

How Does Peer Review Impact Writing Abilities of High School Students?

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Since MEXT emphasized developing writing skills in English instruction (MEXT, 2018), high school English teachers face challenges with large class size and heavy feedback workloads (Yamashita, 2023). Some adopt peer review but do not expect it to improve student writing. In fact, few empirical studies have confirmed its benefit for students' writing skills development. Research in the secondary education context is particularly scarce. This study investigated the relationship between peer review and the improvement in students' writing abilities in a Japanese EFL high school context. In addition to pre- and post-tests, audio-recorded peer review sessions and interviews were analyzed to determine which aspects of reviewing might affect the students' writing development. Results show that the frequency of interactions about specific writing aspects during peer review influenced students' performance in writing a new text. Thus, peer review helped high school students develop their writing abilities.

文科省により英語ライティング指導の強化が提唱され(MEXT, 2018)、多くの中学・高校の英語教員はクラス規模の大きさや大量のフィードバックによる指導の困難に直面している(山下, 2023)。ピア・レビューを実践している教員も、それがライティング力向上につながることは期待していない。実際、ピア・レビューのライティング力向上への影響は実証されておらず、特に中等教育での研究は乏しい。したがって、本研究では、日本のEFL中等教育におけるピア・レビューとライティング力向上の関係を検証した。事前事後テストに加え、ピア・レビュー活動を録音して書き起こし、さらにインタビューを実施して、ピア・レビューのライティング力向上に関わる側面を分析した。結果では、ライティングの特定の領域に関するやり取りの頻度と新しい英文作成の出来栄にに関連があることがわかった。すなわち、ピア・レビューはライティング力向上に寄与していたのである。

<https://doi.org/10.37546/JALTTLT49.4-1>

The new Course of Study emphasizes developing writing skills, introducing a process-oriented writing instruction in English classrooms (Ministry of Education, Culture, Sports, Science and Technology—Japan [MEXT], 2018). However, many English teachers in Japan face challenges due to large class sizes and heavy feedback workloads (Yamashita, 2023). Although some teachers adopt peer review, they often expect little improvement in students' writing skills. Research on peer review in ESL/EFL writing classrooms primarily focuses on benefits like affect and strategies (Min, 2006; Villamil & Guerrero, 2006; Yang et al., 2006). Few empirical studies have investigated peer review's impact on improv-

ing learners' writing abilities. Therefore, this study examined how the peer review and revision process contribute to developing students' writing abilities in a Japanese EFL high school classroom.

Literature Review

Studies on peer review and feedback have been extensively conducted at the tertiary level, identifying benefits in ESL/EFL contexts. Peer reviews foster idea generation in advanced ESL classrooms (Mendonça & Johnson, 1994), enhance social skills and provide scaffolding (Min, 2005), promote cognitive self-initiation (Villamil & Guerrero, 2006), and encourage autonomy (Tsui & Ng, 2000; Yang et al., 2006). Thus, peer review offers substantial benefits.

However, the impact of peer feedback on text improvement in second language (L2) contexts remains inconclusive. Some studies reported that only a small percentage of peer feedback was incorporated into revisions (Connor & Asenavage, 1994; Yang et al., 2006), with no significant improvement (Sengupta, 1998), whereas other studies observed improved writing quality in revisions (Berg, 1999; Kamimura, 2006; Min, 2006).

Although various aspects of peer review have been extensively studied, its impact on student writing performance in new texts remains underexplored (Kamimura, 2006; Lundstrom & Baker, 2009). Kamimura (2006) investigated the effect of peer review on college students' performance in writing new texts, finding significant improvements in writing quality. However, because these students practiced peer review only twice, including peer feedback training, transferability of peer review remains unconfirmed. Lundstrom and Baker (2009) examined peer review's impact on university students' performance in writing new texts. Participants engaged in peer review four times, with feedback givers showing greater improvement than receivers. However, no interaction between feedback givers and receivers was observed. Thus, the impact of typical peer review remains unclear. This study investigated how specific aspects of peer review contribute to the improvement of students' writing abilities in a Japanese EFL secondary education context.

Methods

Research Questions

This study addressed the following research questions:

1. In what way does peer review influence the improvement of student writing abilities in EFL secondary education contexts?
2. Under what conditions does peer review contribute to the improvement of student writing abilities in EFL secondary education contexts?

Participants

The participants were 17 male and 15 female students (aged 17–18 years) enrolled in a Japanese high school, with a mean T-score of 45.0, half a standard deviation below the national mean (50) on English practice tests.

Research Design

Before the experiment, the participants provided consent after the study's purpose was explained. They then received peer review instructions, using written products from the previous year's students. They received peer feedback sheets listing feedback points, which they used to identify strengths and weaknesses in the writing and to provide comments or questions about unclear content or word meanings. The teacher then provided model feedback, explaining that its purpose was to enhance understanding of each other's writing and support revision.

The students first selected a topic and formed groups based on similar topics. They then brainstormed ideas together before writing. They wrote a 150-word essay as homework. Peer feedback was conducted in class. The students were organized into groups of four, and within these groups, they worked in pairs for feedback exchange, allowing each member to potentially receive feedback from two different peers over the course of the study. The peer reviews were conducted in Japanese to facilitate communication (Kamimura, 2006; Min, 2005; Yang et al., 2006). The sessions were audio-recorded and lasted 20 minutes. During analysis, students' remarks were translated from Japanese to English. The experiment was conducted over 12 weeks.

The impact of peer review on students' writing performance was assessed using pre- and post-tests. The students wrote a 100-word essay on a given topic in 20 minutes. After the post-test, the students were interviewed to explore their perception

of the impact of peer review. Additionally, their drafts and the revisions were analyzed to determine how they responded to peer review.

Coding of the Interaction

A Master of Arts student in an English language course and the researcher categorized the interactions into four groups. The coding system and examples are presented in the following section. To establish an analysis standard, the two coders jointly analyzed one group's peer review interactions from Day 1. The remaining interactions were coded individually and later compared. Coding discrepancies were resolved through discussion until agreement was reached.

Results

Pre- and Post-tests

The pre- and post-tests were evaluated using the TEEP Attribute Writing Scale (Weir, 1990), an analytical scoring system, to assess aspects of students' improvement following peer review. The tests were scored on seven dimensions: relevance, organization, cohesion, vocabulary, grammar, punctuation, and spelling. Each dimension was scored from 0 (worst) to 3 (best). Table 1 presents the test results. Large effect sizes were observed for organization, relevance, and cohesion.

Peer Review Sessions

Table 1

Pre- and Post-Test Scores: Means and Standard Deviations

	Pre-test	Post-test	Effect Size (Δ)
Total	10.20 (3.37)	13.79 (3.35)	1.07
Relevance	0.69 (0.64)	1.40 (0.73)	1.11
Organization	0.60 (0.59)	1.39 (0.79)	1.34
Cohesion	0.56 (0.58)	1.44 (0.69)	1.52
Vocabulary	1.57 (1.07)	2.17 (0.79)	0.56
Grammar	1.33 (0.78)	1.73 (0.75)	0.51
Mechanics	2.74 (0.60)	2.81 (0.37)	0.12
Punctuation	2.83 (0.38)	2.79 (0.53)	-0.11

Note. Adapted from N. Kurihara (2017). Significant difference between the pre- and post-tests: $p < 0.05$ (**bold**), $p < 0.01$ in (**bold italics**)

Students participated in four peer review sessions. All utterances were transcribed and coded into four categories: global, local, global/local, and other. The global category comprised utterances about relevance, organization, and cohesion. The local category included vocabulary, grammar, mechanics, and spelling. Utterances about word or phrase meanings were classified as “local,” while those at the sentence level were classified “global.” The “global/local” category included text-related utterances that could not be distinctly classified as global or local. Short utterances (e.g., “Yes” or “No”) were categorized with the preceding utterances, as they responded to the same subject. Utterances addressing multiple areas were categorized and counted for each area. In the following example, local utterances are underlined, global utterances are italicized, global/local utterances are underlined and italicized, and non-text-related utterances are in standard font. The speakers are labeled A, B, C, and D, and the utterances are numbered from 1 to 26. (Students’ utterances were translated into English.)

- A1: Okay, I’ll go first. *Well, what do you mean by “Let’s competition these?”*
- B2: *I think I meant “Shall we compare these?”*
- A3: *Is this a question?*
- B4: *I mean to suggest comparing them to find which is better.*
- A5: *I see. What do you mean by “fat contents?”*
- B6: *It means that fast food contains a lot of “fat.”*
- A7: *What is “fat”?*
- B8: *I didn’t know how to express this ... something like “the material of fat.”*
- A9: *Okay. What does “Will you be so?” mean then?*
- C10: *I think he means to say, “You are the same way, aren’t you?” Something like “We both like hamburgers and potatoes,” right?*
- B11: *Yes, exactly.*
- A12: *What does this word mean? [A is looking it up in a dictionary.]*
- B13: *It means “immediately.”*
- C14: *Was it difficult to understand?*
- A15: *“Mother taste” means “the taste of the dish your mother cooks,” right?*
- B16: *Yes. It means the taste your mother hands down to the next generation.*
- A17: *Oh, I see, “mother taste” means “the taste your mother makes.” I got it.*
- B18: *It’s your turn.*
- C19: *No, no. I already talked. I did.*

B20: *You wrote, “I think will be a reason...” Well, you also wrote “there are two reasons.”*

A21: *Sorry. It’s my mistake.*

B22: *You wrote “there are two reasons” (at the beginning), didn’t you?*

A23: *Sorry, I made a mistake.*

B24: *Exactly. You wrote three reasons in total.*

D25: *He increased the number of reasons halfway through.*

B26: *Besides, the second reason... about the ingredients... you first wrote about different foods, such as vegetables and fish, but then changed the topic to seasonings, such as soy sauce and miso. Finally, you wrote you like strong flavors and that flavors change in each region... I think you changed the point.*

The interactions primarily occurred between Students A and B, who worked as a pair in turn. However, as both belonged to the same group, other members (C and D), also engaged in tasks, occasionally distracted or interrupted them. The dialogue began with an utterance containing two areas: “OK, I’ll go first,” (task-related, categorized as “other”) and sentence-level comment (categorized as “global”). Utterances B2 to A5 address global areas. Utterances A5 to A9, focusing on word and phrase meanings, were classified as “local.” Utterances A9 through B11, addressing sentence-level issues, were categorized as “global.” Then C14 interrupted the A12–B13 interaction about word meaning. This utterance was classified as “local,” aligning with the preceding conversation, though the reviewing pair ignored it. Following local interactions (A15, B16, A17), B18 playfully urged C to review, but C19 declined. These task-related interactions, unrelated to the writing were categorized as “other.” B20 resumed reviewing, but his utterance was ambiguous, unclear whether it addressed a grammatical error (“I think will be a reason”) or a content contradiction (“there are two reasons”). However, B24 later clarified his focus on content and organization, but A’s repeated apologies (A21, A23), suggest a lack of understanding. Thus, utterances B20 through A23 were categorized as “global/local.” Then, D25 interrupted the conversation. Utterance B26 addressed global areas.

Relationship Between Peer Review and Essay Score Improvement

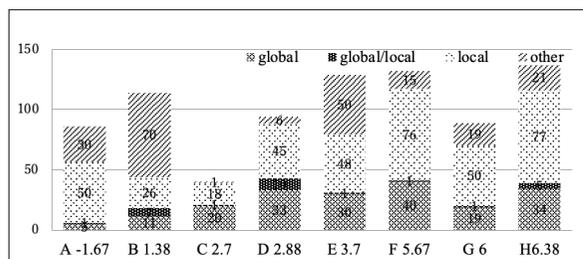
To examine the relationship between peer review and students’ essay score improvement, the researcher compared the frequency of interactions across writing areas with test score gains. Figure 1 shows the frequency of utterances by category

(global, local, global/local, other) and the mean score differences between the pre- and post-tests of each group. Groups A to H were labeled based on the magnitude of the mean score differences. Group A exhibited the least improvement (-1.67), while Group H showed the greatest (+6.38).

The relationship between utterance types and improvements in student essay scores was assessed using Pearson's product-moment correlation. The correlation coefficients for total utterances, local utterances, and global/local utterances were small ($r = 0.41$, $r = 0.54$, and $r = 0.07$, respectively). However, the correlation coefficient for global utterances was high ($r = 0.76$), suggesting a strong association with group improvement levels. Thus, students' writing performance improvements were likely associated with the frequency of global areas interactions during peer review sessions.

Figure 1

Frequency of Utterances by Category and Mean Score Differences



Peer Reviewing and Revision

The peer review interactions, student interview responses, and drafts before and after the peer review were analyzed to determine how peer review impacted students' writing abilities. This analysis revealed three distinct types of practices and attitudes. The first type showed moderate post-test improvement, common interview responses, and positive attitudes toward peer review despite skepticism about peer comments. The second type exhibited average post-test improvement and strong skepticism of peer comments, although attitudes toward peer review remained somewhat positive. The third type dismissed the value of peer review, showing no post-test improvement.

Type 1: Yukio exemplifies this type, with Cases 1–4 illustrating how peer review influenced writing practice and learning.

Case 1: Peer comments as a prompt to reconsideration

In the third peer review session, Yukio's peer asked, "What do you mean by this sentence, 'Let's comparison these?'" Yukio clarified that he intended to compare the two items and revised the sentence to "Let's compare these." He changed the noun "comparison" to the verb "compare." Although his peer did not highlight the grammatical mistake, the question prompted Yukio to identify and correct it independently. In the interview, Yukio noted that he did not always adopt peer suggestions because of partial skepticism. However, he considered his peers' comments, as they facilitated self-reflection. He explained that interpreting peer comments deepened his text analysis, often leading to revised wording.

Case 2: Peer comments for idea clarification

When a peer found the expression "Will you be so?" unclear, they asked Yukio for clarification. Before Yukio responded, another peer interjected, stating, "I think he means, ... 'We both like hamburgers and potatoes.'" Yukio confirmed this. He then revised his text, translating the peer's Japanese suggestion into English. Thus, peer interaction clarified ideas and helped students identify intended expressions.

Case 3: Peer feedback applied to self-correction

When a peer suggested including examples in his argument, Yukio incorporated this in his revision. The original draft stated, "First, Japanese food is healthy. But the fast foods include a lot of fat content." In his revision, he wrote, "First, I think that Japanese food is healthy. For example, Japanese food seasoned lightly with soy sauce. But fast food include a lot of fat." It is still grammatically inaccurate. However, this revision reflects attention to cohesion, as he added an example per the peer's suggestion and included a discourse marker. Yukio reported that during peer review, he carefully read his peers' writing to understand their main ideas. As a result, he became more aware of the importance of cohesiveness. Thus, he frequently provided feedback on sentence cohesion. Similarly, he aimed to write a cohesive text, applying feedback given to peers to his own revisions. Thus, Yukio valued peer review for fostering self-correction in writing.

Type 2: Mayu was not a typical learner in this group, but she showed one type of learning attitude and practice clearly.

Case 4: No incorporation of peer suggestions

Mayu, a high achiever in her class, was confident in her writing ability. Her peers viewed Mayu as a skilled writer. Thus, during peer review sessions, Mayu's peers typically praised her text, stating, "I found nothing to correct in this text." However, on one occasion, a peer suggested reducing the frequent use of "I," and replacing the second mention of "globalization" with "it." Mayu disregarded both suggestions. In the interview, she stated that she could write essays effectively without peer review. Thus, she relied more on herself than on her peer's comments.

Case 5: Critical self-reflection

Mayu revised her text after peer review, correcting missing verbs overlooked by peers. She wrote "I think elementary school should English education..." and "If you can English, there are a lot of..." In the revision, Mayu wrote a verb in each of these sentences: "I think elementary school should teach English education ..." and "If you can speak and write English, there are a lot of" The revised text still required refinement, but she improved it to some extent. In the interview, she explained, "Even though I thought my text was perfect, after peer review sessions, I always noticed my mistakes." Peer review enabled critical self-reflection on her writing. She also noted that, viewing peers as her audience, she used simpler English vocabulary to ensure clarity. Although her revisions primarily stemmed from self-reflection, peer review enhanced her revision practices. Thus, peer review supported Mayu's writing skills development.

Type 3: Hiromi and her peers represent negative attitudes toward peer review, and their practice strongly correlated with their writing improvement level.

Case 6: Little value on peer review

Hiromi, relatively less proficient in English, appeared to enjoy writing English texts. In the interview, she described peer review as a nuisance. Despite its being conducted in Japanese, she said, "My peer's comments made no sense to me." Her peers only questioned word meanings in her writing, offering no positive feedback. Although Hiromi wrote longer texts with more complex expressions, her peers' revisions showed minimal changes from prior drafts. Audio-recorded data further showed repeated use of phrases like "What does this mean?" and "Oh, I see." Evidently, his peers approached peer review with little seriousness. As a result, Hiromi disregarded peer comments and revised

her text independently. After the third peer review session, she wrote an entirely new text rather than revising the prior draft. Lacking an engaged audience and relying solely on herself, she continued writing English texts independently. Consequently, her post-test performance dropped by 7 points. Her group was the only one with a reduced mean post-test score. Thus, peer review did not enhance Hiromi's or her peers' writing abilities.

Limitations

Because of the small sample size, the findings of this study have limited generalizability. However, this study found that, despite the participants' proficiency levels' being below the national average, peer review could enhance their writing skills. This finding is important, as it may help reduce teachers' feedback workload to some extent. Future studies should investigate how a larger, more diverse sample of students with varying proficiency levels engages in peer review and whether their writing skills improve.

Conclusions

The findings of this study demonstrate that peer review impacted the writing abilities of high school students. Participants' writing performance significantly improved, particularly in global areas (organization, relevance, cohesion), consistent with Lundstrom and Baker (2009). This study further examined peer review interaction and found that student interactions fostered self-reflection and self-correction. Analysis of students' interactions and interview data showed that reviewers strove to understand writers' intentions, focusing on appropriate word choice and logical organization. For peer review interactions to enhance students' writing skills development, students' attitudes toward peer review were paramount. Students who viewed peers as their audience were motivated to improve their writing, and their skepticism of peers' comments fostered self-reflection and self-correction, enhancing their writing abilities. Peer relationships and students' attitudes toward peer review significantly influence students' gains. Thus, teachers' careful monitoring and timely intervention may be essential for successful peer review implementation.

Note

1. Students' names are pseudonyms.

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