EFL Teachers' Two-Folded Repertoire in Providing Computer-Mediated Corrective Feedback: A Perspective-based Approach from the Heart of Online Classrooms

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Abstract

Corrective Feedback (CF) as a dominant pedagogical approach has attracted the language and educational researchers in EFL context. With the spread of the COVID-19 virus which has led to widespread lockdowns, there has been a dire need for online classes and proficient online EFL teachers. To this end, a multi-layer analysis of Iranian EFL teachers' instructional skills and technology-driven knowledge in providing computer-mediated feedback in online classes was set to ascertain their required skills and knowledge. Following a qualitative approach, 25 teachers were invited to fill out an open-ended questionnaire, and 15 experienced teachers were asked to describe their online teaching experiences in a semi-structured online interview. After aggregating the whole data through thematic and content analysis, and descriptive analysis by means of MAXQDA, the outcome of the study yielded that in the majority of cases, the participants had approximately the same views; they all agreed that CF, amalgamated with technology would have profound effects on the learning/teaching process, and only in some minor cases regarding the specific techniques and strategies of applying corrective feedback, they had various or opposing views. Hence, the results would raise the EFL teachers' awareness of how to provide computer-mediated corrective feedback in online classrooms.

Keywords: Corrective feedback, computer-mediated corrective feedback, online courses, teachers' perceptions

Introduction

One of the significant dilemmas concerning applied linguists is to ensure the extent to which the instruction of language forms should be counted upon while taking a

communicative-based perspective toward language teaching (Lightbown, 2000; Norris & Ortega, 2000; Sheen, 2002). With a growing consensus toward the beneficial role of Form-Focused Instruction (FFI), many scholars proposed that different types of instruction could be legitimate and practical in other contexts (e.g., Ellis, 2006; Laufer, 2005). One of the primary constituents that strengthen the essence of FFI is the concept of error correction. The most salient representative of error correction is the provision of Corrective Feedback (CF) through both teacher-initiated and, or learner-initiated prompts.

Throughout the history of Second Language Acquisition (SLA), CF has been the focus of a plentitude of research (e.g., Adams, 2007; Dilan, 2010; Ellis & Sheen, 2006; Li, 2010; Long, 2007; Lyster, 2004; Mackey et al., 2000; Nakata, 2015; Norris & Ortega, 2000; Oliver, 2000; Zhao & Bitchener, 2007). The implementation of CF in the classroom has been distinguished enough that some of eminent scholars developed multiple models and taxonomies. The typology by Lyster and Ranta (1997) and the taxonomy by Ellis and Sheen (2006, 2011) have been the leading models in the literature. A strand of CF that has allured an excessive amount of research is the dichotomy of teachers' perceptions versus learners' attitudes toward such feedback. By taking a glance through the literature, the number of studies focusing on the learners' point of view in general, and Peer Feedback (PF) in particular, is perceptible (e.g., Chang, 2012; Ge, 2011; Hu, 2005; Kartchava & Ammar, 2014; Kessler, 2009; Liou & Peng, 2009; Mahvelati, 2021; Min, 2008; Sato, 2013; Van Beuningen et al., 2012; Ware & O'Dowd, 2008). However, only a dearth of research could be noticed concerning where teachers stand with the application of CF.

This level of uncertainty in the teachers' role for CF becomes far more compelling with the rise in the pandemic. Though it might be argued that online teaching is not a new phenomenon, the fact that it appeared as an inevitable option without prior preparation has posed its challenges (Cahapay, 2020; Cuaton, 2020). For an online learning environment to be efficacious, a conclusive and precise design and the instructional plan are the focal points (Branch & Dousay, 2015). The absence of such a detailed plan combined with the low level of digital competence of teachers in some cases has made the transition from face-to-face to online teaching methods to be a mere emergency response to in such circumstances rather than a gainful strategy (Adedoyin & Soykan, 2020; Bennett et al., 2008; Prensky, 2001).

Considering the role of CF in the classroom, the problem of digital transformation has become more large-scale. Having no clue of how online platforms are processed, how formative assessment could be inserted into the classroom, and how CF could be provided to the students without real-life interactions in an artificial environment are among the many reasons that make this form of teaching and assessment susceptible to failure in providing computer-mediated CF. Another issue still meager in the literature is the absence of an eagle-eye view toward the application of computer-mediated CF in online

courses. As for this top-down view as a form of a triangle, with the teacher, learner, and platforms as its three dimensions, the majority of research has covered the learner and platforms angles (e.g., Adnan & Anwar, 2020; Anwar et al., 2020; Baber, 2020; Chen et al., 2020; Toquero, 2020). The dimension that has been left untouched is the teachers' perceptions toward error correction through computer-mediated CF in online courses.

On the grounds of this niche, the present study can provide penetrating, practical, and theoretical insights into the application of computer-mediated CF, the types of CF which can be more beneficial in online classes, the teachers' rationale behind choosing specific types of CF in various situations, and effective error correction procedure used in online education. Therefore, the present work attempted to push the line a little further and examine Iranian EFL teachers' perceptions regarding the instructional and technological skills they demand to provide computer-mediated CF in online courses.

Literature Review

A slight glance through the preceding decades of SLA could reveal the lack of an error-correction-based approach to language teaching for a prolonged time (Rizi & Ketabi, 2015). Back then, CF was of no value except for the mere correcting of learners' linguistic errors. However, as supported by Vigil and Oller (1976), corrective feedback as a vital element of explicit instruction could expedite the instruction and prevent fossilization from occurring.

Since 1980s to date, some very strong theoretical claims were developed such as: Swain's (1985) Output Hypothesis, Long's (1983,1985) Interaction Hypothesis, and Schmidt's (1990, 1995) Noticing Hypothesis. Apart from the theoretical foundations, CF has "often been observed and examined in the realm of classroom research and one of the major motivations for investigating the sequence of corrective feedback and uptake was to identify patterns of error treatment in different classroom settings" (Suzuki, 2004, p. 3). Hereupon, Lyster and Ranta (1997) identified six types of oral CF including recasts, repetitions, elicitations, metalinguistic feedback, clarification requests, and explicit correction. Another taxonomy designed by Sheen and Eliss (2006, 2011) distinguished the oral and written CF. The former taxnomoy was the foundation of the present study.

With the overriding interest in the use of technology in classrooms, a plethora of research has focused on the implementation of computer-mediated CF in online courses (e.g., Brudermann et al., 2021; Gurzynski-Weiss & Baralt, 2015; Heift, 2004; Monteiro, 2014; Yilmaz, 2017). As Loewen and Erlam (2006) put it, "computer-mediated communication (CMC) is "indeed superior to the (often teacher-dominated) language classroom in terms of the opportunities it affords" (p. 2). Although it has been a recent transformation in the domain of CF, there are many unknown and unclear instructional and skills-based dimensions to be investigated. The most significant shares of the research

studies have incorporated various corrective feedback types (e.g., Sato & Loweven, 2018), the relationship between CF and other language theories (e.g., Bitchener, 2012), the correlation between CF types and learners' perceptions and uptakes (Heift, 2004), the effect of various CF types on language skills and subskills (Lee, 2004; Yeh & Lo, 2009), and some other criteria that are of the essence of a language classroom, whether the classes are held face-to-face, or on online platforms.

However, other factors such as technical facilities as well as teachers' knowledge and skills are essential, none of which have been under evaluation sufficiently as they have been needed. This has also been supported by Öztürk (2023) as "in the context of distance education and SCMC, OCF has been a relatively under-researched topic" (p. 574). Moreover, Solmaz et al. (2023) mentioned that "the exploration of teachers' beliefs and practices on WCF has been another matter of focus and the studies revealed inconsistent findings" (p. 19). These inconsistencies included discrepancies in feedback comment types, the use of direct vs. indirect feeback, and focused vs. unfocused feedback (e.g., Sakrak-Ekin & Balçikanli, 2019; Soleimani & Rahimi, 2021; Wei & Cao, 2020).

By narrowing down the topic to teachers' skills and performance in providing CF in online courses, references can be made to the studies of teachers' technological pedagogical knowledge, which were limited in scope and lacking variety and depth (Groff & Mouza, 2008; Lee & Ogawa, 2021; Russell et al., 2007; Zhao et al., 2002). This is contrary to the fact that teachers' knowledge of technology could level up students' performance up to 30% (Hattie, 2012). Similarly, Moreland et al. (2001) emphasized that "the construction of a knowledge base for teachers is pivotal for effective technology teaching and for expecting teachers to add technology teaching to the existing learning areas that they are required to teach" (p. 158). As a result, efficient teaching based on ICT is reliant on teachers' skills in using ICT when encountering students from various backgrounds and with diverse interests (Heitini et al., 2016; Webb & Cox, 2004).

The nature of this type of knowledge is "highly personal and often implicit" (Heitinki et al., 2017, p. 96). Hence, it is the pre-requisite for researchers to delve into teachers' reasoning and rationale behind the use of technology to develop a deeper insight into teachers' technological knowledge. Focusing specifically on teaching practitioners' attitudes and perception toward the usage of computer-mediated CF, the published materials could be divided into three possible subfields: Teachers' perception toward oral corrective feedback (e.g., Méndez et al., 2010; Öztürk, 2016; Roothooft & Breeze, 2016; Russell, 2009; Sepehrinia & Mehdizade, 2018), a comparison between learners' and teachers' perceptions on the subject of CF (e.g., Kılıçkaya, 2022; Lasagabaster & Sierra, 2005; Udeshinee et al., 2021; Yoshida, 2008), and teacher awareness and development (e.g., Ellis, 2009; Gholami, 2021; Mao & Crosthwaite, 2019; Vásquez & Harvey, 2010).

Compared to the voluminous amount of literature allocated to the use of technology in the language learning environments, there is a massive gap in determining the part that teachers play in online courses. Therefore, to come to an awareness regarding

Iranian EFL teachers' perceptions of the instructional and technological repertoire required in providing computer-mediated CF in online classes, the present study addressed the following research questions.

Research questions

- From Iranian EFL teachers' point of view, what kinds of teaching skills are needed in providing corrective feedback in online classes?
- What are Iranian EFL teachers' perceptions considering the technology-driven knowledge needed to provide learners with corrective feedback in online classes?

Methodology

Participants

In the initial phase of the study, 25 Iranian EFL teachers out of 40 initial participants, with 12 novice teachers (0-2 years of experience) and 13 experienced teachers (5 or above years of experience) were picked through convenience sampling to respond to a teacher perception questionnaire, their attitudes and demands in terms of the teaching skills and technology-driven knowledge needed in online courses were scrutinized. According to Mackey and Gass (2015), "convenience sampling is the selection of individuals who are motivated and happen to be available for the study" (p. 175). Attempts were made to include a balanced number of participants, covering male and female and novice and experienced teachers.

In the second phase, 15 teachers were selected through purposive sampling for the more in-depth levels of the data collection procedure. Purposive sampling is a well-known method used primarily on qualitative methods for collecting data, which is rich in information within limited resources (Patton, 2002). Therefore, these Iranian EFL teachers were both male and female, had considerable teaching experience (5 years or above), and had an MA or Ph.D. degree in Teaching English as a Foreign Language (TEFL).

Instrumentation

Teacher Perception Questionnaire

An open-ended questionnaire was administered among the participants, their responses concerning the teaching skills and technology-driven knowledge needed to provide CF in online courses were analyzed through descriptive statistics. A total of 14 items (N=7 for the first, and N=7 for the second research question) were designed by the

researchers concerning the purpose of the study (Appendix A), taking advantage of the extant literature (Amerhein & Nassaji; 2010; Bao, 2019; Fallah & Nazari, 2019. The reliability (to ensure intra-coder consistency) and content validity of the questionnaire were examined by the use of Cohen's Kappa and Content Validity Index (CVI), respectively. The results indicated 97% of agreement between the two sets of coding. As for its content validity, three experts were asked to study and give their feedback regarding the language and content appropriateness of the questions. In particular, the experts were asked to fill out a form for the questionnaire. The form aimed to evaluate the content and language of the questions/statements in the instrument based on their content and language on a scale from 1 (least appropriate) to 5 (most appropriate). Based on the results, the mean values ranged from 3.67 to 5 and the overall mean was 4.00, both of which indicate appropriateness of the questions in terms of content. The inspection of the mean values showed that they ranged from 3.67 to 5 and the overall mean was 4.11, both of which indicate appropriateness of the questions in terms of language. Therefore, the research was rest assured of the validity of the interview questions in terms of content and language.

Semi-Structured Online Interview

Fifteen participants were invited to be interviewed through the online semi-structured interview. Semi-structured interviews that lasted for about 15 minutes were designed by the researcher (Appendix B) and confirmed by three experts through coding the interviews and making a comparison between the findings of the coders. Semi-structured interviews are the most common types of interviews in qualitative studies, involving the use of predetermined questions and having the chance to change the order and wording of the questions depending on the direction it is following and the issues that arise spontaneously (Berg, 2009; Holloway & Wheeler, 2010). In this study, this type of interview was utilized, intending to elicit the EFL teachers' point of view regarding the instructional repertoire and technology-driven knowledge needed in the provision of computer-mediated CF in online courses. To ensure the intra-coder reliability of the interview, Cohen's kappa was applied, and the value of .895 indicated 89.5% of agreement between the two sets of coding. Going through the codes with disagreement, the researcher noticed that the source of disagreement was not in the interpretation of the interviews but due to human error in missing some of the codes in either of data. However, the 89.5% of agreement was strong enough to rest the researcher assured that the results of the coding would be reliable.The participants' comments and responses in this phase of the study were analyzed through content and thematic analysis.

Data Collection Procedure

To fulfill the requirements of the first stage of the study, all the research instruments were pilot-tested, and their reliability and content validity were measured. After getting the research consent from the participants, the open-ended questionnaire was administered to 25 EFL teachers. Considering the nature of the sampling, which is convenience, the questionnaire was spread among 40 teachers, among which 25 replied. To verify the data, an online face-to-face semi-structured interview session was held with all the 15 participants. The reason is, "gathering information on the same phenomenon through more than one method, primarily to determine if there is a convergence and hence, increased validity in research findings" (Kopinak, 1999, p. 171). Finally, the results from the steps were merged and descriptive statistics was measured. The data assembled from the two stages were all coded, using the predetermined templates, and grouped into codes, themes, and categories which were the basis of the rest of the research procedure.

Findings

Teaching Skills Required in Providing Corrective Feedback in Online EFL Classes

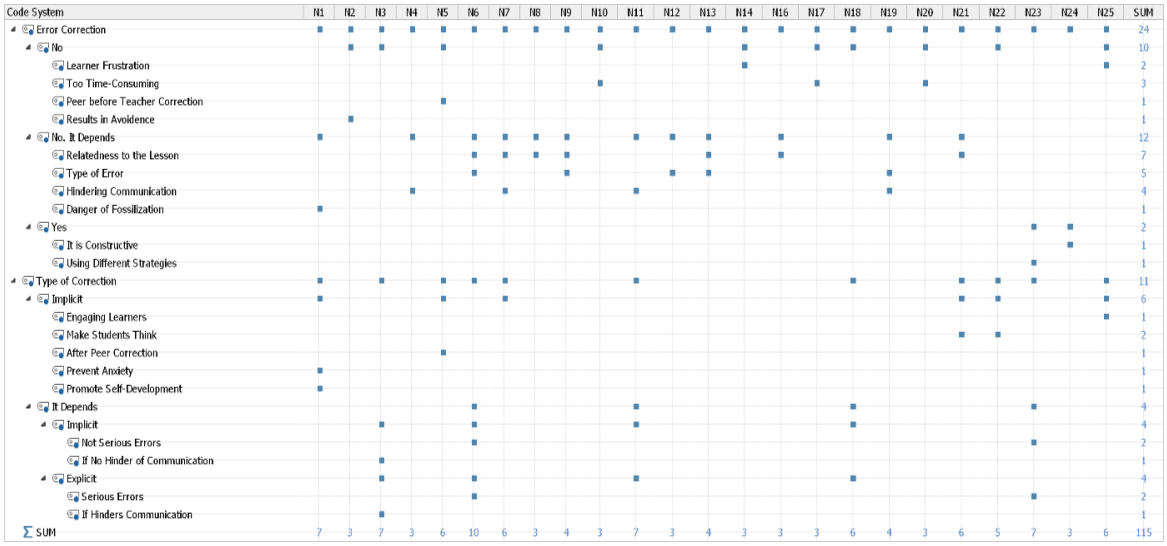
The first research question revolved around the kinds of teaching skills required in providing corrective feedback in online classes from Iranian EFL teachers' perspectives. To answer this research question, seven questions from the open-ended questionnaire (answered by 24 participants), and three questions from the interview were coded. In what follows, the thematically-coded answers to each of these questions are presented.

The Need to Correct All the Errors

The first question in the questionnaire asked, "***Do teachers need to correct all the students' errors to increase their accuracy and fluency? If so, should these errors be corrected implicitly or explicitly? (why/why not).***" Figure 1 shows the Shannon matrix of the answers.

Figure 1

Shannon matrix of the answers to the first question of the questionnaire



As it is evident, while all 24 participants answered the first part of the question (correcting errors), only 11 of them determined which type of correction they used. Regarding error correction, 10 participants answered "No" mainly on the basis that it causes frustration in learners and is too time-consuming. Besides, 12 others' answers were also no. At the same time, they emphasize the relatedness of the error to the course, the type of error, and the degree to which it hinders the communication as the three main criteria for prioritizing the error correction. Regarding the preferred kind of error correction, six of the 11 participants who provided an answer to this part favored implicit error correction on the basis that it makes learners think about their errors, engage them, prevents anxiety, and promotes self-confidence. One case also preferred to be the last source of (implicit) correction after peer correction. The other five who responded to this part declared that they make a choice between implicit and explicit correction based on the seriousness of the error and the degree to which it hinders communication. An excerpt from the participants' answers is provided below.

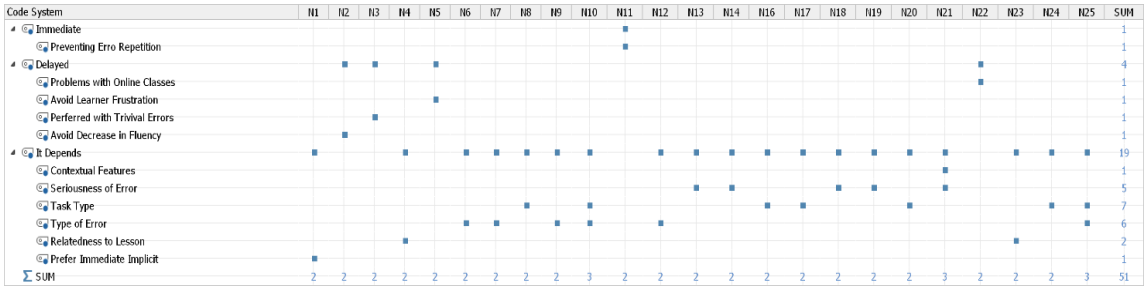
> ***Excerpt 1 (N21):*** *No, it is not logical nor necessary, mostly the errors related to the lesson that teacher is teaching and the previous units are important to be corrected. The implicit way is better because makes students to think more about their errors.*

Immediate vs. Delayed Feedback

The second question asked, "***Do you think teachers should provide immediate feedback on the learners' errors in online classes, or delayed would be a better choice? (why/why not).***" Figure 2 depicts the participants' coded answers to this question.

Figure 2

Shannon matrix of the answers to the second question of the questionnaire



As shown,19 out of 24 respondents maintained that their choices of immediate/delayed correction depended on different issues, like the type of task, type of error, seriousness of the error, and relatedness to the lesson. Few respondents (N =4) preferred delayed feedback to avoid hindering fluency in communication and prevent learner frustration. One respondent pointed out that in online classes with problems like internet connection and noises, immediate feedback is not feasible. Lastly, only one respondent preferred immediate correction, believing that it would prevent error repetition and, thus fossilization. The following excerpt presents one sample answer to this question.

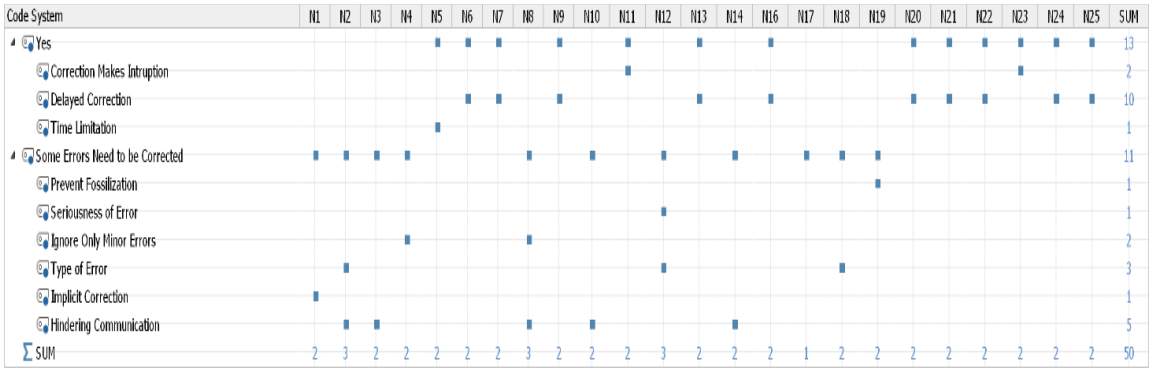
> ***Excerpt 2 (N5):*** *Delayed, because it will make students confused and maybe they will lose their confidence, after that I mention the errors.*

Error Correction During Communicative Tasks

The next question asked, "***Considering the learners' communicative skills in online classes, do you believe that getting the ideas across is enough, and there would be no need for error correction during communicative tasks? (why/why not)***". Thematically coded answers to this question are presented in Figure 3.

Figure 3

Shannon matrix of the answers to the third question of the questionnaire



Code System	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12	N13	N14	N16	N17	N18	N19	N20	N21	N22	N23	N24	N25	SUM
Yes					■	■	■		■		■		■		■				■	■	■	■	■	■	13
Correction Makes Intruption											■											■			2
Delayed Correction						■	■		■				■		■				■	■	■		■	■	10
Time Limitation					■																				1
Some Errors Need to be Corrected	■	■	■	■				■		■		■		■		■	■	■							11
Prevent Fossilization																		■							1
Seriousness of Error												■													1
Ignore Only Minor Errors				■				■																	2
Type of Error		■										■					■								3
Implicit Correction	■																								1
Hindering Communication		■	■					■		■				■											5
SUM	2	3	2	2	2	2	2	3	2	2	2	3	2	2	2	1	2	2	2	2	2	2	2	2	50

As it is evident, while 13 out of 24 respondents agreed that no correction is needed during communicative tasks, the other 11 believed the teacher might need to correct some errors. The respondents that were against error correction during the tasks mostly (10 out 13) pointed out that if any modification is necessary, it can wait until the task ends. Two respondents in this group considered error correction as an interrupter of the flow of communication, and one pointed out that in online classes, due to the shortage of time, error correction is not possible. The second group pointed out that the type and seriousness of the error and whether or not the error hinders the communication are determining factors for the teachers' choice to interrupt the communication with error correction. One respondent warned about the danger of fossilization if the repetitive errors are not corrected and another respondent pointed out that implicit error correction works with communicative tasks. An excerpt provided below can illustrate the participants' views.

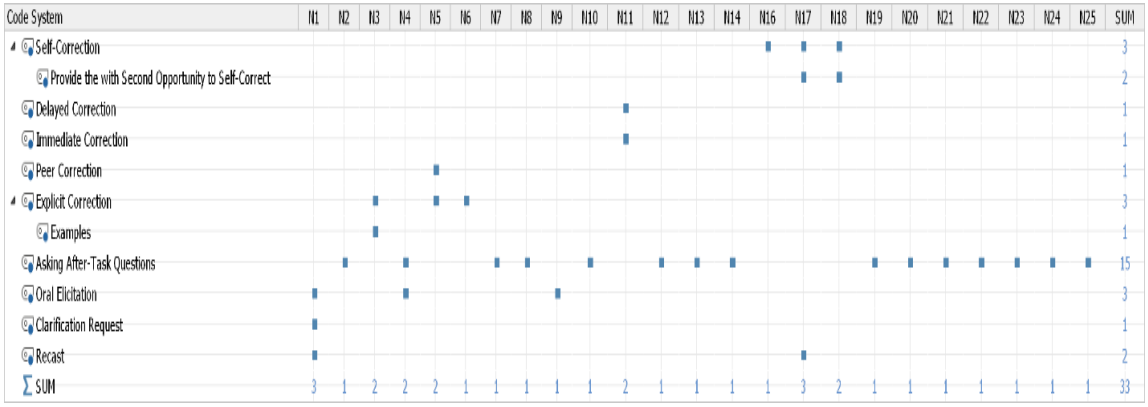
> ***Excerpt 3 (N3):*** *the main goal, indeed, is to keep up with the flow of conversation, but sometimes errors hinder the communication itself! So, they should be corrected one way or another.*

Error Correction and Receptive Skills

The tenth question asked, "***How do you correct the learners' errors in the receptive skills (i.e., reading and listening)?***". Thematically coded answers to this question are presented in Figure 4.

Figure 4

Shannon matrix of the answers to the tenth question of the questionnaire



As it is evident, different ways of correction were proposed, among which asking after-task questions (15 out of 24) was the most frequent one. Other options were using oral elicitation, recast, explicit correction through providing examples, peer correction, immediate and delayed correction, and providing the chance for self-correction. The excerpt provided below can illustrate the main answers.

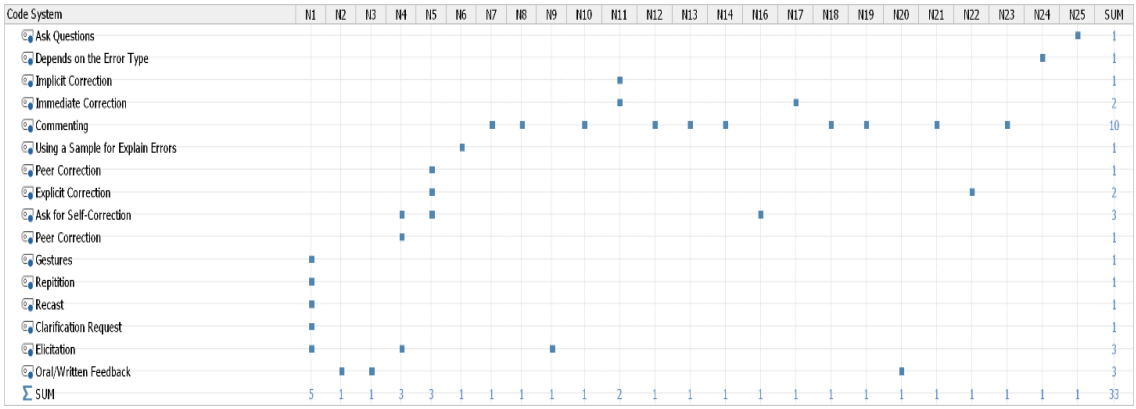
Excerpt 4 (N2): *After post-reading and listening by asking questions.*

Error Correction and Productive Skills

The fifth question of the questionnaire asked, "***How do you correct the learners' errors in the productive skills (i.e., writing and speaking)?***". The results of coding based on the themes of answers are presented in Figure 5.

Figure 5

Shannon matrix of the answers to the eleventh question of the questionnaire



As it is shown, the most salient answer was the use of commenting. The respondents mainly asserted that they would ask the learners to send a transcription of their writing or the voice of their oral production, and the teacher would comment on their production. Giving the opportunity for self-correction, elicitation, and using oral/written feedback were among the other choices pointed out by the respondents. The excerpt presented below provides examples of their perceptions.

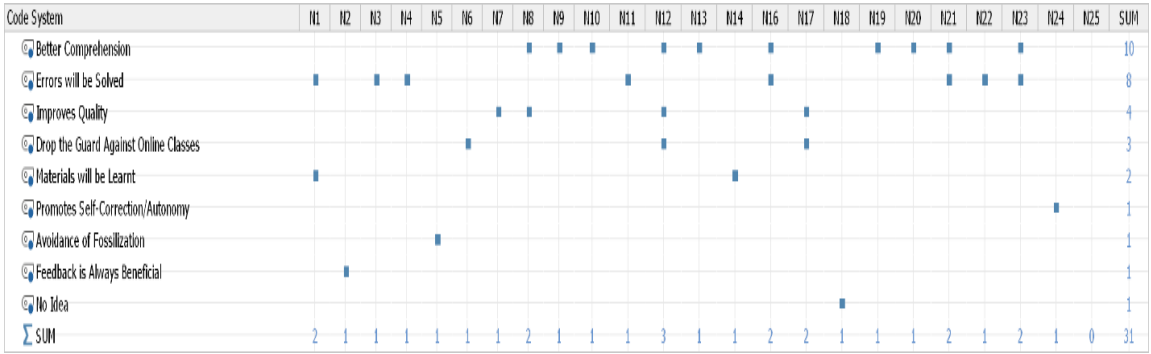
> ***Excerpt 5 (N11):*** *for speaking I ask them to record their voices and send me through Telegram so I listen and give them oral feedback based on the IELTS criteria, for writing they type their text and send me the pdf file to comment and score.*

The Merits of Corrective Feedback

The sixth question asked, "***What are the benefits of providing corrective feedback in online classes??***". Thematically coded answers to this question are presented in Figure 6.

Figure 6

Shannon matrix of the answers to the fourteenth question of the questionnaire



As evident, the two most salient benefits resulted in a better comprehension of the taught material (10 of 24) and a solution to the errors (8 out 24). Other benefits were improving the class quality, diminishing the students' guard against online courses, better learning of the materials, and avoiding fossilization. Excerpt provided below can illustrate the main answers.

> ***Excerpt 6 (N16):*** *Students get to know their errors, other students would be aware of their potential errors, it gives them the chance to understand the language better.*

Challenges of Corrective Feedback

The final question in the first part of the questionnaire asked, "***What challenges do you face while giving corrective feedback during online sessions?***". Results of coding based on the themes of answers are presented in Figure 7.

Figure 7

Shannon matrix of the answers to the fifteenth question of the questionnaire

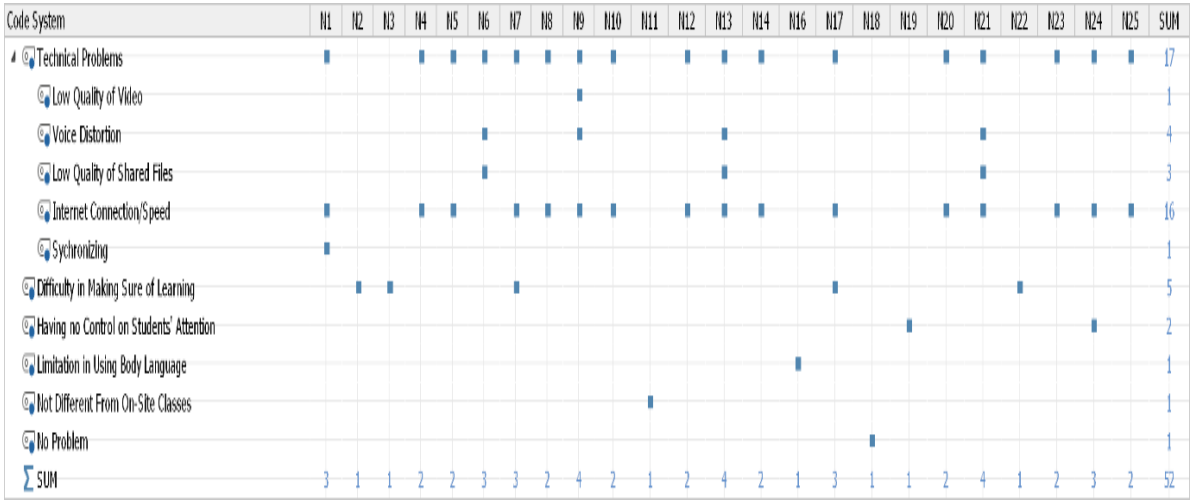


Figure 7 shows that the main problem (17 out of 24) was technical issues, internet connection/speed being the major point (16 out of 17). Other technical problems were voice distortion, low quality of the shared files and videos, and the problem with synchronizing. Another point (5 out 24) was the problem with ensuring that the learners have learned the course. This could be caused by either technical problems or distractions during teaching (over which the teacher has no control). One respondent also addressed

the inability to use body language as a problem, while another respondent asserted that there is no difference in the challenges of online and on-site classes. Excerpt presented below provides examples of their perceptions.

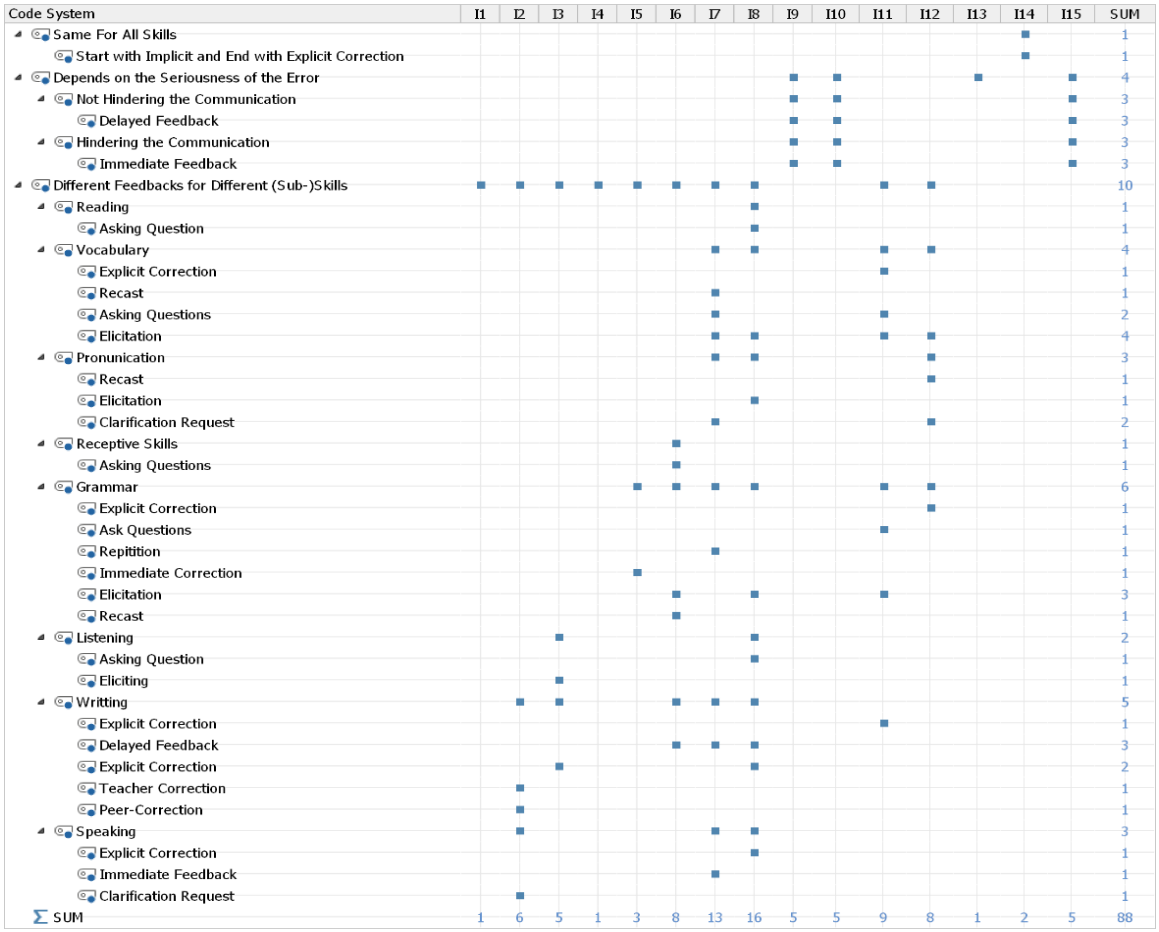
> ***Excerpt 7 (N1):*** *Most of the obstacles are formed by the technological limitations such as the speed of the internet and syncing problems.*

Language Skills and Sub-skills Vs. Corrective Feedback

The first question in the interview related to the first research question asked "***How do you think providing corrective feedback differs across language skills and sub-skills?***". The answers to this question are presented in Figure 8.

Figure 8

Shannon matrix of the answers to the third interview question



As it is depicted, the majority (10 out of 15) believed that errors should be treated differently in different (sub-)skills. In contrast, some others (4 out of 15) considered the

seriousness of the error as the determining factor. As for the grammatical errors, elicitation was favored, while for writing errors delayed feedback and the explicit correction were the frequent choices. For pronunciation, elicitation was selected, while for the other skills and subskills, different proposed types of correction showed no favorite type. Excerpt provided below delineates the answers.

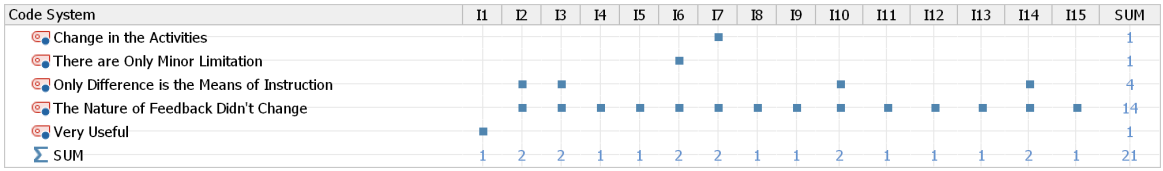
> ***Excerpt 8 (N10):*** *Well, I guess it depends on the extent to which the error is crucial or not. I mean it is more important than the skills themselves. Like you're doing a communicative task, talking or writing, or even doing a grammar activity. In each situation if there is an error which is a high-level error and can break the flow of the task you need to respond asap, but there are other errors that do not affect the task that much so you can wait and then act accordingly to the matter.*

Teachers' Previous Experience

The following interview question asked, "***How has your experience of face-to-face classes helped you in providing computer-mediated corrective feedback in online classes?***". The answers to this question are presented in Figure 9.

Figure 9

Shannon matrix of the answers to the fourth interview question



As Figure 9 shows, 14 out of 15 interviewees believed there was no difference between what they had in face-to-face and online classes. The remaining interviewee called the previous experience beneficial without providing the reason. Therefore, it can be inferred that all interviewees benefited from their prior experience. Some participants pointed out some minor differences in the means of instruction and activities. Overall, they agreed that the nature of feedback does not change in online classes. The excerpt from these definitions is provided below.

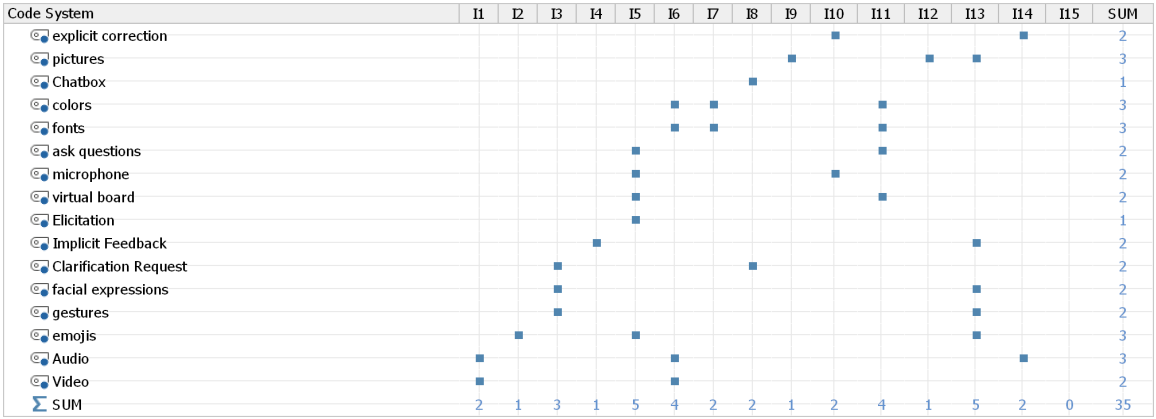
> ***Excerpt 9 (N14):*** *Well in my case, the IELTS instruction is pretty much the same, and I mean the test doesn't change, nor the methodology, so the feedback type is the same, except that since everything is online, and all the feedbacks are online, documented on Word or PDF file and shared on social media platforms.*

Techniques and Strategies

The final interview question, in line with the purpose of the first research question, was the fifth one, which inquired, "***What techniques or strategies do you frequently use in online classes to provide computer-mediated feedback to your students?***". The answers to this question are presented in Figure 10.

Figure 10

Shannon matrix of the answers to the fifth interview question



As it is depicted, some pointed out some general answers, like providing explicit or implicit correction, while others named different standards for providing feedback. None of the standards mentioned were salient, and the frequency of using them was very close to each other. The excerpt provided below delineates the answers.

> ***Excerpt 10 (NI5):*** *If I wanna elicit something, I use emojis, the virtual board, and my microphone mostly. For other feedback types, the techniques are not very different from face to face classes.*

The Second Research Question

The second research question explored the participants' perceptions, considering the technology-driven knowledge needed to provide such feedback. Therefore, seven

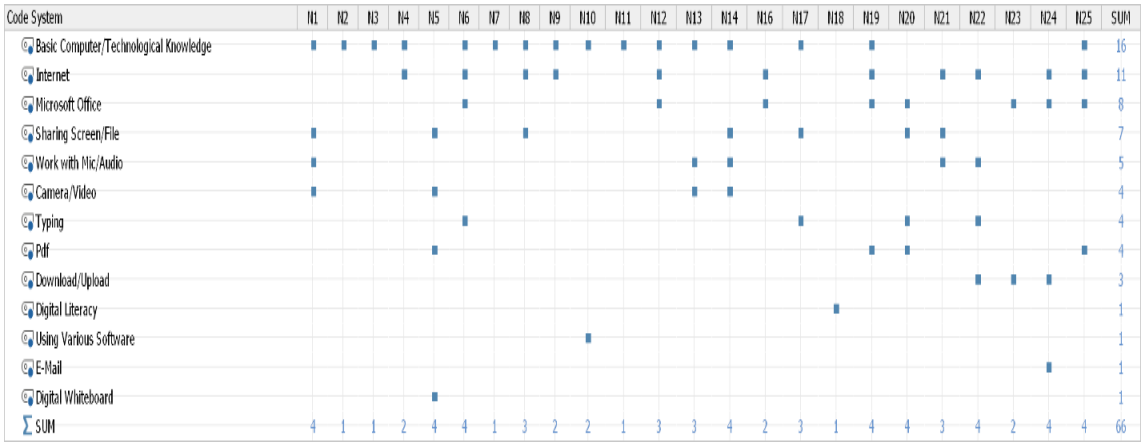
questions from the open-ended questionnaire (answered by 24 participants) and 1 question from the interview were coded. In what follows, the thematically-coded answers to each of these questions are presented.

Basic Knowledge of Technology

The eighth question asked, "***What would be some basic knowledge of technology that online teachers should be aware of?***". The results of coding based on the themes of answers are presented in Figure 11.

Figure 11

Shannon matrix of the answers to the nineteenth question of the questionnaire



As shown, the basic knowledge of computer/using technology was the most frequent answer (16 out of 24) followed by knowledge of the internet, Microsoft Office, and working with online platform features like sharing screen/file, working with mic/audio or webcam/video. Typing, working with pdfs, and downloading/uploading other features was mentioned by few participants. An excerpt presented below provides examples of the respondents' answers.

> ***Excerpt 11 (N17):*** *How to work with computers, Office, searching online in a high speed and typing really fast.*

Advanced Knowledge of Technology

The ninth question inquired, "***What would be some more advanced knowledge of technology that online teachers should know about?***". The coded answers to this question are depicted in Figure 12.

Figure 12

Shannon matrix of the answers to the twentieth question of the questionnaire

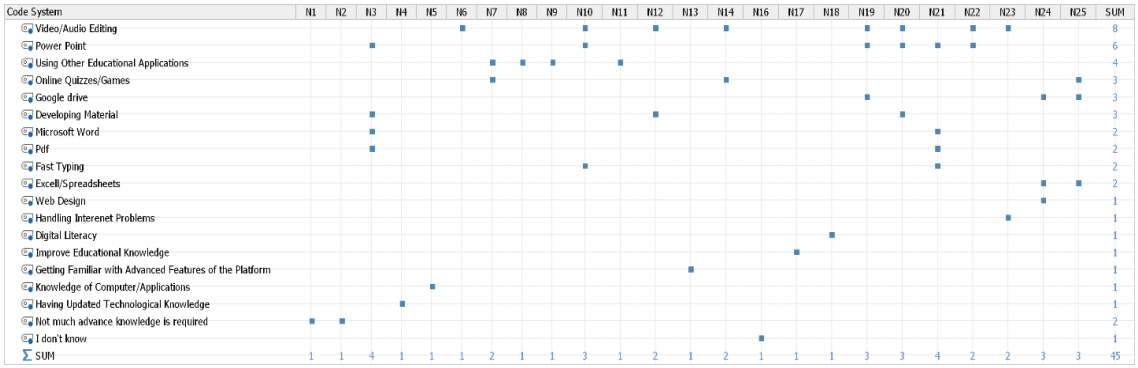


Figure 12 shows that the most frequently required skills were video/audio editing, PowerPoint, using other educational apps (like Kahoot), using online quizzes or games, using external storage drives like Google Drive, the knowledge of creating new material, and using Microsoft Word, working with pdfs, fast typing, working with spreadsheets. Two respondents also believed that there was no need for any advanced technological knowledge. The following excerpt can help delineate the respondents' ideas.

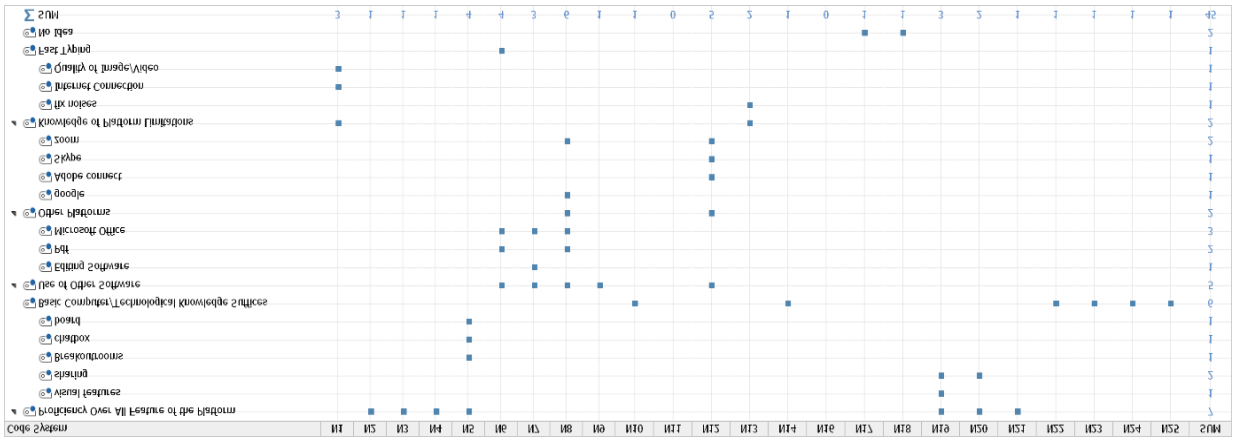
> ***Excerpt 12 (N10):*** *how to design PowerPoint slides, type fast, share files, edit audio and video files,....*

Technology-Driven Knowledge vs. Corrective Feedback

The next question in the questionnaire asked, "***What technology-driven knowledge do you think is required to provide learners with corrective feedback in online classes?***". The thematically coded answers to this question are presented in Figure 13.

Figure 13

Shannon matrix of the answers to the twenty-first question of the questionnaire



As it is evident from 20 respondents, proficiency over all the features of the platform was advocated by 7, use of other software by 5, use of different media by 2, and knowing the platform limitation by 2. This was while seven respondents believed that only a basic knowledge of computer/technology suffices for providing feedback in online classes. The excerpt provided below can illustrate the answers.

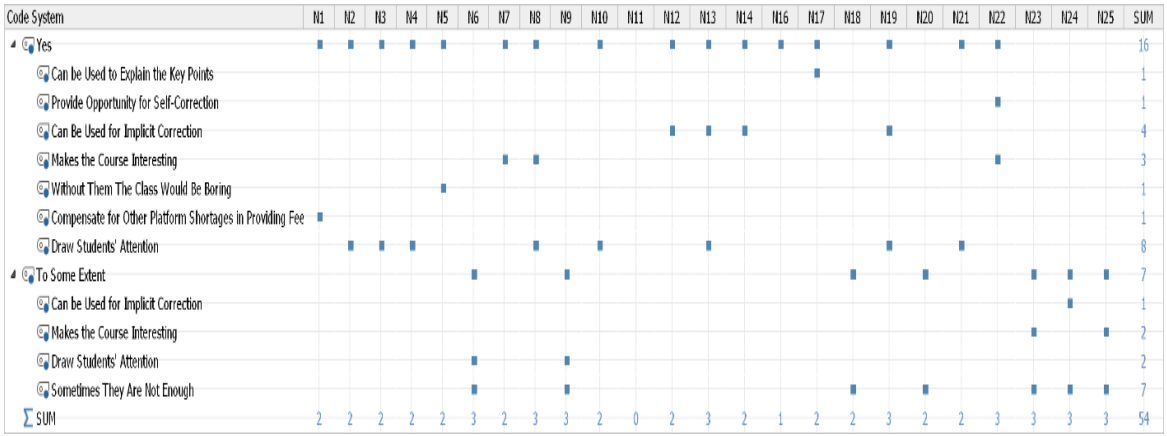
Excerpt 13 (N8): *using Microsoft software, zoom, google, adobe reader, etc.*

Online Classroom Features and Error Correction

The eleventh question asked, "***Do you think using special features of the board or screen through online platforms such as highlighting, marking, and underlining using different colors would enhance the learners' noticing their error part without a direct explanation? (why/why not)***". The results of coding based on the themes of answers are presented in Figure 14.

Figure 14

Shannon matrix of the answers to the twenty-second question of the questionnaire



As shown, of 23 respondents, 16 believed that these features are helpful in drawing the students' attention without direct explanations. None of the respondents had opposing opinions, while some (7 of 23) believed that these features work to some extent. Even those who thought the features were partially effective shared the ideas with the group who fully supported the concept of effectiveness, believing that the features are helpful in drawing the students' attention, making the course interesting, and providing the opportunity for implicit feedback. The only thing that separated the two subgroups was that these features may not be enough on some occasions, and learners may need explicit explanation. Other benefits were compensating for the online platform shortages in providing feedback, providing the opportunity for self-correction, and highlighting the key notes of the lesson. The excerpt presented below provides examples of their perceptions.

> ***Excerpt 14 (N9):*** *sure, they can boost up the attention, grabbing purpose, but it does not necessarily apply the fact that no explanation is needed.*

Online Classroom Features and Error Correction Part 2

The twelfth question inquired, "***Do you think some features such as hand raising, using stickers, and turning the microphone on/off would be good strategies for learners to notice and correct their mistakes without further explanation? (why/why not)***". The coded answers to this question are depicted in Figure 15.

Figure 15

Shannon matrix of the answers to the twenty-third question of the questionnaire

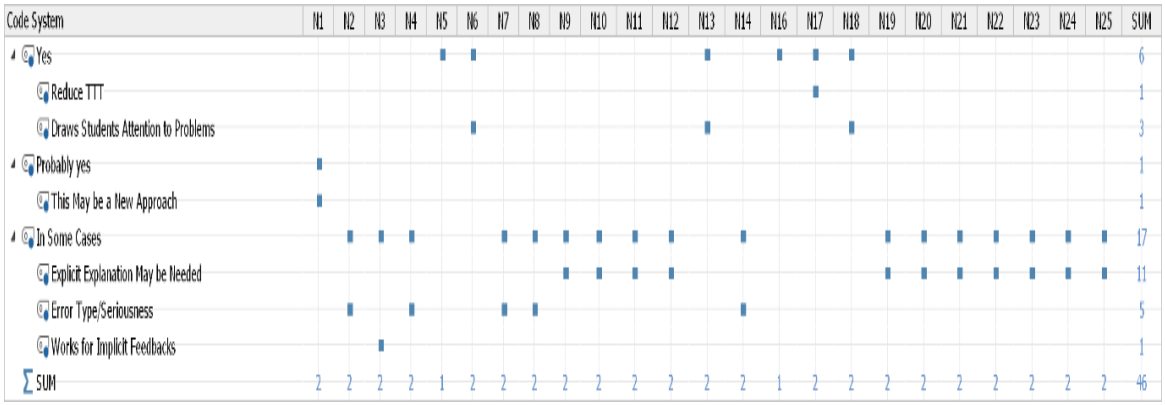


Figure 15 shows that the majority of the respondents (17 out of 24) did not see the techniques as sufficient, meaning, despite the merits, there are cases that explicit explanations are needed, and the type and seriousness of the error play a role in this regard. One respondent also believed that these techniques only work for implicit feedback. Another respondent called them new approaches that may be beneficial, but need time to be proven. Finally, six respondents thought that the techniques were sufficient as they draw the learners' attention or reduce teacher talking time (TTT). The following excerpt can help delineate the respondents' ideas.

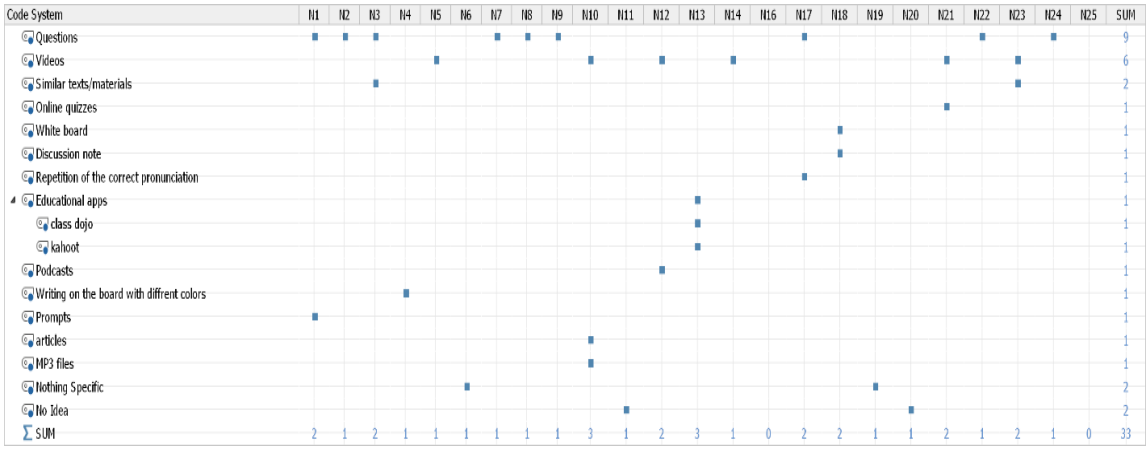
> ***Excerpt 15 (N10):*** *I wouldn't say without further explanation because many times students need more clarification especially lower levels.*

Online Classroom Features vs Receptive Skills

The next question inquired, "***What other features of the online platforms do you use in providing corrective feedback to promote the students' receptive skills (i.e., listening and reading)?***". The coded answers to this question are depicted in Figure 16.

Figure 16

Shannon matrix of the answers to the twenty-fourth question of the Questionnaire



As Figure 16 shows, while N16 did not answer this question, two respondents had no idea and two of them declared that they do not use any specific feature. The other respondents' answers were dispersed except for three options: questions, videos, and the use of similar texts or material for practice. One respondent declared using other educational apps like Kahoot and Dojo and others mentioned various features. The following excerpt can help delineate the respondents' ideas.

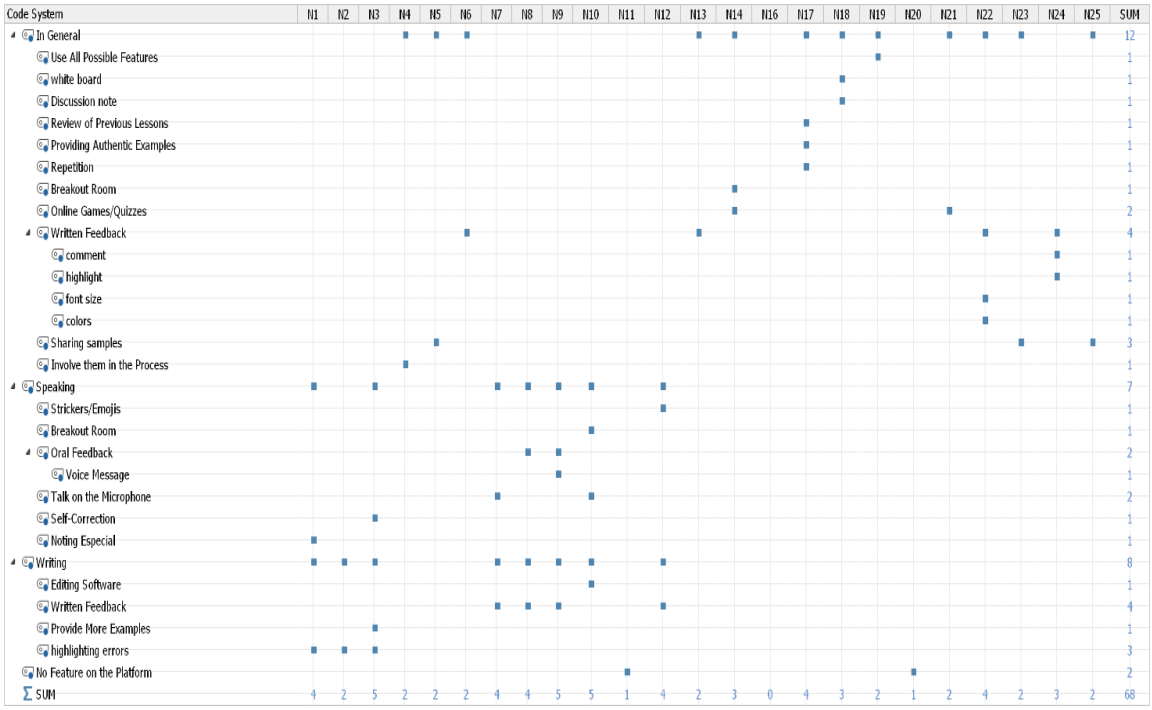
> ***Excerpt 16 (N3):*** *you can raise other questions based on the given text or give them other similar texts to practice the same reading strategies.*

Online Classroom Features vs Productive Skills

The twenty-fifth question asked, "***What other features of the online platforms do you use in providing corrective feedback to promote the students' productive skills (i.e., speaking and writing)?***". The thematically coded answers to this question are presented in Figure 17.

Figure 17

Shannon matrix of the answers to the twenty-fifth question of the questionnaire



As for writing, the most frequent answers were using written feedback and highlighting the errors. Other responses were providing more examples and using editing software. For speaking, various answers were provided, with only two of them having the frequency above 1: providing oral feedback and talking on the microphone with the student. Those who answered in general terms to this question also had a diversity of answers with a low rate of commonality. The only three solutions with a frequency above one was using written feedback, sharing samples, and online quizzes/games. The excerpt provided below can illustrate the main answers.

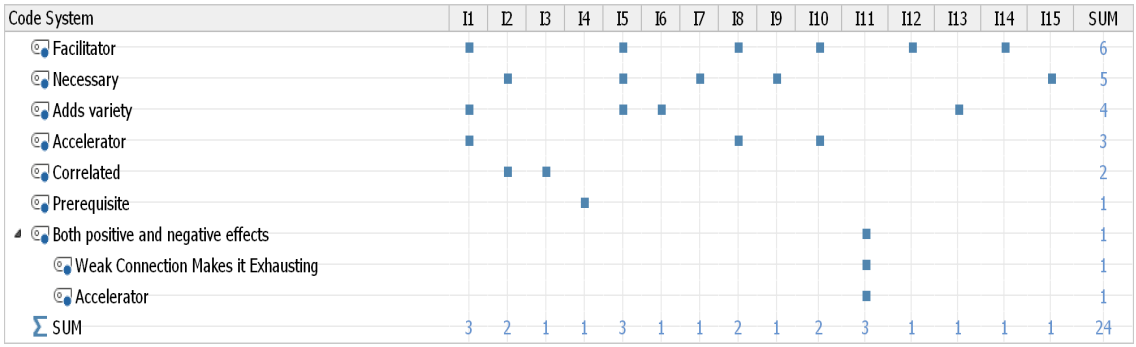
> ***Excerpt 17 (N14):*** *online games and online quizzes, online talking in breakout rooms.*

Teachers' Description of the Role of Technology

As mentioned before, one interview question was devoted to triangulating the results obtained from the open-ended questionnaire for answering the second research question. This question asked, "***How do you describe the role of technology in providing computer-mediated corrective feedback to your students?***". The answers to this question are presented in Figure 18.

Figure 18

Shannon matrix of the answers to the sixth interview question



As depicted, technology was considered as a facilitator, requirement, variety adder, and accelerator of computer-mediated corrective feedback. The interviewees believed that while technology is the essential pre-requisite, of providing computer-mediated feedback and the two are correlated, it facilitates the process of giving feedback and adds pace and variety. One interviewee also addressed technology as having both positive and negative effects on the feedback, pointing out that while it can be an accelerator of the process, internet connection problems make the process exhausting. The excerpt from these definitions is provided below.

> ***Excerpt 18 (I1):*** *it has had a facilitating role for sure. Through technology we can add variety and pace.*

Discussion

To examine EFL teachers' visions and experiences, this study attempted to identify their teaching skills and methodologies applied in providing CF in their online classes. Overall, it was found that in most of the questions, the majority of the participants had a consensus. For instance, considering the concept of corrective feedback, most of the interviewees used the terms such as "instruction", "production" of the correct format, and "ensuring" that the students have understood the error and its proper equivalence. Similarly, the same correspondent pattern was observed in other research questions in both instruments, questionnaire, and interview, except for two questions in which a unanimous answer was not witnessed. In terms of teachers' choices as to whether correct the errors or not, or what errors have the higher priority, the participants stated that not all errors are worth correction due to the fact that it takes a lot of time, and can be exhausting. What they believed was based on the idea that errors must be corrected based on their importance and relatedness to the subject of the class, whether they hinder communication or not, and whether they are minor or significant. However, they all agreed upon the fact that errors should not be ignored. Otherwise, fossilization might occur, which itself is not easy to be dealt with.

The same result was found in the works of scholars such as Bigatel et al. (2012), Bonnel & Boehm (2011), and Chickering & Gamson (1987). As with the exact type of corrective feedback in various stages of the lesson, most of the teachers complied with the ideology of setting the type of error as a priority rather than predetermining one specific kind of error just for the sake of the lesson being based on grammar, vocabulary or any other (sub)skills. This was in line with Lyster et al. (2013), who stated that "the effects of CF differed widely depending on the linguistic target" (p. 22). Likewise, this was in agreement with Kregar (2011), who reasoned that one reason behind this disparity is derived from factors such as the nature of feedback types, the methodology, and the timing of presenting the feedback.

Moreover, while many opined that error correction is not needed during communicative tasks, many others believed in the exact opposite and favored some minor error correction for a better result. On the contrary, one of the major mismatches of this study with the previous literature was the fact that online EFL teachers believed in the role of error type in the dilemma of choosing implicit or explicit correction and were leaned a bit more toward the use of implicit and delayed error correction and giving students the adequate space to think and reflect on the error. In contrast, in studies of Marczak et al., (2016), and Lee (2013) the exact opposite was observed. In these given works, the participants appreciated immediate correction the most.

Moving on to the technological phase of the study, to document the teachers' side about the technology-driven knowledge in online classes and fulfill the main aim of the study, the teacher participants filled out the following 13 questions in the questionnaire. The data were calibrated with the addition of questions from the online interview session. Overall, what was apparent was the fact that the majority of teachers had similar opinions considering the role of technology in providing CF to the students.

Likewise, except for one or two participants, the remaining ones were in favor of using online features, namely the virtual board, colors, signs, various fonts and sizes, microphone, and the like, since all these not only facilitate the provision of CF but also increase the chance of noticing and awareness on the side of the students. Even in this case, the participants confirmed that these features being beneficial does not necessarily mean that no further explanation is not needed. One more area of agreement was in reply to the interview question in which the whole teachers believed that technology has a "facilitative" role and can deepen the learners' understanding of the errors they make.

Au contraire, in some other situations, the variety of the answers was wide. For instance, the responses to the technological features used in giving CF in receptive and productive skills led to no specific pattern, and the teachers mentioned various techniques. Nevertheless, some participants stated the written corrective feedback as a posteriori, delayed after the class, and the reasoning was that since they would have more time and

concentration. This was also approved by Chandler (2003) and Ellis et al. (2008), who advocated direct and delayed written corrective feedback.

As for the level and type of technological knowledge, some teachers believed that only basic knowledge such as using Microsoft Office would suffice, while others were of the opinion that some advanced knowledge mainly editing audio/video files and designing PowerPoints, and spreadsheet might also be needed. Last but not least, a slight disparity existed in the answers to the question such as changing the fonts and size, and colors, or simply reading the comments in the chat box out loud. The reason for such disparities would, as Heitinki et al. (2017) suggested, be the personal and implicit nature of the technology-based knowledge.

All in all, the findings were in line with those of Maqbali and Mohin (2022) who revealed that the teacher's beliefs are both consistent and inconsistent in different aspects. One other interesting finding of the study which is somehow in line with Solmaz et al. (2023) is that there is "consistency among the teachers' practices and perceptions" (p. 28). Yet, there is a striking finding in this study that teachers would opt a feedback type based on learners' performance. It means that learners' actions would be a trigger and a form of prompt for teachers to react to them. This, in fact, is something that is missing in the present paper, and it is believed to be a good starting point for further studies.

Conclusion and Implications

The results of data analyses disclosed that in the majority of the questions, whether it is a questionnaire or interview, a high level of agreement was reached. Basically, in terms of the definition of corrective feedback, its role in the classroom, specifically in the context of online platforms, the role of technology in the provision of corrective feedback, whether errors need to be corrected or could be ignored. The challenges that were faced in online classrooms while providing such feedback, some similar patterns were figured out. Simply put, for these teacher participants, the corrective feedback represents a positive approach toward teaching, and no error must be ignored, it could be delayed due to various reasons, such as the type of task if it is accuracy-oriented or communicative-focused; however, it could not be skipped. Otherwise, it would lead to deep fossilization which would be harder to overcome.

In terms of the addition of technology, overall, the EFL teacher participants of this study were all positive concerning the application of computer-mediated corrective feedback and its essential and facilitative role in boosting the learners' language comprehension in online classes. It could be deduced that, as for their instructional repertoire, teachers mainly needed the general skills that they usually use in the in-person classroom, and not a very significant disparity in terms of teaching skills was found. Concerning their technological repertoire, too, a positive, facilitative, and effective

pattern was found. Hence, providing error correction in online classes is not a very intricate concept and not very different from its face-to-face version, except that it has its challenges and needs its features.

In terms of the limitations and delimitations of this study, firstly, due to the plurality of the stages followed in the study, the number of participants might not be significantly large, which could affect the transferability of the outcome. Additionally, since the main data in this study were collected qualitatively through narrations and self-reports, great caution should be made regarding the right interpretation of the results. The researcher has not had control over other factors that could affect the results indirectly (e.g., teachers' background). Another limitation was that the information gathered from the teachers through the questionnaires and/or interviews might not be factual due to the self-flattery syndrome. The researcher has had no control over the participant's socio-economic situations and educational background either.

As for the prospect studies, the present study made efforts to raise the teachers' and teacher educators' awareness and broaden the scope of error correction in the research studies of the field. Despite having some invaluable insights in the context of English teaching in Iran, further avenues should be explored. In particular, what is suggested to be done is first to allocate some more time and run longitudinal studies by including classroom observations and supervision as another layer to the study to make a better comparison of the teachers' comments and sayings in the context of online classes. The other option would be to add the element of "face-to-face, in-person" classes to the table, replicating the same situation with conventional classes and comparing and contrasting the observations from both contexts which would give rise to a drastically in-depth understanding of the subjects.

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Appendix A

Teachers' Perception Questionnaire

Research Question 1

1. Do teachers need to correct all the students' errors to increase their accuracy and fluency? If so, should these errors be corrected implicitly or explicitly? (why/why not)
2. Do you think teachers should provide immediate feedback on the learners' errors in online classes, or the delayed would be a better choice? (why/why not)
3. Considering the learners' communicative skills in online classes, do you believe that getting the ideas across is enough, and there would be no need for error correction during communicative tasks? (why/why not)
4. How do you correct the learners' errors in the receptive skills (i.e., reading and listening)?
5. How do you correct the learners' errors in the productive skills (i.e., writing and speaking)?
6. What are the benefits of providing corrective feedback in online classes?
7. What challenges do you face while giving corrective feedback during online sessions?

Research Question 2

8. What would be some basic knowledge of technology that online teachers should be aware of?
9. What would be some more advanced knowledge of technology that online teachers should know about?
10. What technology-driven knowledge do you think is required to provide learners with corrective feedback in online classes?
11. Do you think using special features of the board or screen through online platforms such as highlighting, marking, and underlining using different colors would enhance the learners' noticing their error part without a direct explanation? (why/why not)
12. Do you think some features such as hand raising, using stickers, and turning the microphone on/off would be good strategies for learners to notice and correct their mistakes without further explanation? (why/why not)
13. What other features of the online platforms do you use in providing corrective feedback to promote the students' receptive skills (i.e., listening and reading)?
14. What other features of the online platforms do you use in providing corrective feedback to promote the students' productive skills (i.e., speaking and writing)?

Appendix B

Teachers' Online Interview

1. How do you think providing corrective feedback differs across language skills and sub-skills?
2. How has your experience of face-to-face classes helped you in providing computer-mediated corrective feedback in online classes?
3. What techniques or strategies do you frequently use in online classes to provide computer-mediated feedback to your students?
4. How do you describe the role of technology in providing computer-mediated corrective feedback to your students?