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Comparative Effect of Screencast and Face-to-Face Corrective Feedback on EFL Learners' Speaking Proficiency

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Abstract

This study reports on the comparative effect of screencast and face-to-face (F2F) explicit corrective feedback on English as a foreign language (EFL) learners' speaking proficiency. Seventy EFL learners studying at the upper-intermediate level in a private institute in Iran were selected and assigned randomly to three groups, attending an in-person, extracurricular speaking crash course running for nine sessions. The experimental group (n = 26) received screencast corrective feedback after online IELTS-based interviews, the comparison group (n = 28) obtained their corrective feedback via in-person F2F interviews, and the control group (n = 16) received no relevant corrective feedback after their speaking course. Learners' performances were elicited in IELTS speaking mock interviews in pre-, immediate, and delayed post-tests. Results revealed that whereas both the experimental and comparison groups significantly improved in their speaking proficiency up to the delayed post-test, the control group showed no significant improvement. Nevertheless, it was observed that the experimental group outperformed the comparison group as the magnitudes of difference gauged by effect sizes were considerably stronger for the former group in immediate and delayed post-tests. These findings highlight the untapped potential of screencast corrective feedback in magnifying the effect of explicit corrective feedback on EFL learners' speaking proficiency.

Keywords: Computer-mediated instruction, EFL learners, face-to-face (F2F) feedback, screencast feedback, speaking proficiency

Introduction

The new millennium has marked the pervasive use of technology in human communication and education. Such an avid interest in using technology for educational purposes has been sparked by the recent COVID-19 pandemic, making online and offline computer-mediated instruction a must rather than a preference (Krajka & Alexander,

2020; Oskoz & Smith, 2020). As a result, the field of second/foreign language (L2) learning as a challenging endeavor (Teimouri et al., 2020) has not been unaffected, resulting in a dramatic growth of computer-mediated instruction in English as a foreign language (EFL) contexts (Zubaidi, 2021). Nonetheless, despite the necessity of utilizing such a computerized technology, it seems that it is still not very welcome nor effectively practiced in real-life classrooms (Hanson-Smith, 2016). One of the main reasons for such negligence is that computer-mediated instruction, particularly via online platforms, is not completely normalized among EFL stakeholders, meaning that this technology is not adequately adapted in the classroom based on the learners' short-term and long-term learning needs (Mei, 2019).

One pedagogically significant area of inquiry that has caught scholarly attention in the past two decades is the mediating role of computerized technology in facilitating the process of giving EFL learners corrective feedback (Bush, 2021). Corrective feedback has been defined as a practice in which learners obtain feedback on their linguistic or socio-pragmatic errors so that they can avoid making the same errors again (Ai, 2017). It has been argued that corrective feedback is essential for language learners as it helps them notice elusive, problematic forms in meaning-based activities (Li & Vuono, 2019). It can be presented to learners either implicitly or explicitly: It is implicit if the teacher elicits the correct form from learners indirectly by, say, repeating their erroneous sentences minus the errors; it is explicit if the teacher directly refers to and corrects the error made by the learners. In general, research shows that the explicitness of explicit corrective feedback makes it less ambiguous for L2 learners, hence more efficient to help them notice their errors and learn the correct forms (e.g., Gao & Ma, 2019; Sauro, 2009; Tabandeh & Parvaneh, 2020).

An investigation of recent research on computer-mediated corrective feedback reveals that studies have mostly focused on the facilitative role of such feedback in L2 grammar (e.g., Arroyo & Yilmaz, 2018; de Vries et al., 2019), writing (e.g., Bush, 2021; Gao & Ma, 2019; Vatansever & Toker, 2022), pronunciation (e.g., Fouz-Gonzalez, 2019; Mompean & Fouz-Gonzalez, 2016), and listening (e.g., Levak & Son, 2017) at the expense of sufficient attention to the speaking skill. Besides, despite the promising effect of screencasting—as one type of video feedback created by easy-to-use software and applications—on learners' uptake (Inan-Caragul & Seker, 2021; Özkul & Ortaçtepe, 2017), limited research has been carried out in this regard. Thus, given the indispensable role of the speaking skill in effective communication and grasping academic and occupational opportunities for EFL learners (Ekoc, 2020; Wongsa & Son, 2020) on the one hand and the potential of computer-mediated screencast feedback in providing EFL learners with effective explicit corrective feedback on the other, this study aimed to investigate the comparative effects of screencast and in-person face-to-face (F2F) explicit corrective feedback on improving the speaking proficiency of Iranian EFL learners.

Literature Review

Computer-mediated corrective feedback

One of the most effective factors in helping learners develop their L2 proficiency and learn from their errors is the corrective feedback they receive from their teachers, peers, or automated programs on their language performance (Li & Vuono, 2019). Li (2020) defines corrective feedback as responses to the errors made by learners while producing or comprehending language and maintains that corrective feedback has occupied an indispensable place in L2 research for the past two decades. Depending on how conspicuous the feedback is, it can be either explicit or implicit. Explicit corrective feedback is when the teacher directly informs learners about the accuracy of their performance by only mentioning the error (e.g., explicit correction) or giving metalinguistic information accompanying the error. The implicit feedback, however, happens when the teacher provides neither explicit correction nor metalinguistic explanations but tries to elicit the correct form from the learners by repetition or clarification (Arroyo & Yilmaz, 2018). Furthermore, corrective feedback can be immediate or delayed in terms of timing: it is called immediate if it is delivered immediately after the occurrence of an error by the learner in the flow of communication, but it is called delayed if delivered after the communication takes place (Li, 2020; Li & Vuono, 2019). According to Li (2020), however, the majority of studies investigating corrective feedback have focused on immediate feedback, paying scant attention to the delayed counterpart.

As stated above, explicit corrective feedback makes learners aware of their errors on the spot, but it may impede the flow of interaction among the interlocutors (Arroyo & Yilmaz, 2018). Hence, delayed corrective feedback seems more appropriate for explicit types of feedback because it is given after the task is over (Li, 2020). In contrast, implicit corrective feedback helps learners focus on the communication process while they notice the implicature by the teacher regarding their errors (Ai, 2017); however, there is a chance that implicit feedback might go unnoticed by the learners (Li, 2020). Consequently, there is a trade-off between the two types of feedback: Whereas explicit feedback can be easily noticed by learners but be detrimental to the flow of language communication, implicit feedback can be elusive to learners but conducive to language interaction. Although some research findings favor implicit corrective feedback as a technique to present learners with negative evidence focusing on the meaning (Long, 2007), many studies have argued in favor of explicit corrective feedback as a technique minimizing the chance of missing the erroneous point by the learners (e.g., Gao & Ma, 2019; Suzuki et al., 2019; Tabandeh et al., 2018, 2019; Tian & Zhou, 2020; Yilmaz, 2012).

The recent introduction of online, computer-mediated instruction into L2 learning has motivated researchers and practitioners to look for optimal computerized methodologies and technologies to provide learners with explicit corrective feedback (Oskoz & Smith, 2020). As a result, computer-mediated instruction has drawn growing

interest among L2 researchers probing how different forms of computer-mediated explicit corrective feedback may optimize the process of feedback uptake (Monteiro, 2014). Screencasting defined as the broadcast of video recordings of the teacher's on-screen activities plus corresponding audio comments is amongst the most updated types of technology for delivering explicit corrective feedback (Özkul & Ortaçtepe, 2017). Despite such potential, limited research has focused on the effect of screencast explicit corrective feedback on EFL learners' performance.

Screencast Corrective Feedback

Screencast feedback is provided in a process called 'screencasting' wherein users can make a video of all activities on the monitor screen while recording relevant audio comments with a microphone (Pen & Brown, 2022). By so doing, the teacher can leave audio-visual comments in the form of video feedback for the learners, and they can watch, listen to, and replay these videos as many times as they wish so that they explicitly notice their errors (Özkul & Ortaçtepe, 2017). These features reflect the two distinctive features of conferencing and multimodality already associated with video feedback in the literature. Conferencing highlights the fact that screencasts can be listened to, watched, and replayed without any limitations regarding time and place (Mann, 2015; Thompson & Lee, 2012). Multimodality refers to the audio-visual nature of screencasts as they consist of speech, video, transcription of learners' oral language productions, and text highlighting (Mann, 2015; Seror, 2012). Similar to any type of computer-mediated content, screencasts need special software or applications to be prepared. One piece of software specifically programmed to make screencasts is TechSmithCapture® (formerly Jing®), which is downloadable for free and very user-friendly, even for those with limited knowledge about computers (Seror, 2012). This screencasting software allows users to save the created feedback videos that can be emailed or uploaded to be used by other users. In the following section, we introduce and discuss the most recent studies conducted on the role of explicit corrective feedback in improving L2 proficiency as delivered via different forms of computer-mediated media, including screencasts.

Recent Studies

The effects of computer-mediated corrective feedback on various aspects of L2 learning have been researched in the past two decades, with grammatical proficiency as one of the most researched areas. In a comprehensive study, Yilmaz (2012) investigated the comparative effects of explicit and implicit feedback and communication mode (i.e., computer-mediated and F2F) on learning Turkish morphemes. The main finding of his study was that explicit correction was more effective than implicit recast, irrespective of the communication mode. This finding, however, is in disagreement with the finding of the study by Monteiro (2014), reporting that both types of explicit and implicit corrective feedback presented via online video-conferencing were equally beneficial for EFL learners' grammatical knowledge. Finally, de Vries et al. (2019) demonstrated that

computer-mediated explicit feedback was significantly effective in improving L2 Dutch learners' spoken grammar, especially for more proficient ones, because low-educated learners did not find corrective feedback helpful regardless of the deliverance medium.

Similar to L2 grammar, some studies have been carried out on the impact of computer-mediated corrective feedback on learners' pronunciation. For example, Mompean and Fouz-Gonzalez (2016) employed Twitter to provide Spanish EFL learners with explicit corrective feedback and reported that this website helped eradicate learners' segmental errors. Likewise, Fouz-Gonzalez (2019) studied the effectiveness of corrective feedback given via online podcasts to help Spanish EFL learners overcome their fossilized segmental errors. The results demonstrated that corrective feedback by teachers and peers improved learners' segmental pronunciations.

Several studies have been conducted on the impact of computerized feedback on L2 writing. In one study, AbuSeileek and Abualsha'r (2014) investigated the effects of three types of written explicit feedback (i.e., explicit correction by track change feature, metalinguistic explanations as comment boxes and recast as comment boxes) on EFL learners' writing. They found that the most effective type of feedback was explicit correction via the MS Office Word track change feature. In another study, Gao and Ma (2019) focused on explicit metalinguistic explanations with and without correction delivered by computer-automated software. Their results showed that both types of feedback could significantly improve learners' writing scores, whereas the no-feedback group showed no improvements.

Screencast feedback has also attracted the attention of L2 writing researchers in the past decade. For example, in an early study, Edwards et al. (2012) carried out action research exploring the effects of online audio-visual screencast corrective feedback (provided by TechSmithCapture® software) on university students' English academic writing. They showed that screencasting not only raised the efficiency of corrective feedback uptake but also was more motivating and encouraging for learners than traditional written feedback; besides, it could make the process of providing feedback by the teacher a lot easier and quicker. Similarly, Seror (2012) and Thompson and Lee (2012) found that screencasts created by Jing® software significantly enhanced the writing performance of L2 learners. Referring to their participants' opinions, Thompson and Lee (2012) also argued that one of the main reasons for the supremacy of screencast corrective feedback over traditional written counterparts is that screencasting has audio-visual features making it more natural and conversational to the eyes of the learners.

Recently, Bush (2021) conducted a survey study on Turkish EFL learners' attitudes toward the comparative effects and usefulness of screencast feedback versus traditional written feedback while engaging in academic essay writing tasks. He found that EFL learners unanimously believed that screencast feedback was more effective and pleasant than written feedback for academic writing courses. Similarly, Vatansever and Toker (2022) observed that both e-written and screencast feedback were effective in improving Turkish EFL learners' writing performance, but the latter was reported to

engage learners more effectively with cognitive and motivational benefits. Overall, these studies vote strongly in favor of computer-mediated corrective feedback delivered via different types of media, particularly screencasts.

Research Gap

The above-mentioned literature reveals, in brief, that computer-mediated corrective feedback can exert significant positive effects on L2 learners' feedback uptake in L2 grammar (e.g., Monteiro, 2014; de Vries et al., 2019; Yilmaz, 2012), pronunciation (e.g., Fouz-Gonzalez, 2019; Mompean & Fouz-Gonzalez, 2016), and writing (e.g., Bush, 2021; Gao & Ma, 2019; Özkul & Ortaçtepe, 2017; Vatansever & Toker, 2022). However, there is a dearth of research on the mediating role of online computerized feedback in improving EFL learners' speaking proficiency as comprehensively assessed based on the four criteria of fluency/coherence, lexical resource, grammatical range/accuracy, and pronunciation. Besides, despite the potentiality of screencast feedback in enhancing the effect of corrective feedback reported by a few studies regarding L2 writing (e.g., Bush, 2021; Özkul & Ortaçtepe, 2017; Vatansever & Toker, 2022), to the best of our knowledge, no primary study has investigated the immediate and lasting impacts of screencast corrective feedback as compared to traditional F2F feedback in improving EFL learners' speaking proficiency. Consequently, we addressed the following research question in this study:

- To what extent do screencast and F2F corrective feedback have differential immediate and lasting effects on EFL learners' speaking proficiency?

Method

Participants

The data of the study come from 70 upper-intermediate EFL learners who attended an extracurricular IELTS preparation speaking crash course along with their routine, term-based classes in a private language school in Iran. The learners belonged to five upper-intermediate classes whose proficiency levels were determined by their scores on a four-skill language placement test (i.e., C1 in CEFR proficiency levels) administered by the institute. Accordingly, two classes, as the experimental group, received online computer-mediated explicit corrective feedback via screencasts (the screencast group), two classes, as the comparison group, received F2F explicit corrective feedback (the F2F group), and one class, as the control group, received no relevant feedback. The speaking course was held by the first author as the teacher. The demographic information of the participants is presented in Table 1.

Table 1
Demographic information of the participants

	Number	Gender (female/male)	Age (mean/SD)
Screencast group	26	15/11	24.2/3.64
F2f Group	28	17/11	23.4/4.55
Control group	16	10/6	24.6/3.82

To rate learners' speaking performances, two IELTS instructors were recruited as raters. They were unfamiliar with the learners and justified by a certified IELTS examiner on how to score learners' performance based on four IELTS speaking rating criteria: fluency/coherence, lexical resource, grammatical range/accuracy, and pronunciation.

Measurement Tasks

To assess learners' speaking performance in the pre-, immediate, and delayed post-tests, the authors carried out interviews with the learners based on the IELTS speaking module. The IELTS speaking interview has three sections. In the first section, the examiner asks the test taker simple questions about their personal life and general preferences. In the second section, the examiner gives a cue card to the test taker with a question topic and a spare sheet; the test taker has one minute to take necessary notes and be prepared to talk for about two minutes. In the third section, the examiner asks further in-depth questions related to the topic in the second section. Accordingly, the authors conducted interviews, and learners' performances were voice recorded. The topic of the cue card and related questions were selected from one of the recent IELTS Cambridge Series books. To reduce measurement task effects (e.g., variation in topic familiarity and difficulty) and bearing in mind the time distance among the testing sessions, the same topic and questions were given to the learners in all three testing sessions.

Treatment and Data Collection Procedures

This study had a quasi-experimental time-series design. Before the onset of the crash course, all learners had their pre-test. The pre-test was an exact simulation of the IELTS speaking module interview. Thus, each learner had an interview based on the three sections of the speaking module with either one of the authors as an interviewer.

Learners in all study groups experienced similar speaking activities in an in-person speaking crash course taught by the same teacher. They were presented with different speaking topics and were required to engage in various individual, pair-work, and group-work speaking activities. Each session was one hour and a half long, and there were nine weekly sessions in total. The only difference, however, was in the way they received corrective feedback: Whereas the screencast group received feedback in an online, computer-mediated environment via screencasts, the F2F group received feedback via in-person F2F interviews.

The screencast group received delayed corrective feedback via screencasts sent to the learners after the online interviews. After each speaking practice session, each learner was assigned a time the day after to have an online interview via Skype. In the online interview, learners were required to talk about a topic after a one-minute preparation and answer the follow-up questions. The whole interview for each learner took five to six minutes. Learners were informed that the interview was voice-recorded and told that their screencast corrective feedback video would be available online the day after the end of the interview.

The interviewers transcribed learners' voices and highlighted their errors in MS Office Word sheets as they used TechSmith Capture® software to screencast the process and leave voice comments on the errors (see Appendix 1 for the image of a screencast made by the teacher). Among different screen recording software now available free of charge on the Internet, TechSmith Capture® software is advantageous in providing users with the opportunity to create their profiles and share the recorded videos online on the website. In this method, teachers can video-record their error-highlighting activities on the screen as they are concurrently recording their audio comments on the highlighted sections (Özkul & Ortaçtepe, 2017). Finally, the interviewers uploaded the captured feedback videos to TechSmith® website so that learners could watch videos online via the link sent to their email. Therefore, each learner had nine online interviews with the teacher in total. The explicit feedback included explicit correction plus metalinguistic explanations focusing on fluency/coherence, lexical resource, grammatical range/accuracy, and pronunciation (see Appendix 2 for a sample list of learners' errors in each category). After the end of the ninth interview session and after receiving relevant screencast feedback, learners had their immediate post-test interview, followed by their delayed post-test interview two weeks later.

The F2F group received post-instruction, delayed explicit corrective feedback in F2F interviews. After each session was done, learners were assigned a time on the day after and engaged in individual F2F interviews with the interviewers. Each learner was given a topic to talk about after a one-minute preparation, followed by subsequent questions. The interviewer wrote down learners' errors while they were speaking and provided them with oral corrective feedback on the errors at the end of the interview session. Learners were allowed to take detailed notes of the corrective feedback they received. Hence, each learner had nine F2F interviews in total. After the end of the ninth interview session and after receiving relevant F2F feedback, learners had their immediate post-test interview, followed by their delayed post-test interview two weeks later. The control group, however, did not have any computer-mediated or in-person F2F feedback interviews. They only engaged in classroom activities without any relevant feedback within or after their speaking course. Thus, after their last session, they had their immediate post-test interview, followed by their delayed post-test interview two weeks later.

Data Analysis

The recorded performance of the learners in the pre-, immediate, and delayed post-tests was scored by two raters on a rating scale ranging from 1 to 9. The learners' performance was scored based on the IELTS speaking module scoring scale: a 9-point scale ranging from 1 (no communication possible) to 9 (native-like oral proficiency) measuring fluency/coherence, lexical resource, grammatical range/accuracy, and pronunciation.

The two raters scored each learner's performance separately. Thus, each learner had two sets of scores in each testing session. To assess the consistency of the scores between the two raters, the intraclass correlation (ICC) test of interrater reliability was run in SPSS software. The results of the ICC test proved reliable ratings between the two raters in the three testing sessions (ICC results were > .7 for all pairs of scores in all groups). Therefore, the mean score of the two score sets was calculated for each learner and used as their final score. For example, if a learner's speaking performance was scored 5 in the pre-test by one rater and 5.5 by the other, the mean of their scores, 5.25, was assigned as their final score in the pre-test.

As the data of the study formed continuous variables with normal distributions, parametric statistical analyses were conducted to determine pre- and post-instruction differences. First, to determine variations across the three groups in the pre-test, one-way ANOVA was run. Next, to analyze overall variations across the three groups in the immediate and delayed post-tests, mixed-design ANOVA was employed. Then, post-hoc Bonferroni-adjusted analyses were run to specify pairwise post-instruction within-group and between-group differences. The *p*-values were assigned to be statistically significant at < .05. Finally, Cohen's *d* was calculated to measure effect sizes (.2 = small, .5 = medium, and .8 = large; Plonsky & Oswald, 2014) for all significant pairwise comparisons.

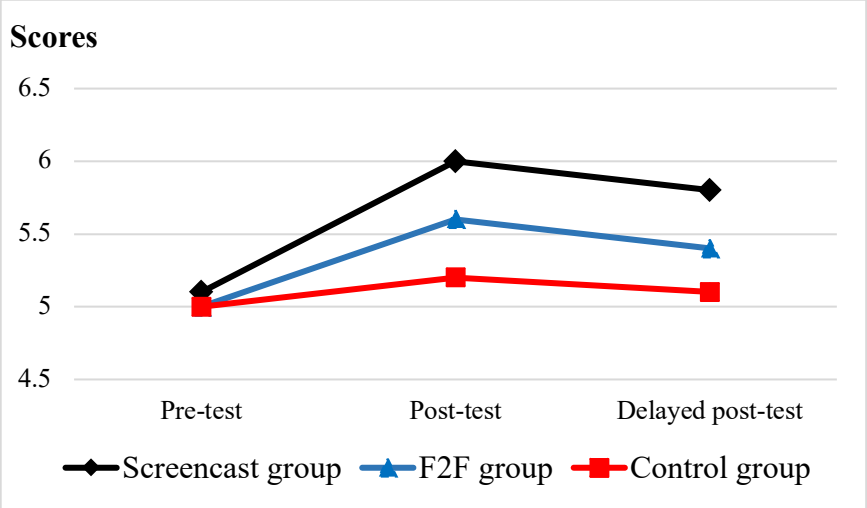
Results

To determine the homogeneity of the three groups of the study regarding their speaking proficiency in the pre-test, one-way ANOVA was run. The result of one-way ANOVA revealed that the three groups were homogeneous before the onset of the treatment as there was not a significant difference among them ($F(2, 67) = .024$, $p = .976$).

As for the post-instruction within-group and between-group differences across the three groups in the three testing sessions, mixed-design ANOVA was used. First, Levene's test of equality of error variances was run, and it was observed that the data met the assumption of conducting mixed-design ANOVA because Levene's Statistic was not significant ($p > .05$) in each testing session. The results of mixed-design ANOVA revealed that there were significant within-group ($F(2, 134) = 57.433$, $p = .001$) and between-group differences ($F(2, 67) = 8.501$, $p = .001$) across the three testing sessions. In other words, these significant values demonstrated that the three groups underwent

statistically significant changes in the immediate and delayed post-tests (see Figure 1 for the mean differences). Nevertheless, to locate pairwise, post-instruction within-group and between-group significant differences (p-value < .05), post-hoc Bonferroni-adjusted comparisons were run. If significant pairwise differences were observed, Cohen's d was calculated for the effect size. Table 2 shows pairwise, within-group variations and relevant Cohen's d values.

Figure 1
Mean differences among study groups in the three testing sessions



The results of pairwise within-group comparisons revealed that unlike the control group undergoing no significant changes, the screencast and F2F groups experienced significant changes in the immediate and delayed post-tests (Table 2). Thus, both treatment procedures significantly improved learners' speaking scores in the immediate post-test with large effect sizes; yet, the effect size produced by the screencast intervention (d = 1.9) was considerably larger than that of the F2F counterpart (d = .92).

Table 2
The results of post-hoc within-group comparisons and relevant effect sizes

	Screencast		F2F		Control
	p-value	d	p-value	d	p-value
Pre-test/immediate post-test	.001	1.9	.001	.92	1.000
Pre-test/delayed post-test	.001	1.6	.001	.95	.495
Immediate/delayed post-tests	.021	- .31	.001	- .38	.089

As for the delayed post-test, although both groups remained significantly improved compared to the pre-test, the magnitude of difference in the screencast group

was large (d = 1.6) while it was barely moderate in the F2F group (d = .55). Finally, it was observed that both groups significantly weakened in their delayed post-test performance as compared to their immediate post-test performance; the effect sizes for the magnitude of difference were small for both groups, though (d = - .31 for screencast and d = -.38 for F2F).

The results of pairwise between-group comparisons also showed significant variations. Since the results of one-way ANOVA revealed no significant differences in the pre-test, only the results of the immediate and delayed posttests are demonstrated in Table 3. The screencast group significantly outperformed the F2F (p = .031, d = .72) and control (p = .018, d = .86) groups with moderate-to-large effect sizes. Moreover, the screencast group remained significantly different with large effect sizes up to the delayed post-test compared to the F2F (p = .015, d = .91) and control (p = .001, d = 1.64) groups. The F2F group also outperformed the control group significantly with a relatively large effect size (p = .018, d = .86) in the immediate post-test, yet with a moderate effect size (p = .034, d = .76) in the delayed post-test.

Table 3
The results of post-hoc between-group comparisons and relevant effect sizes

	Screencast vs. F2F		Screencast vs. Control		F2F vs. Control	
	p-value	*d*	*p*-value	*d*	*p*-value	*p*-value
Immediate post-test	.031	.72	.001	1.72	.018	.86
Delayed post-test	.015	.91	.001	1.64	.034	.76

Overall, the results of statistical analyses demonstrated that both feedback treatment procedures (i.e., screencast and F2F) could significantly improve learners' speaking scores in the immediate and delayed post-tests. However, explicit feedback delivered via screencasts produced considerably larger effect sizes in post-instruction interventions. Moreover, it was observed that although both groups' performance improved significantly up to the delayed post-test, the magnitude of such improvements was considerably stronger for the screencast group.

Discussion

There is now a growing consensus among L2 stakeholders over the beneficial effect of computer-mediated corrective feedback on learners' performance regarding various language skills (Pen & Brown, 2022; Tian & Zhou, 2020). One potential, yet mostly gone unnoticed, medium of delivering explicit corrective feedback to language learners is screencast in which audio-visual video feedback is given to learners (Bush, 2021). Although limited research has reported that screencasting is advantageous for

brushing up EFL writing skills (e.g., Inan-Karagul & Seker, 2021; Özkul & Ortaçtepe, 2017; Vatansever & Toker, 2022), the potential of this medium is under-researched regarding the speaking skill as one of the most important language skills (Wongsa & Son, 2020). Therefore, this study investigated the comparative short-term and long-term effects of screencast and face-to-face (F2F) explicit corrective feedback on enhancing EFL learners' speaking proficiency. We observed that online computer-mediated screencast corrective feedback was not only significantly more effective than the F2F counterpart in improving EFL learners' speaking proficiency but also capable of producing more durable improvements as measured in the delayed post-test.

Copious recent research has proved the role of explicit corrective feedback delivered by various types of computer-mediated media in improving grammar (e.g., Arroyo & Yilmaz, 2018; de Vries et al., 2019), pronunciation (Fouz-Gonzalez, 2019; Mompean & Fouz-Gonzalez, 2016), listening (e.g., Levak & Son, 2017) and writing (Bush, 2021; Inan-Karagul & Seker, 2021; Vatansever & Toker, 2022). Accordingly, in line with the findings of previous research, the findings of this study highlight the fact that screencasts can also be used as an effective computerized medium to improve EFL learners' speaking performance.

As maintained by Edwards et al. (2012), one of the main advantages of using audio-visual screencasts to deliver corrective feedback is that they can facilitate the process of feedback presentation by making it easier for teachers to highlight and video-record the erroneous parts with audio comments. By so doing, teachers can be assured that learners notice their errors and can learn the correct forms by watching screencasts repeatedly. On the other hand, as much as learners are concerned, using screencast feedback has two main advantages: its audio-visual nature and ease of availability for a longer time (Edwards et al., 2012; Pen & Brown, 2022). The audio-visual nature of screencast corrective feedback helps learners simultaneously observe their erroneous language performance and listen to the teacher's explanations as if they were in a natural in-person situation. Besides, the ease of availability of corrective feedback for longer periods makes learners able to regularly refer to the given feedback. Taking the affective sides of L2 learning into account, Lunt and Curran (2009) also argue that the novelty of video feedback, compared to traditional in-person ways, may be an important reason behind the superiority of video feedback. They further maintain that language learners generally find video feedback more enjoyable and interesting because it is more meaningful and comprehensible (Lunt & Curran, 2009).

Besides, as a type of video feedback, screencasts can also possess the two main distinguishing features previously regarded for video-based corrective feedback in the literature: conferencing and multimodality (Özkul & Ortaçtepe, 2017). Conferencing means that screencasts can be listened to, watched, and replayed regardless of time and place limitations, acting as a portfolio for language learners to track and notice their performance (Mann, 2015; Thompson & Lee, 2012). Thus, although the nature of screencast corrective feedback in this study was one-sided, addressing each learner in

person by the interviewer's voice through audio comments likens video feedback to conferencing sessions. As argued by Mann (2015) and Seror (2012), video-based corrective feedback augments the affective side of learning by adding personalization and emotional color to corrective feedback, hence creating opportunities for learners to deal with their errors more interactively. The other key feature of screencasting is its multi-modality. The audio-visual nature of video feedback makes it include speech, video, transcription of learners' oral performance, text highlighting, and referencing tools such as dictionaries and website links (Mann, 2015). Therefore, such multimodality makes video feedback beyond mere F2F oral interactions or written texts and makes corrective feedback more appealing and learnable to learners with different learning styles (Özkul & Ortaçtepe, 2017). Overall, such advantages can be argued to be the main reasons why we observed that screencast corrective feedback produced more effective and durable improvements in EFL learners' speaking performance compared to the F2F corrective feedback.

The above-mentioned benefits of screencast feedback contrast with what F2F feedback offers. Explicit corrective feedback delivered via post-instruction F2F interviews or in classrooms can only provide learners with the chance to listen to the interviewer's/teacher's feedback with a short time available to jot down some notes, most probably not covering all the main points raised (Mann, 2015; Mathisen, 2012). In the current study, EFL learners in the F2F group were allowed to take notes while receiving in-person feedback similar to any natural instructional practice in EFL classrooms, but it is obvious that not all L2 learners can take comprehensive notes in shorthand in the target language while paying due attention to their feedback provider. Therefore, it seems that screencasting provides a decisive advantage over in-person F2F deliverance for the utilization of corrective feedback to its full potential.

The other main finding of the study was that both screencast and F2F corrective feedback were effective up to the delayed post-test, screencast feedback produced stronger effects though. This relies on the beneficial impacts of explicit corrective feedback echoed abundantly in the literature (e.g., Li & Vuono, 2019; Pen & Brown, 2022; Yilmaz, 2012). The main difference between the explicit and implicit types of corrective feedback is that explicit corrective feedback signals the errors to learners so that they notice their errors clearly (Suzuki et al., 2019). Indeed, explicit feedback on learners' errors helps them realize weak points (Swain, 2005) in their current language performance and act on this cognitive awareness to rectify their errors with the direct help of a feedback provider (Carroll, 2001). One negative side effect of explicit corrective feedback, especially if accompanied by metalinguistic explanations, is that it can hinder the natural pace of communication in classrooms (Li, 2020). It is here that the role of delayed screencast feedback is emphasized as screencasts give learners opportunities to watch corrective feedback after instruction without any interference in their language interactions (Edwards et al., 2012).

Similar to any quasi-experimental study, this study faced some limitations necessitating the results to be interpreted cautiously. First, the sample size was relatively small. Although we reported effect sizes to take into account the magnitude of differences based on sample size (Plonsky & Oswald, 2014), future studies can include larger sample sizes to increase the generalizability of the findings. Another limitation was that although contrary to most previous studies we measured learners' progress in both immediate and delayed post-tests, longer measurements of instructional gains and feedback uptake may reveal the robustness of interventional achievements more efficiently (Özkul & Ortaçtepe, 2017). Finally, we focused on communicatively proficient EFL learners studying at the upper-intermediate level of proficiency. Further studies can investigate the comparative effects of screencast corrective feedback across a range of proficiency levels, starting from beginners to advanced ones, to see whether screencast corrective feedback uptake is affected by the proficiency level of L2 learners.

Conclusion

This study examined the comparative short-term and long-term effects of explicit screencast and F2F corrective feedback on EFL learners' speaking proficiency. The results revealed that although both media of delivery were effective in improving learners' speaking performance, online computer-mediated screencasting was significantly more effective over a longer period. The main pedagogical implication of this finding is that now that online computer-mediated instruction, as the most popular and effective type of distance learning, has gained enormous significance in the post-COVID-19 pandemic period, we can maintain that online language instruction in general and screencasting for feedback delivery, in particular, are strongly effective EFL methodologies, capable of replacing or working in tandem with in-person F2F pedagogy. Moreover, the distinguishing features of screencasting (e.g., conferencing and multimodality) make it a better candidate than F2F for providing learners with more effective corrective feedback not only in F2F pedagogy but also in online computer-mediated instruction. Considering the substantial benefits of screencast corrective feedback and the fact that preparing such feedback is not a time-consuming process provided teachers are familiar with the relevant technology, it should occupy a more pivotal role in EFL syllabuses and be employed more frequently by teachers in their teaching. In sum, the empirical findings of this study lay support for the facilitative role of online screencasting in delivering more efficient corrective feedback in L2 instruction.

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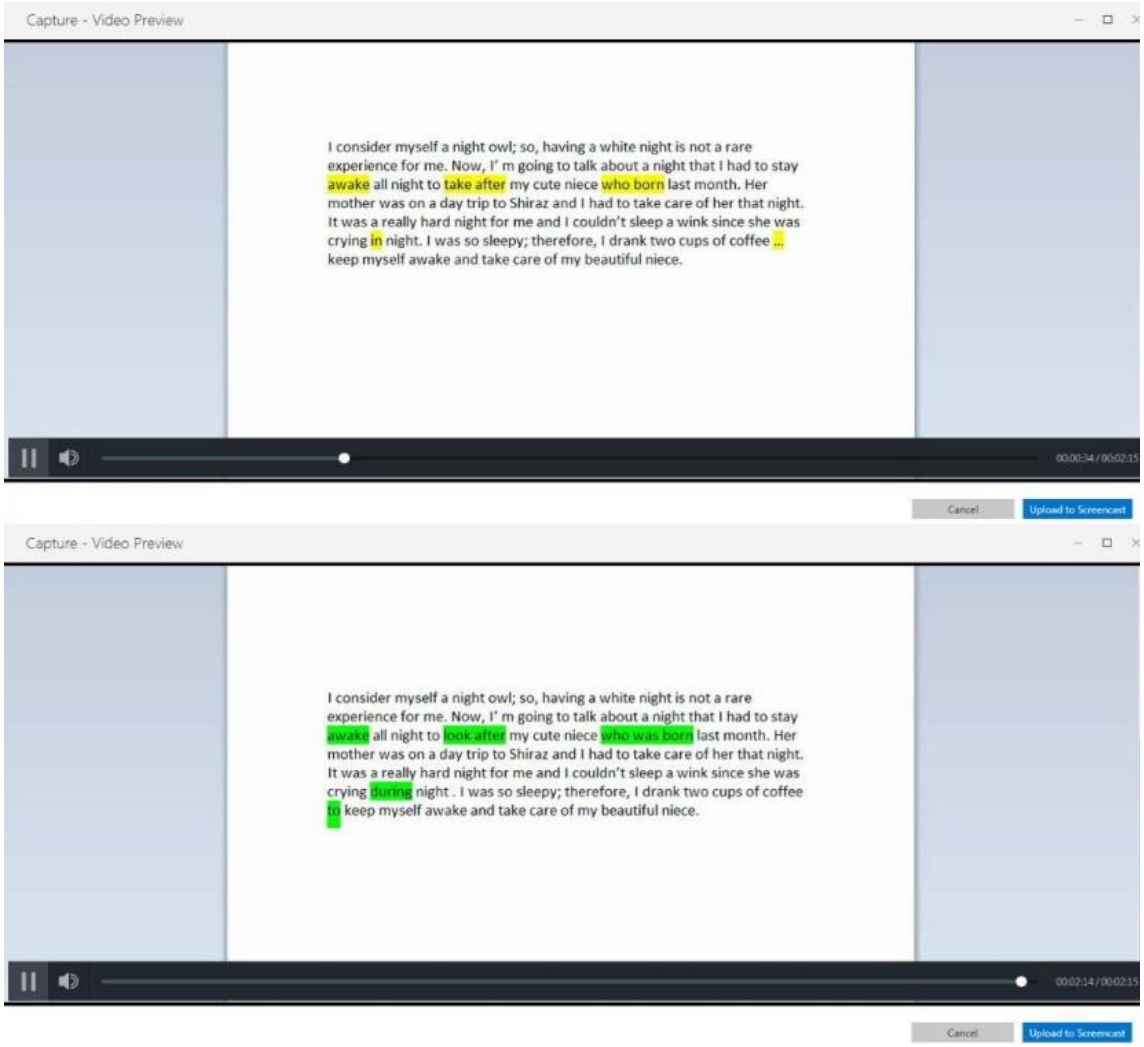
Appendix 1

The image of the screencast feedback by the teacher video-recorded in TechSmith Capture®: errors highlighted in yellow (picture on the top) before correction and highlighted in green (picture on the bottom) after correction.



Appendix 2

A sample of learners' errors and teachers' explicit corrective feedback

Speaking proficiency measurement criteria	A sample of learners' errors	Teacher's screencast explicit feedback
Fluency/Coherence	1. A learner speaks slowly with lots of hesitations and pauses. 2. A learner uses a 'word marker' (catchphrase) many times: *actually*. 3. A learner jumps from one topic to another in their speech.	1. You need to speak with a more natural pace. Try to avoid hesitations and pauses using gap fillers, such as *well*, *you know*. 2. Please use a variety of word markers like *you mean, in my opinion* and don't overuse *actually*. 3. You should stick to the topic you are asked to talk about; you can provide examples to speak more.
Lexical resource (Vocabulary use & range)	1. A learner says: *grow extremely*. 2. A learner says: *a short treadmill*. 3. A learner says: *get off well* *with each other*	1. The verb *grow* collocates with the adverb *quickly*. 2. The noun *treadmill* collocates with the adjective *small*. 3. You should use the proposition *on* instead *off*: *get on well with each other*.
Grammatical range & accuracy	1. A learner says: *it eat* (missing third person singular 's' in simple present) 2. A learner says: *my sister sometimes is free*. 3. A learner says: *I don't know what should I do*.	1. You should say: *it eats.* Except for modal verbs, the third person singular in the simple present tense always ends in *–s* or *-es*. 2. Remember that the adverb *sometimes* is used after *to be* verb. 3. Notice that in a noun clause (indirect questions), the subject precedes the verb. You should say: *I don't know what I should do.*
Pronunciation	1. A learner pronounces the word *average* putting the stress on the second syllable. 2. A learner pronounces the adjective *close* as /kloʊz/ 3. A learner pronounces the word *inconsiderate* putting the stress on the second syllable	1. Pay attention to the correct pronunciation, please. The stress is on the first syllable /ˈ**æ**vərɪj/. 2. This word is an adjective here, so the correct pronunciation is /kloʊ**s**/. 3. Pay attention to the correct pronunciation, please. The stress is on the third syllable /Inkənˈ**sɪ**dərət/