

Dynamic Written Corrective Feedback and L2 Writing Development: Unpacking the Role of Feedback Literacy

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Abstract: This study, from the perspective of Activity Theory, adopted a mixed-methods approach to explore the impact of feedback literacy on L2 writing performance in the context of dynamic written corrective feedback (WCF). The study lasted for six weeks and involved 100 freshmen English majors from a Chinese university. Quantitative data were acquired using a feedback literacy questionnaire and writing exams. Qualitative data were gathered from logs of writing revision. The study indicated that dynamic WCF was more successful than non-dynamic WCF in establishing L2 writing proficiency. In the non-dynamic WCF group, a significant link was found only between feedback literacy and error-free T-unit ratio. Since dynamic WCF is meaningful for learners, it is less likely to be influenced by feedback literacy. Besides, students with higher feedback literacy are more cognitively, behaviorally, and emotionally involved in the revision process.

Keywords: Dynamic written corrective feedback; Feedback literacy; Writing proficiency; Revision; Activity theory

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1. Introduction

Written corrective feedback (WCF) refers to any error corrections to enhance the readability of an essay. In second language (L2) writing, it has raised a long-standing debate in academia. Truscott (1996) was the first to question its value^[1]. He claimed that grammatical correction does no good for writing quality. Instead, it may also be deleterious to the learner's psychological well-being. The argument was based on the assumption that explicit and implicit knowledge are processed in different parts of the human brain. Bitchener (2008) and Hartshorn et al. (2010) undermined this idea because WCF can raise learners' attention to the linguistic errors^[2,3]. Hence, the focus of this construct has changed from evaluating its efficacy to considering its actual application in a real teaching context^[4]. In this setting, dynamic WCF has become an important teaching method^[5]. Unlike one-round feedback, it requires multiple rounds of feedback, and learners have to experience a complete revision cycle until the essay is grammatically accurate^[3]. This makes error correction a continuous interaction between the teacher and the students.

Although scholars have paid growing attention to feedback, the role of the learner remains underexplored. Yet, students' understanding, perception, and uptake of the teacher comments determine the effectiveness of feedback. Though

dynamic WCF is claimed to cater to individual learner differences, limited empirical data have been provided^[5,6]. Feedback literacy is the “understandings, capacities and dispositions needed to make sense of information and use it to enhance work or learning strategies”^[7]. It illustrates how well L2 learners take up the error corrections, so taking feedback literacy as a key factor of individual difference should be seriously considered. However, relevant research connecting feedback literacy with dynamic WCF is still scarce^[8]. How learners with varied levels of feedback literacy process, respond to, and internalize feedback during writing tasks is still under investigation. Hence, this study investigated the impact of feedback literacy on L2 writing performance within the context of dynamic WCF from the perspective of Activity Theory.

2. Literature review

2.1. Dynamic corrective written feedback

Dynamic WCF was built on Skill Acquisition Theory^[3]. It highlights the role of intensive repetition in the internalization of declarative knowledge in learning and offers a structured pathway for providing feedback that becomes increasingly effective over time^[5]. During the process, language teachers customize their reflection to remove individual learner differences. Feedback is understood as an interactive process. Through active interaction, this implicit or explicit knowledge in dynamic WCF drives learners to a desired state of automatization.

Hartshorn et al. (2010) proposed four rules to characterize this approach as a cyclical pedagogical structure. *Meaningful input* is a prerequisite for language acquisition. It enables L2 learners to notice the non-target-like language and process the knowledge provided in error correction. *Timeliness* and *constancy* often come together because persistent and prompt feedback can deepen the memory of knowledge and reinforce continuous writing practice. *Manageability* cannot be overlooked, either. For both teachers and students, sufficient time and capacity to engage in written communication are essential conditions^[3].

Practically, dynamic WCF is implemented in six steps^[5]. The language instructor passes out a topic for writing. Generally, this writing is done in the last ten minutes of the class to ensure the manageability of the feedback process for both teachers and students. When finished, learners are given the first round of dynamic feedback by locating the errors in the essay. The fourth stage is the second round of error correction. Metalinguistic explanations are employed to guarantee the meaning of the input. Students re-edit and submit a third draft based on these prompts. The circulation will stay open till the draft is accurate in grammar.

Research on dynamic WCF within L2 writing focuses on its effectiveness and practice in an authentic learning environment. Since Evans et al.'s (2010) proposal of dynamic WCF, their academic group has conducted a series of experiments on pre-university students to demonstrate its great potential in L2 writing^[3,5,9]. Kurzer (2018) enriched the empirical data by expanding the sample to include advanced, intermediate, and low-level students^[10]. Xian (2024) studied Chinese college students and surveyed the delayed effect of dynamic WCF^[6]. These studies reach an agreement on their effectiveness in improving lexical and grammatical precision in L2 writing development.

Meanwhile, scholars explored the operation of dynamic WCF in an authentic educational setting to improve its manipulability. Xian (2024) raised doubts about the experimental process of DWCF. Because in the original framework, DWCF has no limit on the number of feedback instances, learning time has become a key factor affecting the effectiveness of this approach. Thus, this research modified the execution framework from limitless times to three times based on the research subjects' language proficiency to control this confounding variable. At the same time, the revision period is under observation. These changes can not only manage the impact of learning time, but also lower the workload of teachers and the information load of learners. Moreover, the study provides evidence for the hypothesis that individual differences do not alter the effectiveness of dynamic WCF^[6].

2.2. Activity Theory and dynamic written corrective feedback

Activity Theory explains human behavior from a sociocultural perspective. It emphasizes how tools, rules, and social interaction mediate human actions^[11]. It comprises six basic elements: *subject*, *object*, *tools*, *community*, *rules*, and *division of labor*. The *subject* is the person or group whose actions are being discussed, while the *object* is the “problem space”

or raw material that the activity is trying to modify. The two agents motivate the aim of the system. *Tools* are physical and symbolic artifacts, mediating the link between the subject and object. The *community* consists of all those who have the same object. *Rules*, by explicit or tacit conventions, control human behavior. Finally, *division of labor* refers to the allocation of authority in a community.

Rather than a set of mechanical corrections, dynamic WCF is regarded as an integrated system under the framework of Activity Theory^[12]. It evaluates how the interactions between the teachers and language learners promote writing performance. In this feedback system, the learners are the subject, while the improvement of writing proficiency is the object. Coded feedback and metalinguistic explanations are the tools to facilitate the transformation of the object^[11]. This learning process operates within a structured context defined by three key elements. First, rules govern the organization of the teaching activity, such as which specific linguistic features to focus on, when the draft should be submitted, and how revisions are conducted. Second, the community consists of all teachers and language learners in the teaching setting^[11]. Finally, the division of labor specifies the roles within this community. Teachers are feedback providers and problem addressers, while students are revisers and self-assessors^[12]. The dynamic feedback system aims to achieve the shared goal of enhanced writing competence.

2.3. Feedback literacy and written corrective feedback

The nature of the corrections given by teachers is a main concern in most feedback research, while students' uptake of the feedback may be somewhat neglected. To address this gap, feedback literacy was introduced to underline the importance of feedback receivers. This construct refers to the abilities and mindsets that learners require to interpret and apply feedback effectively, thereby improving their academic performance^[7]. Four dimensions were covered to illustrate it: *judging* involves feedback interpretation to revise for improvement; *managing affect* requires learners to regulate their emotions to teachers' criticism; *taking action* indicates creating and effecting revision plans in line with the feedback received; and *appreciating feedback* suggests learners' positive reaction to error corrections, such as proactively seeking, evaluating, and discussing feedback with instructors, etc. This learner-centered approach highlights learners' active engagement in the learning process.

Molloy et al. (2020) extended the framework to a sociocultural competency beyond individual skills^[13]. This new paradigm identifies the particular information, skills, attitudes, and capacities that learners need to have in order to engage with feedback. The L2 learners' individual ability determines the understanding and usage of feedback, which, in turn, stresses the interactive and communal features of the learning process. Since Boggs and Manchón (2023) underscored the significance of feedback literacy in modulating WCF efficiency^[8], feedback literacy has been widely researched in terms of teacher feedback or peer feedback. Very few studies have tried to apply it in dynamic WCF contexts.

Takahashi (2026) conducted a multiple-case study on feedback literacy and WCF and demonstrated feedback literacy in multiple facets^[14]. Students relied on their prior writing experiences and strategies in L1 to finish writing tasks and correct their errors. They applied WCF during the reflection stage and after the writing tasks. They demonstrated different levels of involvement cognitively, behaviorally, and affectively. Likewise, Kristina and Yumarnanto (2024) analyzed EFL instructors' WCF applications in a writing class in an Indonesian secondary school^[15]. It was found that direct error correction is the most prevalent, but students' preferences for WCF varied. They proposed that developing feedback literacy can bridge the disconnect between teachers' and students' WCF practices.

Yet, a vast majority of existing studies remain confined to one-shot WCF environments. That is, focusing on one or two metalinguistic features. Thus, more studies should be carried out to shed light on L2 writing development. Additionally, dynamic WCF, as a novel activity system, remains underexplored in terms of how learners' feedback literacy operates within it. To address these gaps, this study explored the effect of feedback literacy within the context of dynamic WCF on L2 writing performance from the perspective of Activity Theory. The research questions are as follows:

- (1) Whether dynamic WCF is more effective than non-dynamic WCF in developing L2 writing?
- (2) Is there a significant correlation between L2 learners' feedback literacy and their L2 writing outcome?
- (3) How do L2 learners with different levels of feedback literacy differ in revision when receiving dynamic written

corrective feedback?

3. Methodology

3.1. Research design

This pretest-posttest-designed quasi-experiment was integrated into a writing class at a university in mainland China. Participants were English majors, as previous research suggests that dynamic WCF has great potential for higher-proficiency learners, and that English majors are accustomed to dedicating more time to feedback engagement^[5]. Eight intact classes formed the sampling pool. Participants were selected randomly from the pool and assigned to either a dynamic WCF or a non-dynamic WCF group. This design was used to control confounding variables as much as possible, such as instructor identity, classroom ecology, and other contextual interferences. The experiment lasted for six weeks, during which the participants wrote one new essay per week. A writing pretest was given in the first week, and a writing posttest and a questionnaire assessing feedback literacy were given in the last week.

3.2. Subjects

The participants were 100 first-year English majors from a full-time undergraduate institution. Their ages ranged from 18 to 21, with an average of 18.98 years. Crucially, most participants had received formal English education in the third grade of primary school, indicating roughly nine years of sustained exposure by the time the experiment was conducted. Prior to the experiment, they possessed a foundational grasp of the metalinguistic features in the language system. None of them had studied overseas. These students were enrolled in a mandatory writing course for the semester. With Excel's randomization formula, they were divided into dynamic WCF ($N = 51$) and non-dynamic WCF ($N = 49$). All participants signed their names to agree to the teaching experiment attendance. They were also informed of their right to withdraw at any time during the experiment, without affecting their final assessment of the course. Participants in the non-dynamic WCF group were given a make-up chance to receive dynamic WCF after the experiment.

3.3. Instruments

Writing tests were used to measure L2 writing gains in this study. The topics for the two tests were selected from the same source and used identical assessment criteria. A pilot study (involving 30 students) was organized to discuss task challenges and confirm the comparability between the two writing topics of the pretest and posttest. Participants then completed an in-class essay within 40 minutes. The results in the pilot study indicated a similar degree of writing difficulty. The writing tests were evaluated according to the IELTS rubrics, including task response, coherence and cohesion, lexical resource, and grammatical range and accuracy (error-free T-unit ratio).

In addition, a closed-end questionnaire was developed from Carless and Boud's (2018) framework to assess feedback literacy. It included 20 items, describing feedback literacy from cognitive, behavioral, and affective dimensions^[7]. Terminology and diction underwent a revision to align with the specificities of dynamic WCF. A five-point scale was used to measure L2 learners' performance.

Microsoft Word documents were used to record the revision process. When the language learners were informed of the writing topic, they finished their first handwritten work in class in ten minutes. The teacher collected all the papers and provided the first-round feedback. Then, the teacher used photographs to capture the draft and feedback and kept it as a personal, exclusive e-document. The e-document was sent back to each learner for revision and error logging. This process would be repeated until the student's article is accurate in grammar, or the third round of feedback is completed. This online document recorded the entire process of writing, feedback, and revision of each student.

3.4. Intervention

The dynamic WCF group received three rounds of unfocused feedback across their writing tasks. The first round of feedback is the most implicit since the language instructor only located the errors. The second round is more explicit

than the previous one. For the remaining errors, teachers provided metalinguistic explanations. The last round is the most explicit. Feedback providers re-edited the mistakes directly, and 30 minutes were allowed for each writing task regardless of the rounds of feedback students received^[6]. Participants were required to keep a log of their error types and frequencies to monitor their development.

The non-dynamic WCF group received only one round of unfocused and direct corrective feedback. In other words, students can compare their errors with the correct forms provided in the feedback. Like the practice in the dynamic WCF group, learners were also given 30 minutes to acknowledge those errors without further submission.

4. Results and discussions

The descriptive statistics are shown in **Table 1**.

Table 1. Descriptive statistics of writing proficiency and feedback literacy

Group	Pretest		Posttest		Questionnaire	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Dynamic WCF (<i>N</i> = 51)	17.22	3.454	23.67	2.917	80.04	10.19
Non-dynamic WCF (<i>N</i> = 49)	17.56	3.946	21.77	3.061	74.47	11.66

4.1. Research question 1

An independent samples t-test was performed on the pretest writing scores between groups ($p > 0.05$), and the result suggests the two groups were comparable in writing proficiency prior to the experiment. Paired samples t-tests were conducted between tests in the dynamic ($t = -12.75$, $p < 0.001$) and non-dynamic group ($t = -8.30$, $p < 0.001$), respectively. The statistics indicate a significant improvement in writing proficiency for both groups after the intervention. However, it is not clear whether the improvements across groups could be attributed to the differences in treatment or language instruction. An independent samples t-test was undertaken to compare the differences between groups in the degree of writing progress. To remove the influence of the pretest, the dependent variable was the gain between the pretest and posttest. It was found that the gain of the dynamic WCF group was considerably higher than the gain of the non-dynamic WCF group ($t = -3.13$, $p = 0.002$, $d = 0.63$).

The finding is consistent with those of previous studies^[5, 6, 9, 10, 15]. From the perspective of Activity Theory, dynamic WCF functions not merely as error correction, but as a mediated activity. From implicit to explicit feedback, dynamic WCF provides a complete learning cycle for L2 learners^[6] and constitutes a set of rules monitoring intensive practice and repeated engagement in the revision process. Negotiation with the tools of error correction, such as error location and metalinguistic explanations, allows learners to internalize the rules governing those metalinguistic features. Division of labor reconfigures the learning process: the teacher is a scaffolder, providing step-by-step support; the students are active learners and problem-solvers as they seek solutions to correct errors in their essays. During the exploration, external feedback could be internalized into internal knowledge by intensive practice. In contrast, non-dynamic WCF lacks the necessary mediation for deep cognitive restructuring. Thus, the gains observed in dynamic WCF environments stem from this systemic alignment between cognitive engagement and the activity structure.

4.2. Research question 2

A Pearson correlation analysis was conducted on the holistic performance in the writing posttest and feedback literacy in separate groups. Weak positive correlations were reported in the non-dynamic WCF group ($r = 0.26$, $p > 0.05$) and the dynamic WCF condition ($r = 0.12$, $p > 0.05$), suggesting that feedback literacy is a weak predictor of writing proficiency. However, when Pearson correlation was computed between feedback literacy and the error-free T-unit ratio on the posttest,

a moderate correlation was found in the non-dynamic group ($r = 0.32, p = 0.026$). The statistics reveal that the higher the feedback literacy of learners receiving non-dynamic error correction, the higher their error-free T-unit ratio. Nevertheless, feedback literacy was a weak predictor of language accuracy in the dynamic WCF group ($r = 0.09, p = 0.518$).

The absence of a significant correlation between overall writing proficiency and feedback literacy in both groups may be explained by a holistic grading of the former variable. As mentioned previously, writing proficiency was evaluated according to task response, coherence and cohesion, lexical resource, and grammatical range and accuracy. The significant correlation between feedback literacy and the error-free T-unit ratio within the non-dynamic WCF group provides evidence for this interpretation. Non-dynamic feedback tends to be more terminal and product-oriented. Without interaction between teachers and learners, higher-literacy learners were more likely to analyze explicit error corrections to figure out the rules governing linguistic features. Conversely, learners with lower feedback literacy were less likely to understand the input. To put it in other words, non-dynamic WCF can not ensure comprehensible input for writers. However, dynamic WCF guides learners through a complete pedagogical cycle. This structured process ensures the meaningfulness of error correction^[5], thereby neutralizing the predictive power of individual differences in feedback literacy.

4.3. Research question 3

From the dynamic WCF group, two students with strong feedback literacy and two with lesser feedback literacy were chosen to identify their characteristics in revision processes. Students who scored high on literacy measures (e.g., Student 148, 42) were able to infer the rules underlying feedback and apply them successfully to new writing situations. According to teachers' feedback, they selected vocabulary that precisely expressed their intended meanings. In the meantime, they were motivated to engage in the feedback interaction with the teacher. Low-literacy students (e.g., Students 157 and 207), however, responded positively to feedback. They were confined to mechanical revision rather than structural editing. Even at the meaning level, they lagged in their cognitive involvement. When facing challenging feedback, these learners often invested no cognitive effort in decoding the critique.

These results shed light on the complex nature of feedback literacy. For high-literacy learners, consistent skill across comprehension, regulation, and action is demonstrated, but lower-literacy learners exhibit uneven improvement. Though they willingly engage in multiple revisions, coded feedback may create barriers to understanding. These observations provide qualitative evidence for the claim that feedback literacy is a crucial factor linking corrective feedback and L2 writing development^[8]. A weak correlation between the two variables in the dynamic WCF can probably be explained by the complete cycle provided in the learning process, ensuring comprehensible input for learners.

5. Conclusion

In line with the first research question, dynamic WCF is more effective than non-dynamic WCF in developing L2 writing proficiency. Participants exposed to the former approach are more likely to internalize declarative knowledge provided in the learning process. Responding to the second research question, no significant correlation was found between feedback literacy and overall writing outcomes in either group. However, feedback literacy was reported to significantly correlate with the error-free T-unit ratio in the non-dynamic WCF group. It is possible that the impact of feedback literacy was more targeted. No strong association was found in the setting of dynamic WCF, suggesting that dynamic feedback is less likely to be influenced by feedback literacy because of its meaningful input. In terms of the third research question, students with higher feedback literacy are more cognitively, behaviorally, and emotionally engaged in the revision process, but the stepwise feedback ensures the comprehensibility of the input for L2 learners.

This study provides a new perspective, enriching the empirical data for the prosperity of dynamic WCF. However, although this research used a ten-minute paragraph writing task to reduce the workload of teachers and students, this practice is not authentic in a real teaching environment. Meanwhile, teachers' workload remains a problem for dynamic WCF, which requires multiple rounds of feedback. In future research, this can be regarded as a major issue to be addressed.

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