

Online Reformulation and Collaborative Feedback: Its Effect on EFL Learners' Writing Performance during the COVID-19 Pandemic

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Abstract

The present study examined the effect of the online reformulation and collaborative feedback on Iranian learners' writing in an English as a foreign language (EFL) context. To this end, three female intact classes (N = 55) at the upper-intermediate level were selected. Two of these classes were thence randomly selected as the experimental groups (1 & 2) and the other one as the control group. Experimental group 1 was provided with online writing feedback in the form of reformulation. Experimental group 2 received online feedback through reformulation followed by general online sessions with the participants for extra individual guidance, i.e., online collaborative feedback in the form of post-writing conferences. The control group experienced the same amount of online writing instruction. They were, however, provided feedback conventionally without reformulation tasks and collaborative feedback. To measure writing proficiency, IELTS task 2 was administered as the pre-treatment and the post-treatment test. One-way ANOVA and Post-hoc Tukey Test were used to compare the mean score of the composition tests between groups. The significant effect of online reformulation and collaborative feedback on writing was confirmed. This study has pedagogical implications for EFL English teachers and stakeholders in providing feedback on EFL learners' writings.

Keywords: [corrective feedback](#), [online collaborative feedback](#), [online reformulation](#)

1. Introduction

Writing, as a medium of communication, is an arduous task for second language (L2) learners because not only do they have to come up with and organize ideas, but also they have to translate the ideas into readable text (Richards & Renandya, 2002). Furthermore, the controversy over how teachers' corrective feedback could be more effectively focused on boosting students' writing performance is long-lasting. In conventional writing classes, teachers provide feedback mainly through correction. Teacher correction, however, does not provide sufficient input for learners to learn how to write in an appropriate way (Pica, 1982). Indeed, "a major problem with teacher correction of written essays is the limited nature of the feedback" (Cohen, 1983, p. 16). To this end, the concept of reformulation becomes vitally important in learning how to write in an L2.

In recent years, reformulation has gained widespread acceptance among English practitioners (Thornbury, 1997). As an error correction technique, it is one form of corrective feedback for honing students' writing (Farsi, 2016; Ibarrola, 2013). While reformulating, the teacher rewrites the learner's original text through correcting various types of errors, including lexical, grammatical, cohesive as well as stylistic ones, but tries to maintain the content (Levenston, 1978). It is "suitable for targeting concerns beyond word and sentence level" (Coyle, Mora, & Becerra, 2020, p. 1). It is worth noting that although reformulation has high potential (Langin, 2016), its effectiveness would be enhanced by collaborative feedback (Barnavi, 2010).

The prime purposes of collaborative feedback are to help students to become fully aware of their writings and to identify problems and their sources in their writing. In addition, collaborative feedback helps students negotiate the problems, which in turn aids them in becoming highly skilled in L2 writing (Barnavi, 2010). As Coyle et al. (2020) argues "joint deliberation on language use can alleviate the complex cognitive demands involved in responding to feedback."

1.1 Statement of the Problem

Although over the last decades, interest in feedback has risen to a large extent, and much of current research is centered on some specific uses of corrective feedback (e.g., Chandler, 2003; Li, Zhu, & Ellis, 2016; Quinn, 2014; Sippel & Jackson, 2015; Van Beuningen, 2010), reformulation as one form of direct corrective feedback (Santos, Lopez-Serrano, & Manchon, 2010), is overlooked to some extent, particularly in EFL contexts. In addition, little research has been carried out with regard to ways of maximizing the effect of reformulation and there are still no systematic and in-depth explorations. Actually, no study has been reported to investigate how online reformulation along with online collaborative feedback could have a significant effect on the further improvement of writing performance in an Iranian EFL context. Setting out the importance of reformulation and collective feedback, and due to the spread of the COVID-19 pandemic, the present study aims at disclosing the effect of online reformulation and collaborative feedback on EFL learners' writing performance.

1.2 Research Questions

The questions of the present study are as follows:

Q1: Does providing feedback through online reformulation have any significant effect on EFL learners' writing performance?

Q2: Does the integration of online reformulation and online collaborative feedback have any significant effect on EFL learners' writing performance?

Q3: Is the effect of the integration of online reformulation and online collaborative feedback on writing performance significantly more than online reformulation alone?

2. Literature Review

2.1 Feedback

Communicative approaches, beginning to dominate in the early 1970s, aim to develop learners' ability to use L2 in natural and meaningful communication. Providing learners with ample comprehensible input and offering opportunities to participate in meaningful language use are essential components of this approach. However, ample comprehensible input is not adequate for achieving a native-like level of accuracy. Corrective feedback fulfills a valuable role (Van Beuningen, 2010).

From a theoretical perspective, numerous suggestions have been proposed to support the constructive role of corrective feedback in L2 learning. For instance, Swain's (1985, 1995) Output Hypothesis assumes a major role for corrective feedback. Learners might encounter difficulties communicating their intended meaning when they are producing output. Through giving corrective feedback, the pertinent input is presented promptly and learners might be able to process language with concentrated attention. In a similar vein, Schmidt's (1990, 2001) Noticing Hypothesis contends that noticing is necessary for L2 learning, and learning does not happen unless learners pay meticulous attention to input. Besides, the hypothesis advocates that corrective feedback facilitates turning learners' attention to the form. It maintains that corrective feedback offers an impetus for learners to recognize the discrepancy between the target language and their interlanguage.

Noticing hypothesis as well as comprehensible output hypothesis supports reformulation in second language acquisition (SLA) theory. The analyzing process in reformulation requires learners to employ both noticing and output as a necessary part of learning a language. Learners make an effort to produce comprehensible output in the target language (Langin, 2016) and then analyze the native speaker's reformulations in order to notice the difference between native speakers' output and their one (Farsi, 2016; Langin, 2016). Admitting that cognitive comparison is fundamental to learning, "we should select feedback types on the basis of their capacity to promote noticing" (Farsi, 2016, p. 57). The connection between corrective feedback and noticing hypothesis is also acknowledged by Quinn (2014). He stated that corrective feedback is in the form of an appropriate version of an utterance, "which is immediately compared with a learner's error and is intended to make the learner notice the difference between what they have produced and the correct way to produce it" (p. 24).

Additionally, it is indispensable to SLA theories that L2 learners should be exposed to both negative and positive evidence to acquire an L2. Negative evidence indicates what is unacceptable or inappropriate in a specific language and is received from different types of corrective feedback, including implicit and explicit ones on the non-target-like use of an L2 piece of language. Positive evidence, however, refers to instruction on what is correct in a specific language and is received from exposure to target-like language input. When the teacher reformulates learners' incorrect utterances, the reformulation not only provides learners with the perfect example of the L2 language (i.e., positive evidence) but also it directs their attention to the form rather than the message by indicating to learners that the utterance involves an erroneous form (i.e., negative feedback; Nassaji, 2007).

2.2 Corrective Feedback

Silence implies consent. Whenever language instructors maintain silence about learners' incorrect language use, they might think they have made no errors. In the context of teaching L2, instructors are expected to correct errors, to speak when it is necessary (Quinn, 2014). When L2 teachers review their students' texts, they provide feedback on a broad range of errors, such as the way they present and organize ideas, how appropriate they use vocabulary, and the text's content. Nevertheless, feedback on linguistic errors has received most of the researchers' attention. This kind of response to L2 learners' deviant production is referred to as examples of corrective feedback (Van Beuningen, 2010).

Corrective feedback is a powerful information-providing technique for language learners to become more independent and more responsible for the linguistic quality of their writing. It assists learners to have more chances to revise their writing (Thao, 2017) and enables "learners to adjust, rebuild their interlanguage, and formulate correct output" (Liu, 2021). Nowadays, there is an agreement in SLA literature that corrective feedback is helpful in L2 learning (e.g., Chandler, 2003; Long, 1991; Koumachi, 2021; Russell & Spada, 2006; Thao, 2017). In addition to encouraging learners to produce modified output, "feedback facilitates learners' noticing of non-target-like forms in their own language production" (Sippel & Jackson, 2015, p. 691). It is abundantly clear that corrective feedback performs a key role in L2 acquisition, but "which types of errors to correct, when, how, and who to correct errors will impact the effectiveness" (Liu, 2021, p. 397).

Feedback can be oral or written. Feedback in oral interactions can interrupt the flow of communication and makes the speaker's task more difficult with a number of simultaneous appeals. Written feedback, however, takes place off-line, and learners have a permanent document which they can refer to as many times as necessary. Therefore, written feedback may be generally considered an important tool to provide timely input to learners and help them make progress in their language learning (Hernandez, 2017).

An increasing body of research has examined the role of corrective feedback. For instance, Sippel and Jackson (2015) contended that some variables including the type of feedback change the efficiency of corrective feedback. They

further contended that one of the most typical types of oral corrective feedback is the recast, which is a type of feedback that provides input.

In a more comprehensive study, [Ellis \(2009\)](#) identifies six types of corrective feedback:

- 1) Direct. The teacher provides the student with the correct form including crossing out an unnecessary word and inserting a missing word. Learners, however, are required to undergo minimal processing and it may not contribute to long-term learning.
- 2) Indirect. The teacher implies that the student has made an error without correcting it. Indirect feedback is preferred to direct one since it encourages students to reflect on linguistic forms. Indirect corrective feedback is of two types.
- 3) Metalinguistic. It provides learners with some form of explanation about the errors. This is normally done by the use of error code or brief grammatical descriptions.
- 4) Focused versus unfocused. If teachers correct all of the students' errors, the corrective feedback is unfocused. On the other hand, when they select specific error types for correction, it is focused.
- 5) Electronic. Extensive body of written English (corpora) can be used to help students with their writing. This can be accessed through software programs while students write. It removes the demand for the teacher to be the provider of what constitutes a correct form.
- 6) Reformulation. It involves rewriting the student's composition in such a way that it provides learners with a resource that they can use to correct their errors. The students themselves are responsible for the final decision about how to correct an error.

In a similar way, [Sheen \(2011\)](#) provides a classification of written corrective feedback. He identifies seven types:

- 1) Direct non-metalinguistic written correction
- 2) Direct metalinguistic written correction
- 3) Indirect written correction (errors without their exact position)
- 4) Indirect written correction (located error)
- 5) Indirect written correction through coding errors
- 6) Indirect metalinguistic written correction
- 7) Reformulation

One serious challenge that has occupied the researchers' minds is how to provide effective corrective feedback, "so that it could produce a positive effect on students' writing processes and best contribute to the improvement of the overall, long-term quality of their writing" ([Amin & Saadatmanesh, 2018](#), p. 172). The capability of pushing learners to pay close attention to form and providing them with target language data should be the main criterion for a proper type of corrective feedback so that learners can compare their interlanguage with a target language. This is achieved only through reformulation ([Farsi, 2016](#)).

2.3 Reformulation and Writing Development

Writing effectively in an L2 is highly complex. The writing skill, however, has traditionally been neglected in favor of grammar and speaking in EFL classes. Over the years, teachers have paid little attention to the writing skill and even less attention to providing feedback on learners' writing. Nowadays, there is a growing body of research arguing that writing and written corrective feedback are relevant and can assist L2 learning ([Hernandez, 2017](#)). The L2 learning potential of written corrective feedback is affected by the following three factors: (1) the type of the feedback; (2) the length and timing of the technique, and (3) the modality of the feedback (individual or collaborative) ([Coyle et al., 2020](#)).

Reformulation literally means formulation anew ([Ibarrola, 2013](#)). As a technique, writers use reformulations purposefully and as part of a plan. That is, the writer makes an attempt to achieve specific rhetorical effects or communicate particular meanings. In this regard, reformulation is a communicational function by which a writer

restates and expands an idea to assist comprehension. It is “an equivalence operation so that the two units are different ways of expressing a single idea” (Hyland, 2007, p. 269).

Reformulation contains more changes compared to traditional ways of providing corrective feedback (Cohen, 1982). As an alternative technique to traditional feedback, reformulation “may complement traditional teacher and peer feedback practices, by providing students with a native-like form of their original writing” (Yang & Zhang, 2010, p. 465). Compared to the traditional feedback, reformulation provides more extensive information. This information can be employed to provide the writer with crucial insights. In addition, reformulation offers “one complete example of a more native-like way to express the writer’s same ideas, rather than simply fixing up the language that the students already knew how to use” (Cohen, 1982, p. 19).

Levenston (1978) first proposed reformulation. To reformulate, a writer of the target language rewrites the text. While preserving learners’ ideas, they make the original essay sound as native-like as possible. In effect, in the first stage, by making corrections at the level of surface, a reconstructed version of a written text is created. This reconstructed version is grammatically correct, but it is likely to still contain language that would appear to be strange to a native speaker. In the process, a native speaker then reformulates the reconstructed version and converts this error-free but awkward piece of writing into a text that a native speaker considers to be natural language.

Provided with reformulations, learners must “do a thorough comparison between the reformulated version and their own original texts” (Swain & Lapkin, 2002, p. 287). It needs to be highlighted that while some learners have the motivation and monitoring ability to benefit from reformulation, others need more guidance in gaining insights from a comparison (Cohen, 1982). It is also argued that the general discussion of employing reformulation is important in ensuring that it does well (Allwright, Woodley, & Allwright, 1988; Yang & Zhang, 2010).

Moreover, reformulation conveys implicit messages that should be relevant to the writer of its original text, but might not be helpful to other learners. For instance, “the reformulation process might have involved splitting up some very long sentences into two or three much shorter ones, and thus apparently carry the message that shorter is always better” (Allwright et al., 1988, p. 239). It is worth mentioning that reformulation is primarily for intermediate as well as advanced L2 writers. After spending much time on an essay, an advanced L2 writer might assume that, even though the content may be good, and the basic vocabulary and grammar may be free of grave errors, the form and style are not entirely acceptable (Cohen, 1989).

Reformulation includes having the EFL learner’s text rewritten by a (native) writer of the target language. The native writer preserves the learner’s ideas, but makes it seem as native-like as possible. Therefore, reformulation characterizes a movement from even the best editing of a text written by an L2 learner (Cohen, 1983). The teacher is not merely the corrector of a learner’s essay, which generally involves paying attention only to surface features of the essay; instead, he “reformulates it, using the content the student has provided, but recasting it so that the rewritten draft approximates as closely as possible to a putative target language model” (Thornbury, 1997, p. 327). As a result, the reformulation is available to be compared with the student’s own writing.

The details of reformulation are provided by native speakers who are charged with “providing the native-like text without specific guidelines” (Lapkin, Swain, & Smith, 2002, p. 486). When reformulating students’ texts, the teacher has the option of introducing or avoiding particular language items based on learners’ appropriacy level (Thornbury, 1997). When the learner is provided with reformulated text, they are encouraged by their teachers “to actively find differences between their original output of writing and the feedback text” (Hanaoka, 2006, p. 168). When learners’ writings are reformulated, they should accept or notice changes in order for the reformulation to be effective (Tocalli-Beller & Swain, 2005).

Thornbury (1997) argues that reformulation “reverses the order of traditional models of instruction, which move from accuracy to fluency, as, for example, when learners are required to imitate model texts (as in a product approach to writing)” (p. 328). Besides, for L2 learners, “the reformulated text provides changes that improve what they have written. That is, more accurate and appropriate language is used to correct the students’ writing” (Tocalli-Beller & Swain, 2005, p. 8).

Moreover, reformulation goes beyond correcting surface mistakes and addresses issues like cohesion and style. Native speakers maintain the original content of the writing but might change lexis, syntax, and discourse. However, the

disadvantage of reformulation is that it is likely to be a challenge to students at lower levels due to its heavy cognitive load (Langin, 2016).

2.4 Justification for Reformulation

Yang and Zhang (2010) contend that reformulation offers a golden opportunity to hone writing skills. To them, noticing while comparing the reformulated text with the original one is effective for learning a language. Therefore, enhancing the quality of noticing maximizes the efficiency of the reformulation in L2 writing classes. Likewise, Cohen (1983) argues that attentive learners who embrace explicit comparisons are most successful in working with reformulation.

Reformulation, “sometimes thought of as an extended written recast, has several benefits” (Langin, 2016, p. 5). Some of the advantages of reformulation over traditional corrective feedback are as follows:

- 1) In asking someone to reformulate what learners write rather than writing about their own ideas, learners assume that the essay still belongs to them, even if it is reformulated (Cohen, 1982; Langin, 2016). This motivates them to compare the reformulated text with the original one (Cohen, 1983). Besides, it puts emphasis on the fact that “there is more than one correct way to write things in a second language” (p. 17).
- 2) Tasks involving reformulation raise learners’ consciousness “at a whole range of levels: discoursal, syntactic, lexical, and phonological” (Thornbury, 1997, p. 334).
- 3) In reformulation, learners are exposed to clear examples of how native-writer produces essays. They can also find examples of what was appropriate in their original text and what needed change. Further, reformulation offers learners the information they are ready to pay attention to at their L2 proficiency level. Additionally, it enhances investment in the writing process by adjusting a written text that is personally related to the learner (Langin, 2016).
- 4) Reformulating assists students in developing writing accuracy. Rather than only editing the language that the learner already knows how to use, reformulation provides a perfect model of a native-like way to put across the L2 writer’s original idea (Farsi, 2016).
- 5) Reformulation gives students the opportunity to compare their original texts with native-like texts. Therefore, they have the opportunity to write far better and produce appropriate written documents in English (Sulistyo & Heriyawati, 2017).
- 6) Reformulation facilitates SLA by providing proper examples of writing. Learners draw a comparison between the models and the errors that they have just made while both are new in learners’ memory (Ranta & Lyster, 2007).
- 7) Being specifically tailor-made to learners’ own writing, reformulation “will process the feedback more deeply, actively seeking out solutions to incorrect language use or focusing on better alternatives included in the reformulated text” (Coyle et al., 2020, p. 2).

2.5 Collaborative Feedback

Thanks to its in-built noticing capability, reformulation can be merged into existing approaches to writing instruction. It can be successfully employed for the purpose of consciousness-raising as well as developing practical cognitive strategies. In addition, it can “form a sub-set of task types within a meaning-driven, task-based syllabus” (Thornbury, 1997, p. 334). Personal reflection is an essential step in one’s growth. However, it is not the last step. It is believed that not only do learners learn from others, but they also learn from themselves by interacting with each other. When the process of reflection includes others, it enhances its ability (Woodcock, Lassonde, & Rutten, 2004). Therefore, collaborative reflection has always been of prime importance in EFL contexts (Soleimani & Modirkhamene, 2020).

Findings have suggested a positive role for collaborative feedback in L2 writing (Coyle et al., 2020). Collaborative feedback between instructors and students brings about effective teaching and learning (Wang, 2020). Some, however, have argued that collaborative feedback should be provided by peer learners as it “is unaffordable by instructors teaching large classes” (Er, Dimitriadis, & Gasevic, 2020, p. 1). Collaborative corrective feedback from peers scaffolds beginner EFL writers through peer review while focusing on collaborative learning (Maatouk & Payant, 2020). When students collaboratively notice a problem, they employ various noticing strategies. When they interpret problems

variously, they negotiate them by putting forward their arguments; and consequently modify their arguments based on some evidence.

Furthermore, collaborative feedback helps learners to become aware of their drafts, which “help enhance students’ awareness of the way their writings may present difficulties for a reader” (Barnavi, 2010, p. 212). Collaborative feedback also augments learning due to learners’ engagement with language. It helps to argue, explain, clarify, and negotiate ideas. It can activate learning by providing learners with ample opportunities to have interaction with each other, provide feedback, and act in response to feedback on their writing (Dang, 2016). Collaborative feedback is one of the devices that make learners critical thinkers (Ali, 2021; Barnavi, 2010).

Additionally, the reformulation of the learners’ own writing followed by the discussion that it initiates appears to be an effective technique that prompts cognitive conflict where various perspectives, ideas, and theories become conscious through collaboration. When reformulation leads to a cognitive conflict, students are provided with an opportunity to improve their cognizance of the target language. Further, instructors and researchers are provided with opportunities to enrich their awareness of learners’ L2 learning (Tocalli-Beller & Swain, 2005).

2.6 Previous Studies

Rachmajanti (2018) explored which type of collaborative corrective feedback could lead to better writing ability for Indonesian EFL students. Forty-eight pre-intermediate to intermediate students participated in his study and were randomly assigned into two groups: experimental group and control group. A pre-test of writing test was given before providing the treatments. Next, the experimental group received student-student collaborative feedback in which the students’ roles as raters provided correction on peer’s writing errors using an assessment form. The students in the control group, however, only experienced student-teacher collaborative feedback. The whole study took eight sessions. The result of analysis revealed that the experimental group performed better than the control group.

The effect of reformulation on the use of reference cohesion in young EFL learners’ collaboratively written narratives was investigated by Coyle et al. (2020). The study was conducted with 11-to-12-year-old low proficiency pairs who were divided into two groups: a reformulation and a control group. Both groups experienced two multi-stage writing and feedback tasks for a period of three months. They were required to write four sets of narrative picture-story texts before and after the treatment. The reformulation group pairs completed a weekly writing task and received reformulated feedback, which they compared with their original drafts. The control group pairs performed the weekly writing task and self-edited their texts. Features of reference cohesion were examined. Results of their study found reformulated feedback useful in significantly promoting the accurate use of pronominal reference and sequence markers in the L2 by reformulation group pairs and in contributing to a significant decrease in the misuse of articles compared to the control group.

Khezrlou (2020) explored whether the effects of task repetition could be reinforced through the provision of two types of unfocused direct written corrective feedback. To this end, fifty-seven learners participated in this study, forming three conditions: (1) task repetition with no feedback, (2) task repetition with error correction, and (3) task repetition with reformulation. While all three groups repeated an identical writing narrative task, only the experimental groups received feedback after their initial task performance. Next, the participants were required to accomplish a new task of the same type, then a new task of a different type. Their performance was assessed by multiple measures of complexity, accuracy, and fluency. Results of his study proved the superiority of the task repetition with error correction condition on all measures of accuracy while the task repetition with reformulation condition resulted in complexity improvement regarding subordination. Further, both conditions brought about delayed fluency gains.

Carrying out an action research project, Giri (2018) adopted a collaborative approach to feedback, in which students in small groups, worked together on their writings to give feedback to each other. Collaborative approach to feedback, as an educational practice framework, was employed in his study to involve students actively and collaboratively to provide feedback to other members of their group. The findings of his study revealed that the students felt more engaged, and collaborative approach as a feedback technique had a positive impact on the correction of errors in writing.

Despite the great number of studies in literature investigating effects of reformulation, there have been a few studies on the impact of different types of reformulation on EFL learners’ writing. Furthermore, the findings have been

inconclusive. To make a valuable contribution and resolve the issue, the current study attempts to explore the effect of online reformulation and collaborative feedback on writing of upper-intermediate female EFL learners.

3. Methodology

3.1 Design of the Study

The current study conducted a quasi-experimental design. It adopted a quantitative method. The participants, after having been selected as homogenous, were randomly assigned to one control group and two experimental groups. The current study used the control/experimental group design to examine the effect of the online treatment on the experimental groups. All three groups took the same pre-treatment and post-treatment tests. However, they underwent different online treatments between the tests.

3.2 Participants

Upper-intermediate female EFL learners in Iran constituted the population of this study. To conduct the study, 55 upper-intermediate participants were put into one control group ($N = 19$) and two experimental groups (experimental group 1, $N = 18$ & experimental group 2, $N = 18$). The three intact classes were selected based on convenience sampling. The participants were female students. The medium of instruction in these classes was English. All of the participants were aged 18 to 24, with a mean of 21. The primary reason for choosing upper-intermediate learners, other than convenience, was that they might have a more substantial chance to develop their writing performance through reformulation.

3.3 Instruments

Before and after the treatment, two IELTS writing tests (Task 2) were administered as pre-treatment tests and post-treatment tests to measure the participants' writing performance. The participants were given a general academic topic to write an essay about in 40 minutes. They were asked to provide their perspective about a particular topic or challenge an alternate point of view. They were required to write a 250-word essay.

The 2nd edition of American English File 4 (Latham-Koenig & Oxenden, 2013) was the course book in the present study. In all the three groups, writing activities were chosen either from the course book or from a supplementary writing book, Advanced Writing (Hemmati & Khodabandeh, 2017). Quick Placement Test (QPT) was administered to the control and experimental groups before the study began. The Cronhach Alpha reliability coefficient of the test was calculated to be .91 for this test.

Writing performance score in Task 2 of IELTS writing test was computed using a rubric which was the modified version of Wang and Liao's (2008) writing scoring rubric. It consisted of five criteria: focus, elaboration, organization/support, conventions, and vocabulary, each with five levels. Participants were given a score out of nine. Adobe Connect (AD, 2019) Platform and WhatsApp Messenger (2020) were used to take proficiency tests, teach, and provide students with feedback.

3.4 Data Collection

To conduct the experiment and administer the treatment, the following procedure was adopted. At first, the learners were required to install the Adobe Connect (AD, 2019) platform as well as WhatsApp Messenger (2020) application on their personal computers or cell phones. In the next step, a WhatsApp group was created, and the teacher invited the participants (60 upper-intermediate Iranian EFL female learners) to the group. Then, to ensure the homogeneity of the participants, the QPT was sent to the participants in two rounds. They were supposed to send their answer sheet to the teacher in less than one hour after receiving the test. Those whose scores deviated about one standard deviation below and above the mean on the test were excluded. The remaining learners were regarded as the final participants ($N = 55$). Finally, the homogenous participants were randomly placed into one control group and two experimental groups (X1 & X2). This study used the quasi-experimental and pre-treatment/post-treatment test design. The teacher taught the lessons and took the tests via the WhatsApp group and the Adobe Connect platform.

In the first session, via the Adobe Connect platform, in all three groups, the purpose of the study was introduced to the participants. Then, each session, the teacher presented a different writing topic and provided the students with various tips for writing an essay, including how to write an introduction, how to develop paragraphs, necessary structures, vocabulary items, and phrases, etc. The participants were supposed to begin writing essays during the

online session and complete them as homework. The most important part of their task was sending their essay paragraph by paragraph through WhatsApp before the next online session. All three groups went through the same procedure of writing instruction, and the only difference between them was the type of feedback that they received.

For group X1, immediately after receiving each student's paragraph, the teacher provided reformulations and sent them back to them. That is, she re-wrote the learners' writing, expressing the learners' original ideas, but in a manner that was natural and without any errors. The reformulation included modifications in the overall structure and components of the writing, including cohesion, vocabulary choice, grammar choice, etc. Once the students received the reformulations, they were asked to compare their paragraphs with the reformulated ones and analyze what had or had not changed in the essays focusing on different aspects of the writing. They were also asked to list any significant changes that they found and to incorporate the insights gained from the comparison of the original writing and reformulation into their next essay.

The participants in group X2, like group X1, received feedback in the form of online reformulation. Likewise, the participants were asked to examine and compare the two versions (their own writing and the reformulated one) to find out both differences and similarities. Additionally, the teacher met in a short online session with every single participant for extra individual guidance so that they benefited from collaborative feedback in post-writing conference. In other words, the participants had an online conversation discussing the probable reasons for the differences found. They had the opportunity to make inquiries about reformulation choices that the teacher had made.

For the control group, the participants had the same writing instruction and practiced the same topics under the same instructional context. They were, however, provided with feedback conventionally without using reformulation tasks. They received feedback on their essays traditionally. The learners composed a piece of writing and sent the picture of their essays to the teacher. They were given regular feedback on errors on their writing tasks (e.g., style, word choice, & grammar) by the teacher. Like the experimental groups, they were supposed to incorporate the insights gained from the feedback to their original writings into their next essay.

The participants wrote in different types (e.g., discussing two opposing views, cause and effect, problem and solution etc.). To ensure the uniformity of instruction, the same teacher (the researcher) taught all three groups and provided feedback. The participants were from Novin language school in Talesh, Iran. The treatment took 24 online sessions and the classes were held twice a week. Accordingly, there was three months interval between the pre-treatment test and post-treatment test in each group. Each session took 90 minutes, of which 30 minutes were devoted to writing.

In order to stay away from the subjectivity of scoring, their compositions were assessed by two raters. Each essay was given a score out of possible 9. The rubric for scoring writing was the modified version of Wang and Liao's (2008) writing scoring rubric. It included five criteria: focus, organization/support, elaboration, conventions, and vocabulary. Participants were given a score out of 5 for each criterion receiving a score out of 25. Thence, the scores were converted to a scale of 0-9. Pearson correlation was run to the scores of composition tests to examine the correlation between the two raters.

3.5 Data Analysis

In the current study, there existed one independent variable (i.e. providing feedback) and one dependent variable (i.e., learners' writing performance). All sets of scores were shown to be distributed normally as the skewness ratios were less than 1.96. Therefore, one-way ANOVA was used to compare the mean score of the composition tests between the groups in pre-treatment and post-treatment tests. Then, a Post-hoc Tukey test was used to determine the most effective method. In this calculation, the alpha level was set to .05.

4. Results

4.1 Results of the QPT

Table 1. Descriptive statistics for the results of QPT

	N	Mean	Std. Deviation
QPT score	60	45.23	1.20

The first set of analyses was used to calculate the descriptive statistics. The descriptive statistics for the EFL learner who took QPT ($N = 60$) to select homogeneous participants before the study are shown in Table 1. The mean score was 45.23, which meant they were upper-intermediate based on the QPT description, and the standard deviation was 1.20. Those who performed within one standard deviation below and above the mean on the test ($N = 55$) were chosen as homogenous participants.

4.2 Results for Research Questions One and Two

The first two research questions were whether or not there was any statistically significant difference between the control group who was provided with conventional feedback and the two experimental groups who received online reformulation, or the integration of online reformulation and collaborative feedback in writing performance.

Table 2. Inter-rater correlation for the pre-treatment test scores (all three groups)

	Control	X1	X2
Pearson Correlation	.810	.840	.780
Sig. (2-tailed)	.000	.000	.000
N	19	18	18

The Pearson correlation was administered to measure the inter-rater reliability of the two raters for the pre-treatment test scores in all three groups. The measures are shown in Table 2. The correlations for all three groups were significant.

Table 3. Descriptive statistics (pre-treatment test)

Group	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Skewness		
					Lower Bound	Upper Bound	Statistic	Std. Error	Ratios
Control	19	4.974	.3525	.0809	4.804	5.144	-.082	.514	-0.16
X1	18	5.250	.4287	.1011	5.037	5.463	-.461	.540	-0.85
X2	18	5.056	.4501	.1061	4.832	5.279	-.712	.530	-1.34
Total	55								

Table 3 exhibits the descriptive statistics of the participants' writing performance in all three groups on the pre-treatment test. The mean and standard deviation revealed that the participants in all three groups had a similar performance on the pre-treatment test. Regarding skewness, all sets of scores were distributed normally since the skewness ratios were less than 1.96. Although experimental group 1 had a slightly better performance, the difference was not significant. Figure 1 exhibits the mean of each group on the pre-treatment test through a bar graph.

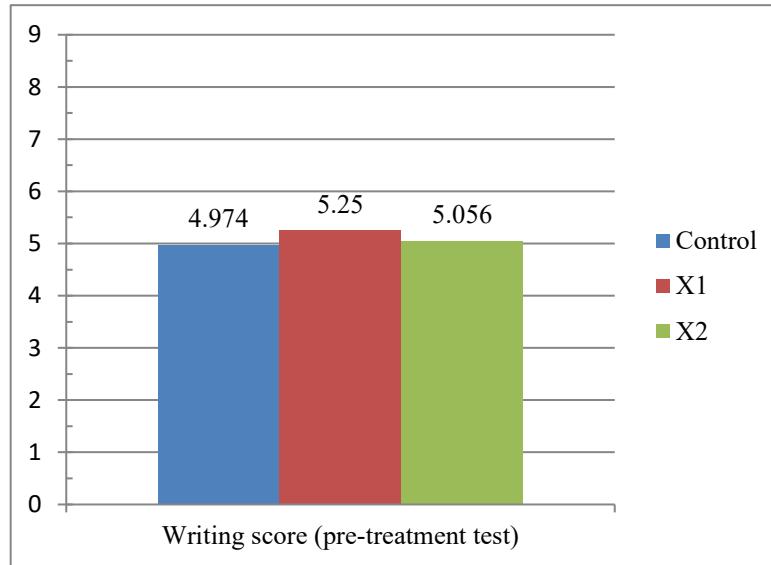


Fig 1 .The comparison of the groups' means in writing on the pre-treatment test

It was confirmed that all three groups performed similarly, with experimental group 1 being slightly better than other groups.

Table 4. Inter-rater correlation for the post-treatment test scores of all three groups

	Control	X1	X2
Pearson Correlation	.860	.825	.800
Sig. (2-tailed)	.000	.000	.000
N	19	18	18

The measure of inter-rater reliability of two the raters, scores for the post-treatment test in all three groups is exhibited in Table 4. The correlations were significant.

Table 5. Descriptive statistics (post-treatment test)

Group	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Skewness		
					Lower Bound	Upper Bound	Statistic	Std. Error	Ratios
Control	19	5.105	.3937	.0903	4.916	5.295	-.380	.526	-.72
X1	18	5.750	.3536	.0833	5.574	5.926	-.225	.550	-.41
X2	18	6.167	.3835	.0904	5.976	6.357	-.330	.520	-.63
Total	55								

In the next step, the participants' scores, after the treatment, on the post-treatment test were calculated. Table 5 exhibits the descriptive statistics of each group's score on the post-treatment test. Concerning skewness, all sets of scores are shown to be distributed normally as the skewness ratios were less than 1.96. By comparing the means of the groups on the post-treatment test presented in Table 5 with those on the pre-treatment test presented in Table 3, it was clear that differences among the groups' performance rose. As illustrated in Table 5, the participants' performances in all the groups improved. The mean of each group's writing performance on the post-treatment test is shown through a bar graph in Figure 2

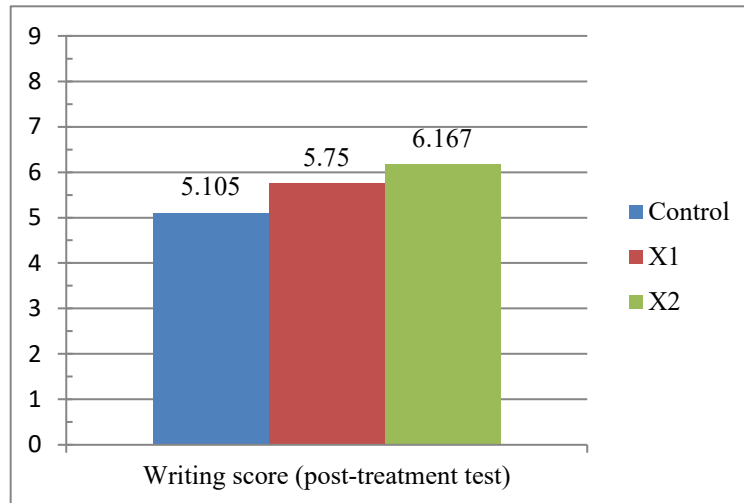


Fig 2. The comparison of the groups' means in writing on the post-treatment test

It was confirmed that the experimental groups outperformed the control group. Furthermore, experimental group 2 had a better performance than both control group and experimental group 1. To determine whether there are any statistically significant differences between the groups on the pre-treatment test, one-way ANOVA was used on the means of writing scores of all three groups. The results are shown in Table 6.

Table 6. One-way ANOVA (pre-treatment test)

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.739	2	.370	2.182	.123
Within Groups	8.806	52	.169		
Total	9.545	54			

According to Table 6, the difference between the groups on the pre-treatment test was not significant at ($p < 0.05$) as the obtained F (2.182) was less than critical F (3.18) with $df = 2/52$. Besides, based on the observed significance value of 0.123 (which was greater than 0.05), it was confirmed that there was no difference regarding writing performance between the groups. Thus, all three groups were homogeneous in writing skill at the outset of the study. Similarly, one-way ANOVA was conducted to determine whether differences between the groups on the post-treatment test were significant. Table 7 shows the results of this calculation.

Table 7. One-way ANOVA (post-treatment test)

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	10.613	2	5.306	37.215	.000
Within Groups	7.414	52	.143		
Total	18.027	54			

As reported by Table 7, on the post-treatment test, the difference between the groups was statistically significant as observed F (37.215) was far greater than critical F (3.18) with the degree of freedom of 2/52. Further, the obtained significance value (0.000) was less than the significance level established for the study (0.05), which confirmed there was a statistically significant difference between the groups. In other words, they were not homogeneous anymore.

According to the results of the One-way ANOVA and Post-hoc Tukey Test, the first two null hypotheses, that is, teaching writing through online reformulation as well as the integration of online reformulation and online collaborative feedback has no a statistically significant impact on the development of EFL learners' writing performance, were strongly rejected. The mean differences were significant on the post-treatment tests between the control and experimental groups. The results revealed that the experimental groups developed their writing on the post-treatment test significantly.

4.3 Results for Research Question Three

In order to find out where the significant differences existed, a Post-hoc Tukey Test was run (Table 8).

Table 8. Post-hoc Tukey test of multiple comparisons

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Control	X1	-.6447*	.1242	.000	-.944	-.345
	X2	-1.0614*	.1242	.000	-1.361	-.762
X1	Control	.6447*	.1242	.000	.345	.944
	X 2	-.4167*	.1259	.005	-.720	-.113
X2	Control	1.0614*	.1242	.000	.762	1.361
	X1	.4167*	.1259	.005	.113	.720

*. The mean difference is significant at the 0.05 level.

Table 8 reveals that the experimental groups' performance in writing was different on the post-treatment test. The multiple comparisons of the results exhibited that there existed a statistically significant difference between the control group and experimental groups. Moreover, there was a statistically significant difference between groups X1 and X2. It was shown that the participants in group X2 had the best performance on the post-treatment test. The differences were statistically significant as all obtained significance values were less than the critical p-value (0.05).

As Group X2 outperformed group X1, the third null hypothesis that there is not any significant difference between the effect of providing feedback through online reformulation and the integration of online reformulation and online collaborative feedback on writing performance was also rejected. This suggests that reformulation is preferred to traditional techniques in teaching writing. Moreover, the integration of online reformulation and online collaborative feedback is more effective than online reformulation alone in teaching writing.

Because the participants in the control group received feedback conventionally and did not lead to any significant progress in their writing performance, it is logical to argue that mainstream methods of providing feedback are not beneficial. That is, the lack of statistically significant improvement in the control group on the post-treatment test advocates introducing some alternatives into providing feedback on writing. In effect, the improvement in the experimental groups indicated that these alternatives could be teaching writing through reformulation, and ideally, it should be combined with collaborative feedback.

5. Discussion

The current study aimed at examining the impact of online reformulation together with online collaborative feedback on EFL learners' writing performance. The results of present study corroborate the findings in the literature regarding the effect of reformulation as well as collaborative feedback. The findings of this study add weight to an increasing body of evidence which has verified the positive effect of reformulation on improving EFL learners' writings of different proficiency levels (Langin, 2016; Ranta & Lyster, 2007; Yang & Zhang, 2010). The current study is particularly consistent with Kadkhodaei, Gorjian, & Pazhakh's (2013) findings that reformulation significantly improves EFL learners' overall writing performance. It can be argued that achieving the same positive result from various studies exploring the impact of reformulation on writing in different contexts is due to the fact that this effect is strong and apparent.

The present study also reinforced the findings of Swain and Lapkin (2002), which demonstrated that reformulation is a useful technique to stimulate noticing as well as reflection and that collaborative dialogue is an effective part of the process of L2 learning. When the language of reformulated writing was too complicated, the learners could not notice certain linguistic features. In contrast, when the language level in reformulation was appropriate, the learners noticed the alternative expression. To deal with the former situation, collaborative feedback, where the teacher met with students online to explain their points, was considered both necessary and helpful. This is in line with Coyle et al. (2020) who contended that a careful discussion following feedback might reduce the cognitive demands on the learners.

The findings were also in keeping with Khezrlou (2020) and Barnavi's (2010) studies, in which it is suggested that although reformulation performs a major role in reinforcing various aspects of EFL learners' writing, the full effects can be exerted when it is integrated with other powerful techniques including collaborative feedback. In other words, reformulation must be there; however, it alone does not provide sufficient cause for the occurrence of the great improvement in writing. The findings also supported Giri's (2018) study that believes collaborative approach as a feedback technique has a positive effect on the correction of errors in writing.

Unlike Rachmajanti's study (2018) which showed student-student collaborative corrective feedback, where the students provided correction on peer's writing errors, had priority over student-teacher collaborative feedback, the present study emphasized the vital importance of student-teacher collaborative feedback following reformulation.

Possible explanations for the different performances in the groups might be given by considering the following reason: The test results might be different due to the effect of regular classroom teaching. Since the control group performed poorly on the post-treatment test in comparison with the experimental groups, it can be asserted that the increase in the experimental groups' writing performance was not on the grounds of regular classroom instruction. The participants in the control group would experience the same improvements in their writing performance. This result further confirmed that the learners' writing in the experimental groups improved due to receiving feedback on instruction through online reformulation and online collaborative feedback. Furthermore, the only difference between these three groups was the treatment regarding giving feedback, as the teaching part of the treatment was the same for all three groups. Therefore, it is reasonable to state that how to provide feedback itself was the only factor for improvement in the experimental groups.

6. Conclusion

The most crucial and primary finding of the current study which emerged from the experimental groups, was that it is feasible to improve writing through online reformulation as well as integration of online reformulation and online collaborative feedback. The learners' engagement with reformulation and collaborative feedback generated a context in which their awareness of correct versions of writing was raised. Online collaborative feedback promoted noticing and consequently enhanced students' uptake of reformulation. In combination of online reformulation and online

collaborative feedback in writing, collaboration acts as a mediation of feedback that can foster noticing and, as a result, assists in honing EFL learners' writing. The findings of the current study support the effectiveness of providing feedback on writing through reformulation. Moreover, this new technique produced a more significant effect when it was combined with online collaborative feedback and was quite flourishing among the participants. Through the collaborative approach, the learners felt engaged in and were empowered by the process, and the integration of online reformulation and collaboration as a feedback technique exerted a profound influence on their writing.

6.1 Pedagogical Implications

The major contribution of the study to the increasing body of research exploring the effectiveness of feedback on writing was that it adopted a more comprehensive look at the effect of reformulation as well as collaborative feedback on honing writing skills in the EFL context via online sessions. The results of the present study gave support to the idea that EFL learners' writing performance would improve by providing feedback on writing through reformulation. That is, reformulation brings about a more significant effect compared to the conventional approaches to providing feedback.

Another implication of the study is that reformulation and collaborative feedback constitute much more effective techniques for improving writing performance. On the basis of the findings of the current study, the integration of online reformulation and online collaborative feedback is effective both in theory and in practice as it had a significantly positive effect on EFL learners' writing performance. Moreover, reformulation together with collaborative feedback can provide valuable information about how to teach writing effectively. Therefore, it can perform the role of an alternative method whenever conventional ways of teaching writing do not bring the desired effect. The result of the present study is also persuasive for authorities to consider this new method of dealing with writing instruction as well as providing feedback when it is not possible to hold face-to-face sessions.

It should be mentioned that the present study presented a recent type of corrective feedback, which is more comprehensive and practical than conventional ones. This kind of corrective feedback can be used in online writing classes where there are a few students in the class and the teacher enjoys plenty of time to spend on each student's writing task. Since access to native English reformulators is not easy in an EFL context, non-native English teachers usually do the reformulation. In this regard, they need specific guidelines and supports. They might need a longer time to employ this new technique appropriately. That is, in order for reformulation and collaborative feedback to perform a constructive role, teacher training should be regarded as necessary.

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