KET) scores. Those with scores near the mean were randomly assigned to either the control group (n = 26) or the experimental group (n = 28). The participants underwent pre-tests, interventions, post-tests, and delayed post-tests, and the data were analyzed using a one-way ANCOVA. The findings disclosed that the experimental group demonstrated statistically significant improvements in their LC scores compared to the control group in both the post-test and delayed post-test. Moreover, the experimental group reported experiencing less anxiety than the control group in the post-test and delayed post-test. This study has implications for stakeholders in the field of EFL education.

Keywords: Online peer-dynamic assessment, Listening comprehension, Learning anxiety, EFL learners

Introduction

The use of modern social technologies in second language (L2) classrooms has increased in recent years, providing new opportunities for L2 teachers and students to improve their teaching and assessment practices (Such, 2019). Online learning has become more widespread due to modern social technologies, allowing learners to participate in educational activities without being limited by time and location (Pu, 2021). Online learning has also become an important aspect of learners' social communication, enabling them to interact with peers, express their thoughts and opinions freely, and improve their work based on feedback (Azizi & Rezai, 2022; Tsai, 2009). Because of these benefits, L2 educators have attempted

to incorporate traditional classroom approaches and methods, such as peer-dynamic assessment (peer-DA), into online learning environments (Rezai et al., 2022).

In recent years, peer-DA has gained significant support in language pedagogy as an alternative to Dynamic Assessment (DA) (Azizi & Namziandost, 2023; Rezaee et al., 2019). The concept of DA is rooted in Vygotsky's sociocultural theory (SCT), which proposes that social interaction plays a vital role in cognitive development and awareness (Poehner & Yu, 2022). Poehner and Leontjev (2023) argue that DA entails an interactive method where the mediator intervenes during testing and evaluates the learners' response to the intervention. They suggest that DA is a combination of instruction and assessment that incorporates mediation strategies to enable learners to exceed their current capabilities (Poehner & Lantolf, 2022). Given its solid theoretical foundations, it is important to investigate whether Peer-DA is suitable for online learning environments and how it impacts language learning skills, such as listening comprehension (LC), and psycho-affective constructs, such as learning anxiety (LA).

Active listening is a vital component of effective oral communication. In order to engage in successful communication, it is important to comprehend and understand the speaker's message (Zhang & Zhang, 2022). According to Dalman and Plonsky (2022), LC is a critical factor as communication cannot occur if language is not understood. Vandergrift and Goh (2009) explain that listening serves two purposes; to aid in better communication and to assist students in language learning. For L2 language learners, listening is crucial as it provides necessary input. Therefore, LC is an essential skill for effective communication and language acquisition.

The impact of LA on L2 learning is a well-researched topic in the field of L2 acquisition. LA, referring to the feelings of worry, apprehension, nervousness, and unease experienced during L2 learning or usage, has been extensively studied (England et al., 2017). Hardacre and Güvendir (2020) note that most research distinguishes between debilitating anxiety and facilitating anxiety. The former can adversely affect one's quality of life and academic progress by impeding learning, performance, and overall L2 achievement, whereas the latter can provide the necessary motivation to work hard and study diligently to reach one's objectives and be competitive in modern society. Nonetheless, the term L2 LA mainly refers to the negative, debilitating type of anxiety, as educators and researchers strive to enhance the quality and outcome of classroom education. LA is crucial because it is responsible for L2 learners' adverse emotional reactions to the contextual and situational aspects of L2 learning experience (Horwitz, 2010; Pichette, 2009).

Since exploring new methods such as peer-DA in virtual settings is of utmost importance, it is crucial to investigate whether online peer-DA can enhance L2 learners' LC abilities and decrease their learning anxiety. Nevertheless, there is a paucity of research on the impact of peer-DA on these factors. Thus, the present study aimed to investigate the

effects of online peer-DA on the LC and LA levels of EFL learners in Iran. The outcomes of this research can improve L2 teachers' comprehension of peer-DA, listening competencies, and learning anxiety and stimulate further progress in the field. Additionally, this study can add to the current literature and create possibilities for subsequent research in this domain.

Peer-Dynamic Assessment in L2 Learning

Critics have raised concerns about the practice of "teaching to the test" as it limits students' learning to only what is necessary for high-stakes and standardized tests, according to Poehner and Lantolf (2013). The non-DA perspective suggests that teaching and learning should take place before the test, as changes in test-takers' performance during the test can compromise the validity and reliability of test scores, which is known as instrument decay (Glutting & McDermott, 1990; Poehner & Lantolf, 2013). In contrast, Luria (1961) proposed the DA approach, which differs from the psychometric paradigm.

The theoretical framework of DA draws on Vygotsky's (1978) ideas about language, the human mind, and social interactions, which are now referred to as SCT (Lantolf, 2000). SCT aims to explain how cultural values and social activities shape people's cognition (Ellis, 2008; Rezai, 2023b). According to Vygotsky (1978), learning is influenced by individual, social, and contextual factors, and social interactions are crucial for cognitive development. These interactions are culturally diverse (Mitchell et al., 2013). As Lantolf and Thorne (2006) emphasize, social interactions serve to help individuals internalize concepts from the social level (i.e., inter-psychological) to the individual level (i.e., intra-psychological). Therefore, during assessments, test-takers should not only receive guidance from others but also receive appropriate and timely support to demonstrate their developing skills (Poehner & Lantolf, 2022). In summary, DA assumes that L2 learners' language abilities can be enhanced by receiving congruent and contingent mediations from teachers or peers (Lantolf & Poehner, 2014).

Although there are numerous studies (e.g., Anton, 2009; Estaji, & Farahanyniab, 2019; Rezai et al., 2023a; Rahimi et al., 2015) that demonstrate the efficacy of one-on-one DA in teaching L2, EFL/ESL teachers seldom use it in their classrooms. They have criticized one-on-one DA, claiming that it is not practical for larger classroom settings and is only suitable for individual tutorials where the teacher can provide personalized mediations to one student at a time (Poehner, 2009; Rezai et al., 2023b). To overcome this limitation, an alternative approach is to introduce and implement peer-DA in larger classes (Rezai et al., 2022).

The peer-DA involves students working together to complete a language task. Instead of asking a teacher for help, a struggling student receives assistance from a peer who provides appropriate mediation based on their ZPD (Rezai et al., 2022). The peer-DA aligns with Vygotsky's theory (1978) and helps students develop their abilities. The peer-DA provides a comprehensive view of students' progress for both peers and teachers. Rezai et al. (2022)

underscore that students should receive training on peer-DA principles and practices, which can be easily done for adult learners. There are many benefits to having students act as peer mediators in English language learning. One advantage is that students tend to have a closer relationship with each other in student-student interactions compared to teacher-student relationships, as noted by Garcia and Asencion (2001).

L2 Listening Comprehension

As noted by Vandergrift and Goh (2009), LC is a complex cognitive process that requires active engagement from the listener, who uses contextual cues and prior knowledge to create meaning. Furthermore, listeners employ a range of strategic resources to successfully complete the listening task (Vandergrift, 2004; 2007). In his 2011 work, Rost offers a comprehensive analysis of the concept of LC in the context of teaching this skill. Rost identifies four different approaches to LC, namely receptive, constructive, collaborative, and transformative.

Receptive listening refers to the ability of the listener to comprehend and receive the message conveyed by the speaker. This involves actively grasping the spoken words, understanding the speaker's thoughts, interpreting the information, analyzing the content, and recognizing the speaker's intentions, impressions, ideas, beliefs, emotions, and attitudes. Although listening is often perceived as a passive skill, it is actually an active process that requires both linguistic and non-linguistic knowledge to effectively comprehend the speaker's message (Rost, 2011). From a constructive standpoint, the listener must actively construct and represent meaning by identifying important points in the speaker's words, determining relevance, reconstructing relevant information, and understanding the speaker's expressive strategy. On the other hand, from a collaborative perspective, listening involves negotiating meaning with the speaker in terms of language and context, and responding accordingly. This includes responding to the speaker's utterances, actively engaging in the exchange of ideas and information, participating in the speaker's discourse, and conveying understanding or lack thereof. Transformative listening is the process of using imagination, empathy, and engagement to derive meaning from communication. This involves creating a connection between the speaker and listener, understanding the speaker's motivations, and actively participating in the process of meaning-making. Effective communication, attentiveness, and cognitive flexibility are also important aspects of transformative listening (Rost, 2011). In close, the central goal of LC is to understand the meaning conveyed by the speaker, regardless of the listening perspective.

L2 Learning Anxiety

The concept of LA is a psycho-affective construct that can have a significant impact on the performance of EFL learners. Brown and Lee (2015) point out that LA is a common feeling experienced by EFL learners and can be characterized as a negative fear that arises during exams, presentations, and public speaking events. This fear can cause learners to invest less

effort and attention into their learning tasks, resulting in lower performance outcomes (Dörnyei, 2013). The detrimental effects of LA on L2 learners' achievements have been consistently found, making the concept of LA in L2 learning a highly complex notion (Tahmouresi & Papi, 2021).

LA is composed of three distinct categories, namely trait anxiety, state anxiety, and situation-specific anxiety, as identified by Dörnyei (2013). The trait anxiety refers to the persistent anxiety experienced by L2 learners in various circumstances, while the state anxiety is characterized by the worries and concerns encountered by L2 learners in distressing situations. On the other hand, the situation-specific anxiety pertains to the anxiety experienced by L2 learners in specific situations, as explained by Dörnyei (2013). Horwitz et al. (1986) identified tests, communication anxieties, and peer judgments as the primary causes of concern, but other factors such as stage fright, fear of being ridiculed, L2 learners' personality traits, teaching styles of L2 teachers, learning styles of L2 learners, the learning context, L1 skills, and the L2 learning process as a whole can also contribute to anxiety (Madjid & Samsudin, 2021; Sudina & Plonsky, 2021).

Prior studies (e.g., Elkhafaifi, 2005; McCroskey & Daly, 1976; Phillips, 1992; Saito et al., 1999; Tahmouresi & Papi, 2021; Young, 1992) have determined that LA can affect L2 development in a variety of domains, such as communication apprehension, reading comprehension, oral proficiency, communicative skills, writing skills, and listening skills. Dörnyei (2013) notes that LA is made up of three main components: communication apprehension, test anxiety, and fear of receiving a poor grade. The extent to which L2 learners experience each component is often dependent on their individual circumstances. Furthermore, Liu (2006) observes that L2 learners may experience LA due to the intricacies and difficulties inherent in the L2 learning process. Consequently, L2 teaching and learning practices ought to aim to decrease LA and anxiety levels among highly anxious learners to alleviate the negative impact on cognitive, academic, social, and personal aspects of L2 learning environments, as emphasized by Horwitz (2001) and Namaziandost et al. (2022).

Effects of Peer-DA on L2 Learning

The main objective of this section is to conduct a comprehensive evaluation of prior research studies related to the topic to serve as a basis for the current study. For instance, Khoshsima and Rezaee (2016) assessed the effectiveness of peer-DA in enhancing Iranian EFL students' reading comprehension and vocabulary acquisition. Their findings revealed that when L2 learners were taught the principles and procedures of peer-DA, they could use them in a larger classroom setting to improve their reading and vocabulary learning. Additionally, Khanahmadi and Sarkhosh (2018) explored the impact of teacher and peer mediation on pre-intermediate EFL students' grammar learning (active vs. passive voice). Their findings showed that teacher mediation was more effective than peer mediation and conventional group in both the short-term and long-term in improving the learning outcomes

of active vs. passive voice. Furthermore, in another study conducted by Rezaee et al. (2019), the efficiency of informed peer-DA in enhancing the grammar learning of intermediate Iranian EFL learners was evaluated. The research concluded that the experimental group demonstrated a substantial improvement in their post-test scores compared to the control group. In addition, the experimental group demonstrated better performance than the control group during the delayed post-test. Plus, Rezai et al. (2022) conducted a study to achieve three primary objectives. Firstly, they aimed to evaluate the effects of online peer-DA on enhancing the writing abilities of high school students in Iran. Secondly, they sought to identify the ways in which online peer-DA can contribute to improving writing skills. Finally, they aimed to explore the participants' attitudes regarding the efficacy of online peer-DA in improving writing skills. Their study revealed a significant enhancement in the students' writing abilities on both the immediate and delayed post-tests. Moreover, a microgenetic development analysis revealed that the contingent prompts were effective for increasing the students' writing performance. Furthermore, the findings from the focus group interviews indicated that the students held positive perceptions towards online peer-DA. Lastly, Azizi and Namaziandost (2023) carried out a research study to assess the impact of peer-DA on the development of interlanguage pragmatic (ILP) competence among Iranian upper-intermediate EFL learners. Their results highlighted a significant difference between the experimental and control groups in terms of their ILP competence gain scores on the post-test. Additionally, the outcomes of the microgenetic development analysis revealed that gradual, contingent prompts were an effective strategy for enhancing the learning of ILP features.

From the studies reviewed above, it is apparent that the impact of online peer-DA on the LC of EFL learners and their psycho-affective factors, such as learning anxiety, has not been adequately researched. To address this gap in the literature, the present study aimed to examine the effects of online peer-DA on the LC and LA of EFL learners in Iran. To achieve these objectives, the study poses the following research questions:

RQ1: Does online peer-DA foster Iranian EFL learners' LC?

RQ2: Does online peer-DA improve Iranian EFL learners' LC in the long-term?

RQ3: Does online peer-DA relieve Iranian EFL learners' LA?

RQ4: Does online peer-DA reduce Iranian EFL learners' LA in the long-term?

Method

Research Design

The study implemented a true-experimental approach that included the random allocation of participants to various treatment conditions, as explained by Riazi (2016). To ensure that all the participants were similar in terms of language proficiency, they first took the Key English Test (KET) and were then randomly assigned to either the experimental

group (EG) (n = 28) or the control group (GC) (n = 26). The purpose of this design was to investigate the effects of online peer-DA on the LC and LA of Iranian EFL learners.

Setting and Participants

The study was conducted at the Iran Language Institute (ILI) in Khorramabad, Iran, a non-profit organization with branches throughout the country. The sample consisted of 85 intermediate EFL learners who were selected using convenience sampling, which involves selecting individuals who is easily accessible (Riazi, 2016). All the participants were male, aged between 16 and 27, and attended four hours of English as a foreign language classes per week. Female learners were excluded due to the single-gender education system in Iran. The EFL learners had limited opportunities to converse in English outside of the institute. The participants were selected based on their performance on the KET, with those whose scores were close to the mean being chosen. They were then randomly assigned to either the EG (n = 28) or the CG (n = 26) after obtaining consent from the principal of ILI and the participants themselves, who signed a consent form in Persian. Participation was voluntary, and the participants were assured confidentiality and promised to share the findings. The interventions were conducted by the first researcher, who had a strong understanding of the research topic. The study was approved by the ethics committee at Ayatollah Ozma University Borujerdi.

Instruments

In this study, the researchers employed several instruments to gather data. To ensure that all the participants had similar language proficiency, the Key English Test (KET) was utilized, though logistic constraints necessitated that only the reading and writing components of the test were administered. The reading section comprised thirty questions in multiple-choice format, which test-takers had to answer after reading various texts such as signs, magazines, brochures, and newspapers. The writing section entailed two assignments, both requiring a hundred words, wherein test-takers had to write about topics related to daily life and education. The participants were allotted sixty minutes to complete both sections.

Three LC tests were used in the study, which were created by a group of highly experienced EFL teachers with over fifteen years of teaching experience. The teachers selected and modified appropriate items from various tests such as IELTS, TOEFL, KET, and Oxford Quick placement sample tests to create the LC tests. The tests were utilized to gauge the EFL students' ability to understand basic interpersonal and instructional objectives. The tests comprised forty multiple-choice items wherein EFL learners had to listen to recordings of monologues and dialogues, after which they had to answer questions. Scores ranged from 1 to 40, and the LCTs were administered both before and after the interventions to determine the level of LC amongst the participants.

The third tool used for data collection was the Foreign Language Classroom Anxiety Scale (FLCAS), which was created by Horwitz et al. in 1986 to assess the anxiety levels of

second language learners. The FLCAS measures communication apprehension (e.g., “It frightens me when I do not understand what the teacher is saying in foreign language.”), test anxiety (e.g., “I am usually at ease during my tests in my language class.”), and fear of negative evaluation (e.g., “I am usually at ease during my tests in my language class.”), and consists of 33 items in a seven-point Likert scale format, ranging from strongly disagree (1) to strongly agree (5).

In order to guarantee the reliability and validity of the instruments utilized in the primary study, the researchers implemented several measures. They retained the services of two professional translators to change the instruments into Persian and executed a pilot study with 30 EFL learners who were similar to the participants in the main study in terms of gender, age, and L2 proficiency. The Cronbach Alpha values for KET, LCTs, and FLCAS were 0.79, 0.89, and 0.69 correspondingly, which met the current study's standards. The researchers sought input from two university professors in applied linguistics to evaluate the instruments' validity by having them review the instruments for face and content. The evaluators recommended minor language and content adjustments but ultimately judged the instruments to be sufficiently valid.

The researchers utilized a conversation pamphlet consisting of English dialogues and audio files during the intervention phase. The pamphlet was compiled by a group of EFL teachers who selected conversations from popular books including *Interchange*, *TopNotch*, *American files*, and *TouchStone* that were suitable for the study's requirements. This educational material was developed and implemented for the intervention phase.

Data Collection Procedures

The researchers took certain actions to carry out their investigation. Initially, they conducted a preliminary study to determine the dependability and validity of the tools. Next, they utilized the KET to choose participants whose scores were near the average for both the EG ($n = 28$) and the CG ($n = 30$). Then, the participants' LC and LA were evaluated using the LCT and FLCAS before the study. Then, interventions were implemented through an 18-session circular program that occurred twice a week. At the beginning of the program, the participants were instructed to download and install WhatsApp and Skyroom. Following that, she provided a concise summary of the principles and techniques of peer-DA in the Skyroom. She presented a hands-on demonstration of how peer-DA could be implemented and how it would aid in L2 learning. Specifically, she demonstrated how Abeeve's ten-stage mediation model could be utilized as a scaffold for EFL learners, which will be elaborated on later. She urged the EFL learners to ask any questions they had. Prior to each instructional session, the participants were given a file consisting of three parts: pre-listening (15 minutes), while-listening (30 minutes), and post-listening (15 minutes). During the pre-listening stage of each session, the instructor tried to activate the participants' relevant schema from the pre-listening activities, pre-teach key words and expressions, and raise the EFL learners' motivation and

interest. In the while listening stage, the instructor asked the participants to join their groups established in WhatsApp. Next, the EFL learners play the audio file and work together to comprehend it. During this stage, the EFL learners scaffolded their peers using Ableeva's typology of mediations. It was arranged hierarchically from implicit to explicit. In exact words, the EFL learners used 10 prompts to scaffold their peers as follows:

1. Accepting or rejecting response. The EFL learners were given a prompt to accept or reject responses. The main goal was to encourage their peers when they gave correct answers. This prompt also helped the EFL learners gain confidence in their understanding of the listening material.

2. Structuring the text. The EFL learner utilized a prompt to encourage their peers to employ both top-down and bottom-up knowledge. When an EFL learners struggled to understand the listening material, their classmates helped them organize the text in a way that allowed them to comprehend the main ideas.

3. Replaying the segment of the listening text. When the EFL learners wanted to provide additional help, they used the prompt to focus on the sections where they had difficulty understanding. By replaying the entire sentence that contained the confusing part of the listening material, they were able to listen again and identify what they may have missed during the first listening exercise. This prompt also helped them refresh their understanding of the material.

4. Asking the words. When the EFL learners' peers were unable to provide correct answers after one or two additional listening exercises, the EFL learners used this prompt. They would ask questions like "What were the exact words you heard?" or "Can you make sentences with these words?" This strategy involved asking their peers to say the words they remembered from their previous listening attempts and then trying to understand and organize them. This approach is consistent with the idea that working together in groups promotes knowledge and skill sharing and encourages collaboration.

5. Identifying a problem area. This prompt played a significant role in offering valuable insights to the EFL learners, particularly in regards to identifying the possible causes of listening difficulties that may result in a lack of comprehension. These difficulties were often related to complex linguistic terms that required more detailed and clear explanations. The prompt was effective in addressing and resolving these issues.

6. Offering metalinguistic clues. This prompt was used by the EFL learners to correct the grammatical errors of their peers. This approach effectively focused the EFL learners' attention on the structure and function of the language.

7. Offering choice. The EFL learners employed this prompt, which involved giving their peers one correct and one incorrect option. According to Poehner (2005), this prompt was highly effective in distinguishing whether the EFL learners had a grasp of the relevant structure or not.

8. Translation. When the EFL learners committed mistakes that couldn't be rectified through indirect forms of assistance, they provided their peers with Persian translations of the structures.

9. Providing a correct pattern. The EFL learners employed this prompt as the most direct method, necessitating the facilitator to offer a precise model. When unfamiliar constructions arose, the EFL learners recorded them to improve their understanding of the intended meanings.

10. Providing an explicit explanation. If other methods of prompting did not improve the understanding of the EFL learners, they turned to explicit explanations which involved giving precise answers as the most direct approach

During the post-listening stage, the instructors offered LC questions to measure the EFL learners' selective listening, global listening, and implied listening. These questions were provided to the EFL learners through WhatsApp and they were asked to answer and returned them back to the instructors. The CG took part in a conventional class where they received intervention through a traditional style. That is, the instructor play the audio file and asked the participants to listen to it and answer the follow-up comprehension questions. As they could not provide the correct response and made a mistake, the instructor explicitly corrected them without any mediation. In the next step, the researchers administer the LCT and FLCAS to measure the participants' LC and LA after the interventions. In the last step, after a month, the researchers administered the delayed post-tests of the LCT and FLCAS to test the participants' LC and LA.

During the post-listening stage, the instructor used WhatsApp to ask LC questions to assess the EFL learners' selective, global, and implied listening skills. The EFL learners had to answer the questions and send them back to the instructor. The CG received traditional classroom instruction where the instructor played an audio file and asked the participants to listen and answer comprehension questions. If they answered incorrectly, the instructor corrected them directly. The researchers then used the LCT and FLCAS to measure the participants' LC and LA after the interventions. A month later, the delayed post-tests of the LCT and FLCAS were conducted to evaluate the participants' LC and learning anxiety.

Data Analysis

The study's research questions were addressed by utilizing SPSS version 22 to conduct both descriptive and inferential statistics. In addition to measuring measures of central tendency and variability, an Analysis of Covariance (ANCOVA) was executed to recognize the variations in the LC and LA gain scores between the two groups during the pre-test, post-test, and delayed post-test evaluations.

Results

The first two research questions aimed to determine if peer-DA had an effect on EFL learners' LC. A one-way ANCOVA was utilized to answer them. Before this, the researchers

examined the assumptions related to the statistical procedure, including linearity, normality, and homogeneity. The linearity assumption was fulfilled as there was no curvilinear relationship in the distribution of scores for each group on the scatterplot. The normality assumption was also satisfied as demonstrated by the sig. values (0.57) being larger than the critical value (0.05) in the Kolmogorov-Smirnov test. The homogeneity assumption was verified as the sig. level (0.11) was greater than the alpha level (0.05) in Levene's test of the equality of the variances.

Once it was verified that the fundamental suppositions had not been violated, the researchers utilized a one-way ANCOVA and Table 1 shows the outcomes of the descriptive statistics. The results uncover that the M for the EG was 29.39 and the SD was 5.59, while the M for the CG was 15.96 and the SD was 4.29.

Table 1

Descriptive Statistics to Compare the Post-test Scores of Both Groups

Groups	M	S.D	N
EG	29.3929	5.59325	28
CG	15.9615	4.29400	26
Total	22.9259	8.39778	54

Table 1 shows a clear difference between the average scores on the post-test for the two groups. To determine if this distinction was statistically relevant, the researchers examined the outcomes of the Tests of Between-Subjects Effects, which are documented in Table 2.

Table 2

Outcomes of the Between-subjects Effects Tests for Evaluating the Post-test Scores of Both Groups

Dependent Variable: LCPOST						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3222.326	2	1611.163	159.435	.000	.862
Intercept	446.849	1	446.849	44.219	.000	.464
LCPRE	790.262	1	790.262	78.202	.000	.605
GROUPS	2825.363	1	2825.363	279.588	.000	.846
Error	515.378	51	10.105			
Total	32120.000	54				
Corrected Total	3737.704	53				

Table 2 displays a significant statistical difference in mean scores between the two groups ($F(1, 51) = 279.58, P < .001$, partial eta squared = 0.84), with approximately 84% of the gap in LC gains on the post-test being attributed to the independent variable. The pre-test scores also had a notable impact on the post-test scores ($F(1, 51) = 78.202, p < .00$, partial eta squared = 0.65), accounting for about 65% of the variance. Adjusting means for the intervention types of the two groups through the Estimated Marginal Means test was done to eliminate the effects of covariate on the post-test, with Table 3 presenting the findings.

Table 3

Outcomes of Estimated Marginal Means

GROUPS	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
EG	29.986	.604	28.772	31.199
CG	15.323	.628	14.063	16.583

Once the pre-test scores were taken into account, as indicated in Table 4, it was noted that there was a significant difference between the two groups in terms of their progress in LC. The analysis of the data showed a marked contrast with $F(1, 51) = 279.58, p = .00$, partial eta squared = 0.84.

Table 4

Outcomes of Univariate Tests

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	2825.363	1	2825.363	279.58	.000	.846
Error	515.378	51	10.105			

As per the data in Table 5, the researchers scrutinized the statistical values and concluded that there existed a significant difference between the two groups regarding the enhancement in their LC abilities following the post-test.

Table 5*The Outcomes of the Post-test Pairwise Comparisons Between the Two Groups*

(I) GROUPS	(J) GROUPS	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
EG	CG	14.663	.877	.000	12.902	16.423
CG	EG	-14.663	.877	.000	-16.423	-12.902

The results presented in Table 5 indicate a marked difference in mean scores between the two groups ($F(1, 53) = 279.58, p < .001$, partial eta squared = 0.84), which implies that the independent variable was responsible for the majority of the variation in post-test LC performance. However, it should be noted that pre-test scores also had a significant effect on post-test scores ($F(1, 53) = 78.20, p < .001$, partial eta squared = 0.60), accounting for approximately 60% of the variation. The researchers therefore used the Estimated Marginal Means test to adjust for the covariance effect and evaluate the intervention's impact on the two groups, as outlined in Table 5.

As presented in Table 6, for the EG, $M = 28.10$ and $SD = 4.78$ and for the CG, $M = 15.76$ and $SD = 4.24$ were calculated on the delayed post-test, in turn. The delayed post-test results for both the EG and CG are presented in Table 6. The EG had an M of 28.10 and a SD of 4.78, whereas the CG had an M of 15.76 and a SD of 4.24.

Table 6

Descriptive Statistics Comparing the Scores of the Two Groups on the Delayed Post-test Yielded Results

GROUPS	M	SD	N
EG	28.1071	4.78686	28
CG	15.7692	4.24554	26
Total	22.1667	7.67439	54

Table 6 indicated that there was a measurable difference in the mean scores of both groups. In order to ascertain if this distinction was statistically significant, the researchers performed Tests of Between-Subjects Effects as shown in Table 7.

Table 7

The Outcomes of the Between-subjects Effects Tests for Evaluating the Post-test and Delayed Post-test Scores Between the Two Groups

Dependent Variable: LCDP						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2970.733	3	990.244	328.402	.000	.952
Intercept	21.369	1	21.369	7.087	.010	.124
LCPRE	.871	1	.871	.289	.593	.006
LCPOST	335.123	1	335.123	111.139	.000	.690
GROUPS	5.011	1	5.011	1.662	.203	.032
Error	150.767	50	3.015			

Total	29655.000	54
Corrected	3121.500	53
Total		

In regards to the improvements in LC seen on the post-test, it is found that there is a significant effect with partial eta squared of 0.03. This suggests that approximately 3 percent of the variance can be attributed to the interventions. However, the results indicate that the difference in scores between the post-test and the delayed post-test had a significant impact, with partial eta squared of 0.69. This implies that around 69 percent of the difference can be explained by the variation between the scores on these two tests. Therefore, the delayed post-test had a greater effect on the overall comprehension skills of the participants.

Table 8

Outcomes of Estimated Marginal Means

GROUPS	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
EG	22.924	.633	21.652	24.195
CG	21.351	.675	19.996	22.707

According to the findings presented in Table 9, the post-test was taken into consideration by the researchers. The results indicated that there was a significant statistical difference when comparing the EG and the CG in regards to the enhancements in LC on the delayed post-test, with a F value of 1.66, p value of .00, and a partial eta squared value of 0.03.

Table 9

Outcomes of Univariate Tests

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	5.011	1	5.011	1.662	.203	.032
Error	150.767	50	3.015			

In conclusion, Table 10 displays that the significance values suggest a notable distinction between the two groups regarding their delayed post-test results.

Table 10

Outcomes of Pairwise Comparisons

(I) GROUPS	(J) GROUPS	Std. Error	Sig.	95% Confidence Interval for Difference
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		Mean Difference (I-J)			Lower Bound	Upper Bound
EG	CG	1.572	1.220	.203	-.877	4.022
CG	EG	-1.572	1.220	.203	-4.022	.877

The last two research inquiries aimed to determine the impact of online peer-DA on EFL learners' LA on the post-test and delayed post-test. To answer these questions, a one-way ANCOVA was used, and the researchers ensured that the statistical assumptions, including linearity, normality, and homogeneity, were met. The scatterplot showed no curvilinear relationship, indicating that the linearity assumption was satisfied. The Kolmogorov-Smirnov test indicated that the normality assumption held, as the sig. values (0.27) were larger than the critical value (0.05). Similarly, Levene's test of the equality of the variances showed that the homogeneity assumption was met, as the sig. level (0.19) was greater than the alpha level (0.05).

The researchers utilized a one-way ANCOVA after ensuring that the necessary assumptions were not violated. Table 11 presents the results of the descriptive analysis, which show that the EG had an M of 8.42 and an SD of 3.62. In contrast, the CG had an M of 17.46 and an SD of 4.89, as indicated in Table 11.

Descriptive Statistics to Compare the Post-test Scores of Both Groups

GROUPS	M	S.D	N
EG	8.4286	3.62531	28
CG	17.4615	4.89269	26
Total	12.7778	6.22432	54

Table 1 shows that there was a significant variation in the average scores on the post-test for both groups. As a result, the researchers examined the statistical significance of this difference by analyzing the results of the Tests of Between-Subjects Effects, which are presented in Table 12.

Table 12

The Outcomes of the Between-subjects Effects Tests for Evaluating the Post-test Scores of Both Groups

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1742.833	2	871.417	143.13 1	.000	.849

Intercept	5.306	1	5.306	.872	.355	.017
LAPRE	642.819	1	642.819	105.58	.000	.674
				4		
GROUPS	1208.660	1	1208.660	198.52	.000	.796
				4		
Error	310.500	51	6.088			
Total	10870.000	54				
Corrected	2053.333	53				
Total						

According to Table 12, there was a significant difference in the average scores of the two groups ($F(1, 53) = 198.52, p < .001$, partial eta squared = 0.79). This indicates that the independent variable had a significant impact on the gains observed in LA on the post-test, accounting for approximately 79% of the variability. However, the pre-test scores also had a significant effect on the post-test results ($F(1, 53) = 105.58, p < .00$, partial eta squared = 0.67), with approximately 67% of the difference in post-test scores being attributed to the variance in pre-test scores. To account for the covariate's effects on the post-test, the Estimated Marginal Means test was used to determine the adjusted means on the intervention type for the two groups, and the resulting measures are presented in Table 13.

Table 13

Outcomes of Estimated Marginal Means

GROUPS	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
EG	8.209	.467	7.272	9.146
CG	17.698	.484	16.726	18.671

After adjusting for the pre-test scores, Table 14 was consulted and it was found that there was a significant difference in the improvements seen in the LC between the two groups ($F(1, 51) = 198.52, p = .00$, partial eta squared = 0.79).

Table 14

Outcomes of Univariate Tests

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	1208.660	1	1208.660	198.52	.000	.796
Error	310.500	51	6.088			

The researchers utilized Table 15 to analyze the significance values, which revealed a notable difference between the two groups in terms of the improvements observed in LA during the post-test.

Table 15

The Outcomes of the Post-test Pairwise Comparisons Between the Two Groups

(I) GROUPS	(J) GROUPS	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
EG	CG	-9.489	.673	.000	-10.841	-8.137
CG	EG	9.489	.673	.000	8.137	10.841

The results presented in Table 16 show that the delayed post-test M for the EG was 8.71, with an SD of 3.46. On the other hand, the CG had an M of 17.34, with an SD of 4.97.

Table 16

Descriptive Statistics Comparing the Scores of the Two Groups on the Delayed Post-test Yielded Results

GROUPS	Mean	Std. Deviation	N
EG	8.7143	3.46257	28
CG	17.3462	4.97950	26
Total	12.8704	6.06271	54

The researchers analyzed the data to compare the mean scores of the two groups and presented the findings in Table 16. To determine the significance of the observed difference, they conducted Tests of Between-Subjects Effects and recorded the outcomes in Table 17.

Table 17

The Outcomes of the Between-subjects Effects Tests for Evaluating the Post-test and Delayed Post-test Scores Between the Two Groups

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1900.843	3	633.614	670.49 5	.000	.976
Intercept	.253	1	.253	.268	.607	.005
LAPRE	.234	1	.234	.247	.621	.005
LAPOST	278.467	1	278.467	294.67	.000	.855

GROUPS	.024	1	.024	.025	.875	.000
Error	47.250	50	.945			
Total	10893.000	54				
Corrected Total	1948.093	53				

Table 17 displays the results of the analysis conducted on the post-test scores, which revealed a substantial difference in the improvement of LC between the two groups. The statistical evaluation determined that the interventions had a considerable impact, accounting for about 85% of the observed distinctions. However, there was also a noticeable difference between the post-test and delayed post-test scores. Only 5% of the difference appeared to be due to variations in the scores between these two tests. To adjust for the effects of covariate on post-test scores, the Estimated Marginal Means were utilized, and the results are outlined in Table 18.

Table 18

Outcomes of Estimated Marginal Means

GROUPS	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
EG	12.826	.312	12.199	13.452
CG	12.918	.332	12.252	13.585

Table 19 displays the outcomes of the post-test analysis, which indicate a significant difference in the development of the LA during the delayed post-test between the EG and the CG. The statistical analysis generated an F-test (1, 50) = 0.94, $p = .00$, and partial eta squared = 0.87.

Table 19

Outcomes of Univariate Tests

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	.024	1	.024	.025	.875	.000
Error	47.250	50	.945			

As shown in Table 20, the results evidenced that there was a substantial difference in the performance of the two groups during the delayed post-test, as demonstrated by the statistically significant levels.

Table 20

Outcomes of Pairwise Comparisons

(I) GROUP S	(J) GROUPS	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
EG	CG	-.093	.587	.875	-1.272	1.086
CG	EG	.093	.587	.875	-1.086	1.272

Discussion

The first research question of the study was to determine if Iranian EFL learners' language competence (LC) could be improved with online peer-DA. The results documented that the group who received the online peer-DA experienced a notable enhancement in LC compared to the CG. This demonstrates that the participants' LC was positively impacted by the online peer-DA approach. The second research question assessed whether online peer-DA led to sustained improvements in EFL learners' LC. The results revealed that the EG outperformed the CG in LC gains during the delayed post-test. Overall, the use of online peer-DA appeared to have had a positive influence on the long-term language competence of EFL learners, applying the principles and procedures prescribed in the intervention. According to the study's findings, it may be argued that online peer-DA had a different purpose than traditional testing when it came to measuring the abilities of the EFL learners. Unlike traditional testing, online peer-DA could assess both mature and developing abilities of the EFL learners, providing tailored support that matches their level of need and adjusting or withdrawing assistance as necessary. This approach not only could identify the EFL learners' current ability level but also could diagnose their problems and scaffolded their skills development beyond their current level, potentially helping the EFL learners achieve better results in comprehension of the listening texts (Rezai et al., 2022).

The third research was to determine if online peer-DA could relieve the LA experienced by the Iranian EFL learners. The findings documented that the EG experienced less LA than the CG in the post-test. Additionally, the fourth research question examined whether online peer-DA could result in long-term reductions in Iranian EFL learners' learning anxiety, and the results showed that the level of anxiety significantly decreased compared to the CG in the delayed post-test. These findings disclose that the significant reduction in the EFL learners' long-term LA was a result of the intervention's positive effects, which were consistent with the principles and procedures of peer-DA. According to the study's results, feedback from the peers that was sensitive to the EFL learner's ZPD could play a significant role. This is because peer-to-peer dialogues could allow for the identification of the appropriate level of assistance required by the EFL learners. During these dialogues, both the EFL learners and the more capable peer engage in a conversation, resulting in dialogic feedback (Rezai et al., 2023). Additionally, the feedback provided could be graduated,

starting from implicit feedback and gradually progressing to more explicit feedback. This approach might ensure that the EFL learner's level of need was carefully considered and matched with appropriate assistance. Lastly, the feedback could be withdrawn when the EFL learners no longer required it and demonstrated self-control. Therefore, the provision and explicitness of feedback depended on the EFL learner's responsiveness. (Aljaafrah & Lantolf, 1994).

The results of this study are in line with the previous research conducted by Khoshsima and Rezaee (2016), which demonstrated that L2 students who were taught the principles and procedures of peer-DA were able to successfully apply them in a larger classroom setting, leading to improvements in their reading and vocabulary learning. Similarly, this study supports the findings of Rezaee et al. (2019), which uncovered that peer-DA had a significant positive impact on Iranian EFL learners' grammar learning. Additionally, the results of this study are consistent with those of Rezai and colleagues (2022), who found that online peer-DA had a substantial effect on students' writing skills, both immediately and on delayed post-tests. Finally, Azizi and Namaziandost (2023) also found that peer-DA resulted in a significant improvement in EFL learners' interlanguage pragmatic comprehension, which is in line with the findings of the present study.

The outcomes of the research can be credited to the collaborative efforts of the online peer-DA group participants, who combined their resources to support each other's understanding of listening texts. By means of online peer-DA, the EFL learners might be able to shape their ZPD and help each other progress within these jointly constructed ZPDs. They jointly developed knowledge that they could not have achieved individually and assimilated this jointly shaped knowledge, applying it to future individual performance. Essentially, the peers were attentive to their teammates' requirements, providing appropriate feedback when necessary and withholding it when needed. Offering consistent feedback tailored to the learners' ZPD could enable EFL learners to exceed their current individual abilities. Vygotsky's (1978) theory asserts that what is collaboratively constructed at the interpsychological level (among group members) can be internalized for future use at an intrapsychological level (within the learner's mind). As the EFL learners acquire a thorough comprehension of the listening texts, they could develop greater proficiency in their language abilities and manage their language acquisition more effectively.

In order to further examine the findings, it can be referred to Poehner (2009) who argue that interactions could be beneficial for both EFL learners who receive dialogic and graduated feedback (referred to as primary participants) and those who observe but are not directly involved (referred to as secondary participants). As a result, it could be argued that peer-feedback might have the potential to assist the primary participants by addressing their specific needs and weaknesses, while also considering their ZPD (Poehner, & Infante, 2016; van Compernelle & Williams, 2012). Additionally, the investigation's outcomes may be

credited to the feedback that was sensitive to the ZPD and exchanged in the virtual environment. This feedback was accessible to other participants for an extended period, and it was possible that they revisited it multiple times and benefited from it when they could focus on it properly (Alemi et al., 2019). As a result, the secondary participants may have assessed their current abilities and constraints and utilized the knowledge constructed collaboratively within their context.

The online peer-DA and direct feedback in the CG were two different approaches toward improving the LC of EFL learners and relieving their learning anxiety. While direct feedback helped the EFL learners fix some of their listening errors, it failed to consider their ZPDs, making it less effective in nurturing and developing their emergent abilities. According to Lantolf and Poehner (2014), non-ZPD sensitive feedback could not efficiently support learners in developing autonomy and, accordingly, was not useful to alleviate their learning anxiety.

Conclusion and Implications

The first two research questions aimed to investigate if online peer-DA could improve the LC of Iranian EFL learners in both post-test and delayed post-test. The results documented that the EG that received online peer-DA performed significantly better than the CG in both tests. The last two research questions explored if online peer-DA could decrease LA in the EG compared to the CG. The findings disclosed that the EG experienced less anxiety in both post-test and delayed post-test. Based on these findings, it can be concluded that online peer-DA enabled the EFL learners to receive personalized feedback that aided in enhancing their LC and increasing their knowledge and awareness, surpassing their individual abilities. By improving their LC, the EFL learners were able to better manage their learning anxiety.

The study's results may have advantages for different groups of stakeholder. Specifically, EFL teachers may use these findings to provide their students with advanced and interactive online assessment tasks that take into account their individual ZPDs. Additionally, EFL teachers are encouraged to organize online activities, such as listening exercises, where feedback from peers can be shared digitally and accessed by students for future learning. Similarly, EFL teacher trainers can benefit from this study by adapting the results to raise awareness among EFL teachers about the benefits of conducting certain activities online. They can incorporate the study's findings into both pre-service and in-service courses to educate EFL teachers on how implementing online peer-DA can save time and improve the effectiveness of these evaluation sessions. Likewise, the study's outcomes could be utilized by EFL teacher educators to teach the benefits of dialogic graduated feedback over non-dialogic feedback in online learning settings. Textbook developers could also use these results to incorporate online peer-DA in educational materials such that the EFL learners can benefit from the online learning regardless of time and location.

Additionally, EFL teachers could encourage students to use dialogic feedback in online learning by offering training on its use. Lastly, the study's findings could be especially beneficial to EFL learners who can enhance their listening skills in online contexts. They can use applications like WhatsApp as valuable learning tools to analyze their LC and LA through dialogic analysis with both teachers and peers.

The study's limitations have led to several recommendations for further research. Firstly, future studies should explore the generalizability of the findings by examining the effect of online peer-DA on enhancing LC and reducing learning anxiety. Secondly, future research should consider including participants of different genders, age groups, and proficiency levels to broaden the scope of the study. Thirdly, it is recommended that future studies compare the efficiency of interactive and interventionist approaches to peer-DA in the online context. Fourthly, future research could investigate the role of online peer-DA in enhancing other skills and psycho-affective constructs. Lastly, future research could explore the reciprocity of EFL learners using a qualitative approach to determine their reaction to the feedback provided in the online context.

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