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To cite this article: Yuhuan Zhao, Fuhui Zhang, Christian D. Schunn, Ping He, Di Li & Yifan Zhao (21 Nov 2023): Feedback, feedback-on-feedback and re-feedback: effects of written dialogic peer feedback on English as a foreign language writing, Assessment & Evaluation in Higher Education, DOI: [10.1080/02602938.2023.2278017](https://doi.org/10.1080/02602938.2023.2278017)

To link to this article: <https://doi.org/10.1080/02602938.2023.2278017>

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Feedback, feedback-on-feedback and re-feedback: effects of written dialogic peer feedback on English as a foreign language writing

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ABSTRACT

Dialogic peer feedback has been recommended and increasingly used in English as a foreign language writing context, yet the specific effects of peer-to-peer written dialogue about feedback remain under-researched. Using a quasi-experimental design, this empirical study investigated the effects of the presence/absence of written dialogue between the peer feedback provider and receiver on students' provision of feedback, adoption of received feedback, improvements in writing quality, and attitudes towards feedback dialogue across a four-week writing program. The study drew on several data sources including feedback texts, revision texts, a questionnaire survey and monthly reflection journals of forty-one students. Results showed that students involved in the written dialogue demonstrated a generally positive attitude towards it and outperformed those without such a process by generating more accurate adoption, focusing comments to a greater extent on higher-order dimensions of writing (unity, support and coherence), and implementing better revisions. The dialogic process enhanced students' feedback literacy and engagement by improving their understanding of feedback, their linguistic and subject knowledge, and their agentic clarification and negotiation of revisions.


KEYWORDS

Peer feedback; dialogic feedback; writing; English as a Foreign Language

Introduction

Peer feedback has been found to promote students' social, cognitive, affective and linguistic development in higher education, especially in writing (Chang 2016; Chen 2016; Schunn and Wu 2019; Yu and Lee 2016). To reap those benefits, students need to appreciate, understand and use feedback (Carless and Boud 2018; Han and Xu 2020; Nelson and Schunn 2009). However, students often report challenges such as lack of trust or clarity in feedback or lack of strategies for using it (Carless and Boud 2018; Carless et al. 2011; Weaver 2006). Training reviewers can positively impact students' feedback performance and writing achievement (Berg 1999; Min 2003, 2006). However, learners may struggle to understand and act upon the one-round feedback they receive without any further communication (Ajjawi and Boud 2018; Boud and Molloy 2013; Carless et al. 2011; Er, Dimitriadis, and Gašević 2021). Feedback with a dialogic approach could

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 Supplemental data for this article can be accessed online at <https://doi.org/10.1080/02602938.2023.2278017>.

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shed light on overcoming these difficulties as both parties could share interpretations, negotiate meanings, clarify confusions and expectations, and co-construct knowledge (Carless and Boud 2018; Hill and West 2020; Zhu and Carless 2018). Many classrooms implement face-to-face feedback, but the lack of support structure in such an approach often limits the provision of extensive, honest and critical feedback (Topping 2023).

Recent literature mainly centres on teacher-led dialogue about feedback with students (eg Blair and McGinty 2013; Hill and West 2020). There has been a call for peer feedback dialogue based upon theoretically-expected benefits (Carless and Boud 2018; Zhu and Carless 2018). Indeed, online written dialogue about peer feedback is increasingly accessible and practiced in the post-Covid era. However, little is known about how peer-to-peer written dialogue about feedback affects English as a foreign language (EFL) students' writing behaviours and attitudes towards peer feedback compared to the absence of dialogue. Exploring the necessity of adding a dialogic element to peer feedback processes to support negotiation and construction of meaning, we investigated its impact on students' provision and adoption of feedback, their revision outcomes and their learning attitudes *via* a quasi-experimental design.

Peer feedback as a dialogic three-phase problem-focused process

Critical and constructive feedback is important for effective revisions and writing development (Schunn and Wu 2019). Students themselves prefer constructive criticism rather than short positive comments (Hyland and Hyland 2019). Although feedback on local issues can improve language accuracy over time (Ferris 2002), peer feedback on global issues such as content and organisation tends to have greater effects (Wu and Schunn 2021). However, problem-focused feedback is only the starting point for effective revision. Even when feedback is critically phrased, students often fail to incorporate it into their revisions because the feedback is vague or lacks concrete suggestions (Min 2003). Giving clear and effective feedback is a difficult task, just like writing, and therefore may also require feedback to improve (Min 2016).

A possible solution is to monitor the process by directing peer feedback receivers (ie the writers) to give feedback on the feedback they receive from feedback providers (ie reviewers). A commonly used strategy, variously called back review, back-evaluation, or review feedback, is to offer the reviewer information from the author about the quality of the feedback the reviewer provided (Misiejuk and Wasson 2021). This strategy can involve scales to grade helpfulness, comments to determine agreement with the feedback, or rebuttals to accept or reject the feedback. However, this general strategy focuses on improvements to feedback quality observed in later peer feedback assignments. In particular, grading scales and accompanying comments on received feedback (eg de Alfaro, Shavlovsky, and Polychronopoulos 2016; van der Pol et al. 2008) do not directly address writers' specific concerns about the problematic areas in the specific feedback they receive from reviewers. Rebuttals (eg Harland, Wald, and Randhawa 2017) are not usually addressed directly to the peers who give the feedback but to the teachers for grading. By contrast, rather than emphasising reviewer learning or reviewer/author grading disagreements, the second phase of 'feedback-on-feedback' within a larger dialogic feedback process could focus on the problematic elements of the received peer feedback to help student writers' revision needs: when they do not understand the feedback, need further clarification of feedback or their own writing intentions, or need a more feasible revision suggestion.

Most importantly, even after feedback-on-feedback, the reviewers' role as the genuine 'feedback provider' is not fulfilled because problems within the received feedback would still remain without further revisions or explanations (van den Berg, Admiraal, and Pilot 2006). A simple solution to the problem would be to allow student reviewers to respond to writer feedback (Wood 2022). This third phase of 're-feedback' would allow reviewers to clarify misunderstandings in previous comments, confirm or refine previous comments, or propose new comments. This phase

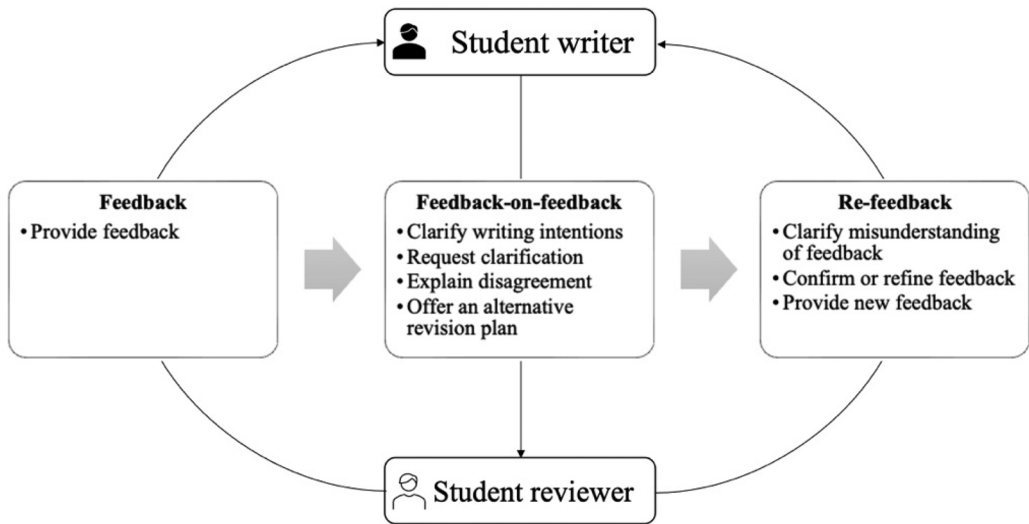


Figure 1. Peer feedback as a dialogic three-phase process.

makes up for the lack of reciprocity in ‘back review’ practices and creates a two-way interaction of exchanging ideas and co-constructing meaning (Carless 2016; Zhu and Carless 2018), which theoretically is a particularly powerful form of interactive learning (Chi and Wylie 2014; Wu and Schunn 2023). We propose a three-phase problem-focused dialogic process (see Figure 1): feedback, feedback-on-feedback and re-feedback (hereafter referred to collectively as dialogic feedback).

Prior research on written dialogic peer feedback

Prior research on two or three-phase written dialogic/interactive feedback has used various digital tools such as web-based platforms (eg *Google Docs* or *Peerceptiv*) or instant messaging applications (eg *WhatsApp*) to promote learner-learner interactions. Research on the two-phase back-review process has examined its impact on feedback quality (Patchan, Schunn, and Clark 2018), students’ evaluative judgement (Tai et al. 2018) and writing skills (Cho and Schunn 2007; Patchan, Schunn, and Clark 2018). Other research has used back-reviews as a data source: to detect if students used tit-for-tat strategies, in which reviewers’ evaluation of review helpfulness simply reflected the positivity/negativity of the review (de Alfaro, Shavlovsky, and Polychronopoulos 2016), or to better understand the reasons for accepting/rejecting feedback in revisions (Nelson and Schunn 2009; Wu and Schunn 2020). This research revealed that understanding of received feedback plays an especially important role and that lack of solutions and supporting details limit comment understanding. Negotiation and clarification through feedback-on-feedback and re-feedback can therefore contribute to better comment understanding (Zhu and Carless 2018) and thereby influence feedback impacts.

A few studies that included the third step of re-feedback used a qualitative or mixed-method approach to report the dialogic outcomes. Wood (2022) used thematic analysis with data from surveys using open-ended questions and semi-structured interviews to find learners’ high engagement with feedback through online written interactions with peers. In another qualitative study, Alqefari (2022) analysed after-class online written dialogues of fifteen pairs of students and described how these interactions were constructed in terms of cognitive, metacognitive, socio-affective and structural dimensions. In a mixed-method study, Ishtaiwa and Aburezeq (2015) collected students’ attitudes towards dialogic interaction through a five-point Likert scale and

conducted interviews to obtain personalised information about students' views. The results from Ishtaiwa and Aburezeq's study indicated a complex picture: although students rated the student-student interaction as moderately positive, participants constantly reported dissatisfaction with distributing collaborative work.

While these previous studies generally suggest that students have positive perceptions of written dialogic feedback, there is less information about whether dialogic feedback enhances later writing. Indeed, the studies of such peer-to-peer written interactions were often blended with other forms of interaction. For example, written dialogues *via* the chat function on a learning management system were used together with the peer-to-peer screencast dialogues (Abdu Saeed Mohammed and Abdullah Alharbi 2022), or in-person dialogues (Alqefari 2022). Thus, the benefits of written dialogic peer feedback itself for learners' writing behaviours and attitudes remain unclear.

We hypothesised that the dialogic feedback would improve the amount and accuracy of provided feedback, which in turn would increase the adoption rates of received feedback, which in turn would produce higher quality writing. We anticipated that the dialogic process would lead to various types of revisions to the provided comments. The specific nature of such revisions needs close scrutiny. Finally, we predicted that students in the dialogic feedback group would perceive the dialogic process as a positive experience.

Methods

Research questions

In order to clarify dialogic feedback's effects on writing and student attitudes towards it, we asked the following research questions:

1. Does dialogic feedback affect the amount and accuracy of feedback provided?
2. Does dialogic feedback affect how much writers adopt the feedback they receive?
3. Does dialogic feedback result in higher quality writing?
4. What kinds of changes in feedback does the dialogic process produce?
5. What are students' attitudes towards dialogic feedback?

Participants

Forty-one English major first-year students (88% females; 18–22 years old) from two parallel classes at a key comprehensive university in northeastern China participated in this study. The two classes were randomly formed at the beginning of the academic year by university administration. All participants were native speakers of Mandarin Chinese and had learned English for at least six years before this study. Their English test scores in the Chinese National College Entrance Examination (maximum score of 150) were between 120 and 140, equivalent to B1 and B2 levels in the Common European Framework of Reference for Languages. All participants reported having no prior experience involving interactive peer feedback before the experiment.

Setting

The study was performed in the second semester of a first-year fundamental academic English writing course. Due to Covid-19, the course was delivered online through Tencent (for video lectures) and the QQ platform, a popular communication service in China, which supported file sharing and text messaging. The course was taught by a teacher-researcher who holds a doctoral degree in English education and has been teaching English writing to university-level students for over 10 years.

Measures

Writing performance

Two writing tasks with the same topic, an attractive career, were assigned. The primary goal was for students to learn four bases of effective writing (unity, support, coherence and sentence skills) while practicing an essential genre of exemplification in EFL writing. In both writing tasks, students were asked to write a 10–20-sentence essay about an attractive career and use examples to illustrate it. Students were asked to submit first and revised drafts based on peer feedback in each of the two writing tasks, producing four drafts per student.

To assess each draft, we applied a seven-point analytic rating rubric (see [Appendix A](#) in [online supplementary material](#)) with four criteria and specific descriptors based on Langan and Albright's (2020) exemplification checklist and primary analysis of common errors in students' writing. Our analyses focused on the three high-level writing criteria, which carried equal weight in the overall writing score for each draft.

Training on the rating procedure was conducted by the first author/rater. She explained the scoring criteria to the other three raters. Then they scored three anonymous students' writing drafts from a previous writing task and compared scores. Disagreements were resolved through discussions. Each draft was scored by two raters, and a mean score across raters was used for analysis.

Interrater reliability was calculated using an intraclass correlation coefficient (ICC (A,k), two-way mixed absolute agreement; McGraw and Wong 1996), which is less influenced by distributional patterns than the common metric of percentage agreement (Zhang et al. 2020). ICC values were calculated for each of the four drafts in each of the two conditions. For six of the eight cases, ICC values were above 0.90, and the two remaining were 0.82, meaning that scorers always achieved good reliability and often had excellent scoring reliability.

Provided peer feedback

Students in both conditions provided feedback on the first drafts of both writing tasks. All comments were collected from the documents and transferred to a spreadsheet. The comments were segmented into separate idea units since sometimes one 'comment' in MS Word mentioned multiple problems in that section of the document. Then, each feedback comment was categorised into mutually exclusive categories of unity, support, coherence and sentence skills, similar to the writing scoring rubrics (see [Table 1](#)). The coding scheme was refined using a prior sample of peer feedback. The inter-rater reliability of this coding scheme showed strong Kappas, all above 0.8.

Three measures of the provided feedback were calculated. The first measure quantified the feedback provided by each reviewer for a given writing task, and only comments that identified problems or offered suggestions (ie which would prompt revision) were counted.

The second measure counted the number of provided comments that were accurate. Accuracy was coded using a binary inaccurate/accurate method. The coders assessed the accuracy of the described writing problem (ie was it a problem in the document) or provided suggestion (ie would it improve the document). The first author, as the main coder, coded all provided comments, while three other coders coded one-third of all comments. High inter-coder reliability, with Kappas above 0.85, was observed for all main-subcoder pairings.

The third measure counted the number of accurate comments that were on high-level writing aspects of the essays, aggregating all the (accurate) unity, support and coherence comments.

Adopted comments

Since students turned in revised drafts after receiving feedback, it was possible to track which comments were adopted in the text revisions. For each comment addressing a problem relevant

Table 1. Coding scheme, definition and examples, for the focus of each peer comment.

Feedback focus	Definition	Example (translated from Chinese)
Unity	<ul style="list-style-type: none"> Addressing absence of a strongly stated topic sentence Addressing off-topic details 	Only duties of this job were introduced but not its attractions.
Support	<ul style="list-style-type: none"> Addressing inexact, unpersuasive, repetitive, or unbalanced examples 	These two sentences were too general. You could provide more specific information to illustrate 'fun of changes', 'great benefit' and how to enhance one's innovation capacity.
Coherence	<ul style="list-style-type: none"> Addressing unclear or illogical order of examples Addressing absence of transitions or the concluding sentence 	I guess it was supposed to be the second attraction. So, I think you could use phrases like 'what's more' to draw readers attention.
Sentence skills	<ul style="list-style-type: none"> Addressing inconsistency of point of view Addressing inaccurate and monotonous sentence Addressing wordiness 	The point of view needs to be consistent.

to any of the four dimensions of writing, it was coded as adopted if the relevant part of the text was revised and not adopted if this part of the text had no revision. Then, three analogous measures were developed based on these adopted comments: all comments, all accurate comments and accurate high-level comments.

Changes to comments from dialogic feedback

In the experimental condition, writers could give feedback on the comments they received (ie feedback-on-feedback), and then the reviewers could revise their feedback (ie re-feedback). We classified each re-feedback instance into several categories. First, we coded whether the initial feedback itself improved or was not changed at all. Then we coded subcategories of improved and unchanged feedback (see Table 2). For example, as types of *improved* comments, the reviewer might clarify their comment by addressing a question, correcting a mistake or giving more details. By contrast, as types of *unchanged* comments, the reviewer might have one of their confusions (eg speaking to the content of their comment) addressed by the writer's feedback-on-feedback or the reviewer might simply express gratitude for the writer having valued their comment.

Attitudes towards dialogic feedback

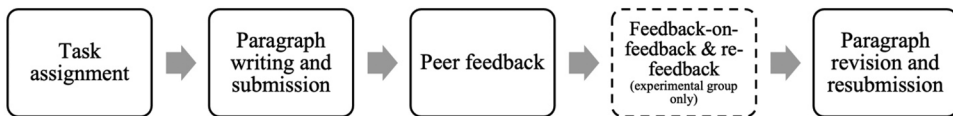
To examine students' attitudes towards the three-phase dialogic process, we distributed a self-developed online survey (see Appendix B in [online supplementary material](#)). Using a Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*), students indicated the perceived helpfulness of the interaction as both authors and reviewers and shared their opinions *via* an open-ended item 'What do you think of the interaction?' We also collected students' monthly reflection journals for methodological triangulation and comprehensive understanding of students' perspectives and experiences with the feedback dialogues. The textual data from the open-ended survey response (typically around 10–30 words) and reflection journal focusing on peer learning (two to four sentences on average) were analysed regarding their attitudes towards dialogic feedback. After discovering a generally supportive attitude towards dialogic feedback, we looked for themes in how students with highly positive and mildly positive attitudes responded.

Procedure

This quasi-experiment, with one class as the experimental group ($n=19$) and the other as the control group ($n=22$), began in the 12th week of the regular class and lasted four weeks. Before

Table 2. Coding scheme for changes to peer comments following feedback in the experimental condition.

Feedback change	Definition	Example (translated from Chinese)
Improved		
Clarified	The reviewer responded to the question raised by the writer in feedback-on-feedback.	Firstly, 996 refers to a work schedule where employees start work at 9:00 in the morning and finish work at 9:00 in the evening, six days a week. Secondly, I think using the word 'while' here makes it seem like there are only these two working styles. You can simply write 'remote work' and 'office work' as the two working styles.
Mistake corrected	The reviewer corrected false information around previous feedback.	I see. I just intuitively thought the plural form should be used. I didn't look it up.
Specified	The reviewer re-explained the writing problem or made further suggestions.	Got it. But I still think it's better to merge the first two examples and use the second one to extend the point made in the first one. Or we could rephrase the second example around the personal development brought by this career.
Unchanged		
Confusion solved	The reviewer made no changes to previous comments but expressed that their confusion about the writing was solved.	I see. I've learnt a new expression from you.
Showing politeness	The reviewer made no changes to previous comments but expressed that their gratitude or other positive emotions.	Thank you for recognising my comments. Looking forward to your revised draft.

**Figure 2.** Flowchart of the steps for each writing task.

the start of the experiment, students in the course had practiced writing narrative, descriptive and cause-and-effect paragraphs. They had also received peer review training that was based upon Min's (2003) four-step commenting strategy: clarifying writers' intentions, localising the problem, explaining the problem, and giving a solution.

Students in this study were required to produce their drafts and peer feedback in Microsoft Word and upload them to QQ. Separate QQ shared folders were created for each group and then used to make the drafts accessible for review to all students in the given group. Students uploaded writing drafts, peer comments, feedback-on-feedback, and re-feedback to the shared folders. The steps involving each essay are illustrated in Figure 2.

During the first week of the experiment, students received instructions on the structure and the four base skills of writing an effective exemplification and were offered a model text (Appendix C in online supplementary material) to read in class. The Flesch Reading Ease readability level of the model text was 68.2, a suitable level for first-year EFL college students, calculated with Alpha Readability Calculator 1.0 (Lei 2023). Students were required to write their first drafts independently in Word after class and submit them to QQ within one week.

For students in the experimental group, the teacher first demonstrated the procedure of conducting dialogic feedback with a flowchart in which the significant steps were highlighted and then modelled this process in Word with a text from previous tasks, during which the teacher emphasised the importance of utilising web sources to support the negotiation.

During the second week, all students were required to give feedback within two days on at least two peer drafts by inserting comment boxes into their peers' first drafts. Students could

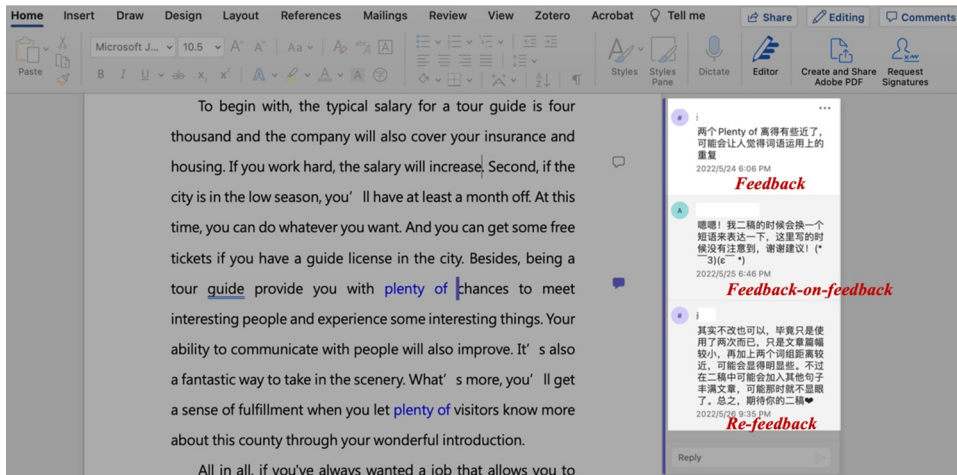


Figure 3. Example of the MS Word interface for providing feedback comments, feedback-on-feedback, and re-feedback. Note: Student names were visible in MS Word but blinded in this image.

provide comments in either English or Chinese. Comments varied greatly in length, ranging from 3 to 144 words.

Then writers in the experimental group were instructed to give feedback-on-feedback to clarify their writing intentions, explain disagreements, or seek clarifications by asking specific questions to the reviewers. Next, the reviewers gave re-feedback by restating their suggestions or clarifying further. The written interaction (Figure 3) between writers and reviewers was required to be completed and uploaded to QQ within three days.

Finally, all students revised their drafts in accordance with the received peer feedback and resubmitted them to QQ within two days. The control group had the same schedule for essay writing, peer feedback and revision as the experimental group, although they did not have dialogic feedback (ie there was no feedback-on-feedback or re-feedback).

In both conditions, during the third and fourth weeks, the teacher chose several revised drafts from the first essay to comment on focused writing problems and assigned the second essay. The second essay had the same requirements but asked students to exemplify an attractive career different from the first essay. Then students composed and submitted their first draft, conducted (dialogic) feedback, revised their draft, and resubmitted it as they did for the first essay.

An exit survey measuring students' attitudes towards the dialogic feedback process was distributed to students in the experimental group at the end of the fourth week. The survey had a 100% completion rate.

Starting from the beginning of this semester, students were asked to complete and turn in monthly reflection journals. Students were asked to write about their progress, problems and experience with peer feedback.

Analysis

For all measures, the sample sizes ranged from 39 to 41. All students attended all the lessons, but a few failed to submit their documents in time for peer feedback, resulting in missing values. To analyse the number of provided and adopted peer comments, we used a one-way analysis of covariance (ANCOVA), with group as the categorical predictor variable, using SPSS 26.0. A covariate was needed because the conditions differed in the amounts of comments provided before students received feedback-on-feedback ($p < .05$, $d = 0.69$). It is possible that students in

the experimental condition provided more feedback before receiving feedback-on-feedback because they were more comfortable making comments knowing there would be an opportunity to revise. However, conservatively, we assumed pre-existing condition differences by chance and use the amount provided prior to feedback-on-feedback in all the analyses of conditions in the various quantities of peer feedback provided and adopted. We analysed the group differences within each essay and then again after averaging data across essays to improve statistical power.

A similar ANCOVA approach was applied to the high-level writing draft scores for all but the first draft (which was before any feedback-on-feedback took place), this time examining the effect of condition controlling for first draft scores. There was no significant difference between the dialogue group ($M=4.5$, $SD=0.7$) and the control group ($M=4.5$, $SD=0.7$) regarding the mean high-level writing score of the first draft of the first essay ($p=.72$), suggesting that students in the two groups were similar in their high-level writing proficiency before the intervention. However, the analysis of the effects of condition on writing scores had higher statistical power when the highly predictive first draft (first essay) score was added as a covariate. The ANCOVAs were applied to individual draft scores for each of the last three drafts and again to the average score across these three drafts.

Finally, a descriptive statistical analysis was performed on data from the five Likert-scaled items to investigate students' overall perceptions of the dialogic process. A textual analysis of reflection journals and the open-ended survey item was conducted to uncover whether there were different themes in their views of feedback dialogue depending upon overall attitudes towards the process.

Results

RQ1: does dialogic feedback affect amount and accuracy of feedback provided?

The grey bars on the left side of [Figure 4](#) present the amount of feedback provided on the first essay, before any dialogue. Perhaps by chance or perhaps in anticipation of the dialogic process (ie a willingness to also include comments of which they are less certain because they anticipate being able to resolve the uncertainty through dialogue), students in the dialogue condition provided significantly more comments. Conservatively, estimated means were calculated for all remaining quantities of feedback provided and adopted, adjusting for this initial difference.

Turning to the blue bars, showing estimated means adjusted for the pre-condition differences, the dialogue group still tended to provide more comments as a result of the dialogue. When averaging across the two essays, the dialogue group provided significantly more comments overall, with a relatively large effect size. When focusing on accurate or high-level accurate comments, the differences in condition were smaller and not statistically significant. A similar pattern was seen for both essays. Thus, the dialogue process might have produced more comments in anticipation of dialogue, and it clearly produced more comments overall through the process, but not necessarily higher quality comments.

RQ2: does dialogic feedback affect how much writers adopt the feedback they receive?

[Figure 4](#) also shows how much feedback students adopted in their revisions, again adjusted conservatively for pre-dialogue differences in the amount of feedback provided. Even after the adjustment, there were large statistically-significant differences across conditions in how many comments were implemented: overall comments, accurate-only comments and high-level accurate comments. The pattern was similar for both essays. Thus, the dialogue process helped writers make better use of the comments they received.

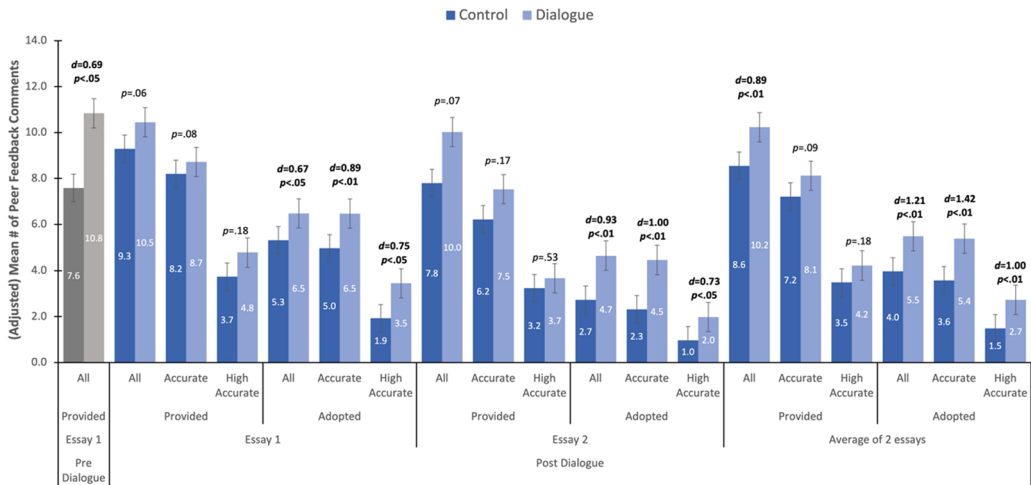


Figure 4. Within each condition, the estimated mean number of peer feedback comments (and standard error bars), along with statistical significance and Cohen's d (when significant) of mean differences between conditions: provided and adopted; all comments, only accurate comments, and only accurate comments about high-level writing aspects. Means are presented for each essay and for the two essays combined. The means are adjusted for initial differences in the amount of feedback provided on the first essay prior to dialogue.

RQ3: does dialogic feedback result in higher quality writing?

As shown in grey bars on the left of [Figure 5](#), the first drafts of the first essay were quite similar across conditions, with a minor, not-statistically-significant difference favouring the control group. Students in both conditions improved their essays after feedback. However, the adjusted mean score for the second draft of the first essay was significantly higher for the students in the dialogue group. The first and second drafts of the second essay were also directionally of higher quality, but the difference was small and not statistically significant, which may be a result of the relatively lower statistical power of the current study combined with focusing on scores of a single essay. In favour of this statistical power interpretation, when averaging the scores of the three post-dialogue drafts, the mean high-level essay scores were significantly higher in the dialogue group, with a large effect size.

RQ4: what kinds of changes in feedback does the dialogic process produce?

[Figure 6](#) presents the kinds of changes that were observed in the feedback in response to feedback-on-feedback (ie from feedback to re-feedback) in each of the essays. [Appendix D \(online supplementary material\)](#) presents specific examples of each kind of change. The pattern was remarkably similar in both essays, with only one exception. For both essays, a majority of comments for receiving feedback-on-feedback were improved rather than left unchanged. For both essays, of the comments that were improved, the majority of those changes involved adding more specificity. In addition, for both essays, students also regularly corrected some mistakes in comments or clarified their comments for the writers. Of the unchanged comments, in the first essay, the most common response was for the reviewer to express gratitude for the writer's recognition of the validity of the comment. This specific response became much less common in the second essay, perhaps because reviewers came to see this kind of response as having no clear function and therefore unnecessary. Finally, it remained just as common for these responses to note that a reviewer's confusion was resolved through additional information provided in the feedback-on-feedback, but with relatively low frequency for both essays.

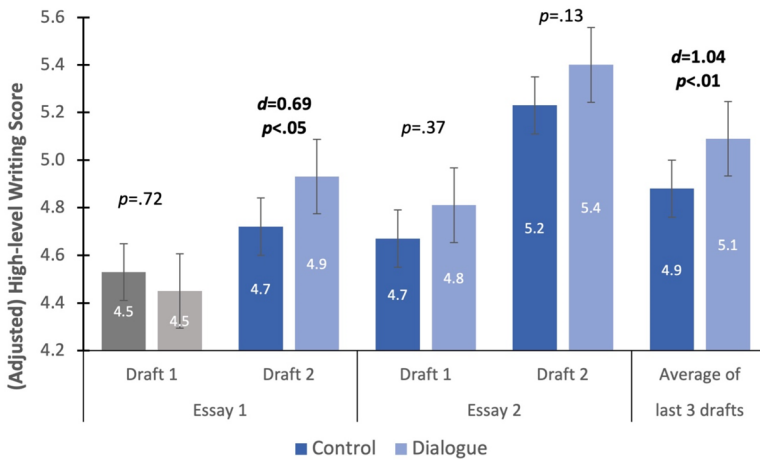


Figure 5. Within each group, mean high-level writing score (and standard error bars) for each draft of each essay, as well as the average of the last three drafts (post dialogue process), along with statistical significance and Cohen's d (when significant) of mean differences between conditions. Note that blue bar means are adjusted for minor condition differences in draft 1 of essay 1.

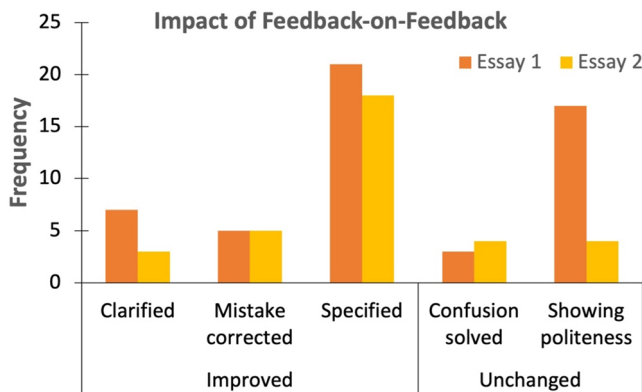


Figure 6. For each essay, the frequency of different types of comment changes in response to feedback-on-feedback.

Appendix D (online supplementary material) showcases the different kinds of feedback change and shows their connection to writer meaning making and essay revisions. For instance, in Example 1, the writer initially believed the reviewer misunderstood his analogy. However, through further explanation and the reviewer's clarifying restatement of the irrelevance, the writer realised that the analogy was indeed problematic, as pointed out by the reviewer, leading to its removal in the revised draft. In Example 2, in response to the writer's confusion, the reviewer clarified the previous comment by explaining the responsibilities of an English editor and common types of work schedules (ie 996, which means working from 9 am to 9pm, six days a week), which triggered the writer to make a much clearer description of work hours in the subsequent draft. In Example 3, the reviewer corrected his false perception of the usage of the word 'detail' based on the writer's feedback-on-feedback in which exact dictionary entries were presented to support the word choice. Consequently, the writer did not implement this incorrect comment.

In most cases of comment changes, the dialogue process encouraged the reviewer to generate more constructive and actionable comments for the writer by adding more specific information in three different ways. In Example 4, the reviewer proposed an alternative revision plan based on previous feedback, which the writer considered as more actionable and then

incorporated into the subsequent revision. The dialogue process also empowered writers to take charge of the feedback process by actively seeking more specific solutions from reviewers. For instance, in Example 5, the writer acknowledged the issue raised by the reviewer and proceeded to construct an action plan by offering a specific suggestion for the reviewer to consider. In Example 6, the writer directly requested a specific solution from the reviewer when the reviewer failed to offer a suggestion in the original comment.

In general, the dialogic feedback brought about mutual understanding and agreement through writers' and reviewers' agentic learning such as clarifications, negotiations, acknowledging limitations, asking questions, inviting suggestions, and implementing peer feedback into revised documents.

RQ5: what are students' attitudes towards dialogic feedback?

Students in the dialogic group held a generally positive attitude towards including dialogic feedback, with a mean ($M=4.6$, $SD=0.4$) well above the midpoint (3) of the scale, and no students have a mean rating even close to the midpoint (min = 3.8). This pattern was consistent across all five survey items assessing different aspects of the usefulness of the interaction for both the feedback provider and the receiver, with no statistically significant differences in the means across items ($F(1,19) = 1.3$, $p > .26$). However, some students were very positive and some were only mildly positive in their views.

One of the students with the highest score (S7, mean score of 5.0) wrote in their response to the open-ended survey question 'What do you think of the interaction?':

This interaction was very good because if there had been only one round of peer review, it would have inevitably caused problems, such as unclear points of view between the reviewers and the writers. This back-and-forth clarification of viewpoints made both parties feel more fulfilled without adding too much workload.

S7 benefitted from negotiating and constructing with peers about the feedback and regarded the workload as manageable. Even the student with the lowest score (S13, score of 3.8) also described its positive impact on composing revisions:

In general, I think my revised draft is better than the one with only one round of peer review.

In other words, there were no negative comments about the dialogue process. Students' monthly reflection journals also triangulated the above findings. Here we present excerpts from students who had higher (S4 and S11) or lower (S8 and S10) than the mean revised draft scores for both essays. Both groups were generally positive.

S4: Because the additional two rounds of mutual evaluation enabled me to communicate more fully with others, it was also more conducive to the revision of my compositions and understanding of others' compositions.

S11: I truly appreciate that the two rounds of peer review are of great use! It not only gave me a better direction for the revision of the second draft, but also made me learn a lot from communication with my classmates.

S8: mutual exchange and evaluation of our composition quality has played a great role.

S10: The second peer review and the response from the author really provide a great convenience for the better master of the passage.

Overall, analyses of surveys and reflection journals suggested that students generally appreciated the addition of written dialogic feedback to increase mutual understanding of the feedback and facilitate subsequent revisions.

General discussion

Previous research has argued for the benefits of online written dialogic peer feedback in higher education and writing in particular, positioning it as a valuable pedagogical approach for writing instructors (Carless and Boud 2018; Zhu and Carless 2018). However, these studies were theoretical or case reports without a comparison control group, a problem which should be addressed before recommending a practice to be broadly implemented in EFL contexts. This study addressed this gap by employing a quasi-experimental design to examine the influence of feedback dialogues in the written modality on students' feedback provision and adoption and writing quality, as well as implementing an analysis of feedback revisions and student attitudes towards the dialogue process.

Echoing previous accounts of positive student attitudes towards dialogic feedback (Alqefari 2022; Wood 2022; Zhu and Carless 2018), the current study also found that students held a preference for dialogue, especially when contrasted with their previous experiences with one-way peer feedback. Students who engaged in written dialogic peer feedback outperformed those without such a process by providing/receiving more feedback, implementing more feedback (including more accurate feedback), and thereby achieving higher writing scores. The qualitative analyses provided details on the fundamental role of feedback dialogue in meaning clarification and negotiation between feedback providers and receivers, consistent with previous research (Abdu Saeed Mohammed and Abdullah Alharbi 2022; Ajjawi and Boud 2018; Wood 2022; Zhu and Carless 2018). By comparison to back reviews that only involved one step beyond the initial comment to give feedback to the reviewer (Nelson and Schunn 2009; Wu and Schunn 2020), the dialogic process helped address initial misjudgements of the meaning of received feedback, and therefore led to higher acceptance of feedback into revisions and greater cumulative score improvement.

Overall, we suggest this written dialogic feedback may also have enhanced students' feedback literacy and engagement by improving their understanding and appreciation of feedback, depth and breadth of cognitive functioning, and agentic behaviours (Yu and Liu 2021; Zhang, Min, et al. 2023). Accumulative engagement with peer feedback has been found to enable students to expand both their higher-order content and lower-order language knowledge repertoire in academic writing and to significantly enhance their writing quality on global dimensions of writing (Wood 2022; Zhang, Min, et al. 2023). While previous research has primarily focused on the impact of peer review on enhancing the writer's audience awareness (Cho and MacArthur 2010; Min 2003; Wood 2022), this study suggests that the reader's writer awareness also underwent development during the feedback exchange, especially when the writer had explicit writing goals and expected feedback from the reader. During this process, both reviewers and writers showed agency in seeking feedback, and in constructing specific and actionable revision plans (Zhang, Schunn, et al. 2023, Zhang, Min, et al. 2023). This study highlighted the role of written dialogic feedback in promoting collaborative learning through co-regulation processes with peers and emphasised that feedback providers and receivers may equally benefit from this interactive process.

These research findings may alleviate the concerns of writing instructors who might be hesitant to incorporate dialogic feedback into their classes due to time and space constraints. Several pedagogical strategies have been used to enhance students' performance and enrich their experience with peer feedback, including random grouping (Zhang et al. 2020), multi-peer review (Wu and Schunn 2020), translanguaging in providing feedback (Yang and Zhang 2023), and the utilisation of localised digital affordances (ie MS Word and QQ) which enabled students to discuss anchored texts and exchange lengthier and more elaborate ideas around each feedback item (Ishtaiwa and Aburezeq 2015; Wood 2022). Ongoing teacher scaffolding with modelling and monitoring is essential to establishing a supportive and sustainable learning environment for initiating and maintaining productive feedback dialogues (Boud and Molloy 2013; Zhang, Min, et al. 2023).

Conclusion

Conceptualising effective peer feedback as a three-phase dialogic process, the current study demonstrates that the dialogue supported students' involvement with written feedback and contributed significantly to better revision by employing a quasi-experimental design and embedding textual and survey findings. Methodologically, the study documented the overall effects quantitatively and then provided a qualitative understanding of the nature of the benefits of the dialogic process. This approach complements existing qualitative research on dialogic feedback (Wood 2022; Zhu and Carless 2018) and provides a more comprehensive understanding of dialogic effects. Pedagogically, the current study provided evidence that the dialogic feedback phases are helpful for engaging students in negotiating actionable comments and further revision plans, thereby making better revisions. Several other strategies are likely important elements of the approach such as the use of interactive online technology, multiple and random peer review, and teacher modelling of feedback steps.

This study has some limitations that could be addressed in future research. Firstly, this study included only English-major EFL learners as participants, and the impact of written dialogic peer feedback should be investigated on a larger and more diverse population of EFL learners from various contexts. Secondly, the study focused on a single genre of writing task across two assignments; whether changes in learner groups, genres and topics lead to different dialogic effects is largely unknown. Future studies should explore how learners' behaviours and attitudes vary across different genres, learner groups and topics to gain a more thorough understanding.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by National Social Science Fund of China.

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