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Perceived Achievements and Challenges with Using the Blended Writing Feedback System Based on CEFR in China

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Abstract: This study examines Chinese undergraduate EFL learners' perceptions of a Blended Writing Feedback (BWF) system aligned with the Common European Framework of Reference for Languages (CEFR), integrating automated feedback from Cambridge Write & Improve and detailed teacher comments. Thirty-seven third-year English majors participated in a 12-week writing module, with 32 submitting comprehensive reflection logs describing their experiences. An explanatory mixed-methods design triangulated in-depth thematic analysis with systematic CEFR score tracking. Findings indicated perceived gains in grammar accuracy, rhetorical organization, CEFR awareness, and writing confidence, supported by feedback literacy and self-regulated learning frameworks. Reported challenges included difficulty interpreting vague or conflicting feedback, emotional frustration from stagnant CEFR levels, and a growing over-dependence on teacher input for revisions. Quantitative results showed overall CEFR level improvement across tasks, though notable discrepancies emerged between perceived and actual progress. The study highlights both the pedagogical benefits and the emotional-cognitive complexities of CEFR-based blended feedback in EFL writing. Recommendations include targeted feedback literacy training, more coordinated feedback delivery, and localized CEFR adaptation to enhance student engagement and motivation. The findings contribute to a deeper understanding of how automated and teacher-mediated feedback can be successfully integrated in higher education writing instruction.

Keywords: Automatic Feedback; Blended Feedback; CEFR; EFL Writing; Feedback Literacy

1. Introduction

In recent years, the integration of the Common European Framework of Reference for Languages (CEFR) into English as a Foreign Language (EFL) instruction has gained significant traction in China, particularly in the domain of writing pedagogy. As universities seek to align their curricula with international standards and foster global competence among learners, CEFR-aligned writing descriptors are increasingly being adopted to benchmark writing proficiency, scaffold instruction, and inform formative assessment [1]. In tandem with these curricular shifts, the rapid development of digital technologies has opened new avenues for delivering writing feedback through blended learning models that combine automated systems with traditional teacher input [2,3].

Among these innovations, Blended Writing Feedback (BWF) systems have emerged as a promising pedagogical tool, offering the potential to support iterative drafting, enhance learner autonomy, and promote metacognitive reflection [3,4]. Such systems typically integrate Artificial Intelligence (AI)-powered platforms—such as Cambridge Write & Improve (W&I)—with human-delivered feedback to provide multi-layered support for writing revision. The automation offers immediate, CEFR-referenced linguistic suggestions, while teacher input addresses higher-

level concerns such as coherence, organization, and task fulfillment [5]. Together, these two modalities form a blended ecosystem of feedback designed to foster both surface-level correction and deeper engagement with writing as a process.

However, despite their potential benefits, relatively little is known about how Chinese undergraduate EFL learners perceive and respond to such systems—particularly within the cognitive, emotional, and behavioral domains of learning [6]. While many studies have investigated the effectiveness of automated feedback in terms of linguistic gains [7], fewer have addressed the learner experience from a feedback literacy perspective, especially in contexts where students are transitioning from teacher-centered paradigms to self-regulated writing practices. The capacity to interpret, evaluate, and apply feedback meaningfully—termed feedback literacy—is critical to the uptake of formative input and to learners' development as autonomous writers [8].

This study is situated within the implementation phase of a larger Design and Development Research (DDR) project conducted at a university in Shanxi Province. The broader DDR initiative aims to design, test, and refine CEFR-informed writing support modules that integrate both technological and pedagogical feedback mechanisms. In the present study, 37 third-year English major students participated in a 12-week writing module involving seven iterative tasks supported by the W&I platform and teacher feedback. Through this blended feedback model, learners engaged in multiple cycles of drafting and revision, with CEFR descriptors serving as both diagnostic indicators and instructional goals.

Adopting an explanatory mixed-methods approach, this paper investigates the learners' perceived achievements and challenges with the CEFR-based BWF system, drawing on qualitative data from reflection logs and quantitative CEFR writing scores. The study is guided by the following two research questions:

1. How do Chinese undergraduate EFL learners perceive their **achievements** in using the Blended Writing Feedback system based on CEFR?
2. How do Chinese undergraduate EFL learners perceive the **challenges** with using the Blended Writing Feedback system based on CEFR?

By triangulating subjective reflections with objective performance metrics, this research seeks to offer empirical insights into learner engagement with CEFR-based feedback and to inform the iterative refinement of writing instruction in blended academic contexts.

2. Literature Review

2.1. CEFR in EFL Writing Instruction

The Common European Framework of Reference for Languages (CEFR) has been widely recognized as the most comprehensive framework for defining language proficiency levels, providing descriptors for linguistic performance across reading, listening, speaking, and writing [9]. Originally designed for European contexts, the framework's influence has extended globally, becoming a benchmark for curriculum design, learning outcomes, and assessment [10]. The writing component of CEFR offers detailed descriptors for coherence, cohesion, grammatical accuracy, vocabulary range, and task achievement, which have been adopted by many institutions to standardize assessment and guide learning objectives [11]. In China, the adoption of the China Standards of English (CSE) in 2018 signaled an explicit attempt to align local assessment with CEFR levels, thereby facilitating international comparability of student outcomes and supporting curriculum transparency and learner mobility [12,13].

Empirical research suggests that the explicitness of CEFR descriptors enhances learners' goal orientation and self-assessment abilities [14], but scholars have also noted that cultural and rhetorical differences can limit the direct applicability of CEFR descriptors in non-European contexts [15,16]. Chinese EFL learners, for instance, may prioritize accuracy and formality over argumentative fluency, diverging from CEFR's communicative emphasis [17]. Moreover, the interpretation of CEFR descriptors requires explicit scaffolding. Without guidance, students may struggle to translate level descriptors into actionable revision strategies, leading to superficial or misdirected revisions [18]. Therefore, the effectiveness of CEFR in EFL writing depends on localized pedagogical mediation, making it a crucial variable in any blended feedback approach.

2.2. Blended Feedback and Automated Writing Evaluation (AWE)

The integration of blended feedback—combining automated and teacher-provided feedback—has become an increasingly prominent strategy in English as a Foreign Language (EFL) writing pedagogy. As EFL learners face constraints in teacher availability and receive limited individualized support, automated writing evaluation (AWE) systems such as Cambridge's Write & Improve (W&I) offer immediate, scalable feedback aligned with CEFR proficiency levels [2]. These tools help improve grammatical accuracy and vocabulary use through repetitive revision cycles and error detection mechanisms [19]. However, scholars emphasize that while AWE tools can guide surface-level language improvements, they are insufficient for addressing global issues such as coherence, argumentation, and audience awareness [20]. Teacher feedback brings contextualization and personalization, especially in supporting critical thinking and rhetorical appropriateness—elements often absent in AWE systems [21]. The blending of human and automated feedback is thus proposed to balance efficiency with depth [22], and recent studies show that students who receive combined feedback exhibit higher revision quality than those who receive only one type [3,23].

Nevertheless, the coexistence of two feedback sources is not without problems. When automated and teacher comments conflict, learners may become confused or distrustful of the system [24,25]. This tension points to the importance of feedback literacy and emotional regulation, especially in blended environments.

2.3. Feedback Literacy and Learner Engagement

Effective feedback uptake depends not only on the content of the feedback but also on learners' feedback literacy—the ability to interpret, evaluate, and act upon feedback [8,26]. Saint and Fan [27] argue that fostering self-regulated learning through timely and dialogic feedback is crucial. In blended systems, learners must negotiate divergent input sources, requiring higher feedback-processing capacity and emotional regulation [17]. Without such capacities, students may experience cognitive overload, over-reliance on teacher input, or demotivation when progress is not immediately visible.

Globally, CEFR-based writing feedback has been shown to enhance transparency in assessment, enabling learners to track progress and set realistic improvement goals. In European contexts, integrating CEFR descriptors into feedback has facilitated learner agency and self-monitoring, especially when coupled with reflective activities. In the Chinese EFL context, CEFR-based digital tools such as Write & Improve have been introduced in universities as part of curriculum modernization [12], but empirical findings reveal mixed learner responses. On the positive side, students appreciate the objectivity and immediacy of CEFR-linked feedback, which helps them visualize progress [17,25]. On the negative side, they often struggle with interpreting vague descriptors or understanding why their CEFR level stagnates despite revisions [28]. This mismatch between feedback input and learner interpretation is compounded by limited feedback literacy—an area still underdeveloped in most Chinese EFL programs. Furthermore, CEFR descriptors may not fully capture local rhetorical norms. Chinese academic writing often values inductive reasoning and harmony over explicit argumentation, potentially leading to score penalties in CEFR-calibrated systems designed for Western argumentative structures [29]. This raises questions about how cultural adaptation can make CEFR feedback more relevant and motivational for Chinese learners.

Writing remains the most challenging skill for Chinese EFL learners. Large-scale assessment data, such as from IELTS, consistently show that Chinese candidates score lowest in writing relative to other skills. This under-performance has been attributed to several interrelated factors: formulaic instruction emphasizing memorization over communicative fluency [30], limited exposure to authentic writing tasks [31], high levels of writing anxiety and fear of negative evaluation [32], and underdeveloped metacognitive strategies for planning, monitoring, and revising work [33]. The introduction of blended feedback systems addresses some of these issues by providing iterative opportunities for improvement and encouraging reflective engagement with the writing process. Such systems enable learners to receive multiple forms of input, fostering greater awareness of linguistic and rhetorical dimensions. However, they also introduce new cognitive demands, including the need to process multiple feedback sources, evaluate conflicting suggestions, and make strategic revision decisions [26]. For learners without strong feedback literacy, these demands can lead to over-reliance on teacher input or frustration when automated feedback is unclear, potentially undermining the intended benefits of blended feedback [6].

Although the application of CEFR-based blended feedback in EFL writing has garnered increasing scholarly

attention, few studies investigate learner perceptions of such systems over an extended period within an actual classroom setting. The emotional and cognitive dimensions of feedback uptake—especially under conflicting input sources—have not been sufficiently explored in Chinese undergraduate contexts, and empirical work combining qualitative learner reflections with quantitative CEFR score trajectories remains limited. Addressing these gaps, the present study investigates Chinese undergraduate EFL learners' perceived achievements and challenges during the implementation of a CEFR-based blended writing feedback system. By triangulating reflection logs with CEFR score trends and applying a three-level coding framework, the study contributes to a deeper understanding of learner experiences with blended feedback and offers practical implications for CEFR-integrated writing pedagogy in China.

3. Methodology

This study follows a qualitatively dominant explanatory mixed-methods design. The qualitative component—comprising student reflection logs and thematic coding—forms the primary interpretive basis of the research. The quantitative component, represented by CEFR level progression data from Write & Improve, serves a complementary role, providing supportive evidence of writing development trends. According to Creswell [34], explanatory mixed methods are particularly appropriate when quantitative findings need to be interpreted through a qualitative lens. In this project, the design allowed the researchers to triangulate the rich, narrative data from student reflections with objective performance indicators derived from CEFR-level tracking on the Cambridge Write & Improve platform. By integrating qualitative and quantitative evidence, the research sought to ensure methodological triangulation and enhance validity [35], enabling comparisons between learners' perceived achievements and challenges and their actual progress in CEFR levels. This approach also aligns with calls for robust evaluation of blended feedback innovations in authentic classroom settings [8].

The study formed part of the implementation phase of a larger Design and Development Research (DDR) framework [36,37], which aimed to design, pilot, and refine a CEFR-informed feedback module tailored for advanced EFL learners in China. DDR emphasizes iterative cycles of needs analysis, design, implementation, and evaluation. In this project, the implementation stage provided an opportunity to examine not only whether the BWF system improved writing outcomes but also how students perceived and engaged with it. In line with DDR principles, the data collected here will feed back into future module revisions.

3.1. Participants and Context

The research was conducted during the second semester of the 2024–2025 academic year at a public university in Shanxi Province, within an Advanced English Writing course that formed a core component of the third-year English major curriculum. The course itself had a strong emphasis on academic writing genres, including argumentative essays, problem–solution reports, and opinion pieces, which made it an ideal context for implementing a CEFR-aligned feedback intervention.

A total of 37 third-year English majors participated in the study. Participants were selected through purposive sampling to ensure they possessed sufficient linguistic competence to engage with both teacher-led and independent writing practices while also encountering the cognitive and affective challenges typical of high-stakes academic writing in a foreign language. Demographically, the participants ranged in age from 20 to 22 years, with approximately 78% female and 22% male, reflecting the gender distribution common in English major cohorts in China. Although all students had completed at least four semesters of intensive English coursework, their prior exposure to CEFR descriptors and automated writing evaluation was minimal. This baseline ensured that any observed changes could be attributed to the intervention rather than pre-existing familiarity. All participants provided informed consent, and pseudonyms were used in reporting qualitative data to maintain confidentiality.

3.2. Design of the Blended Writing Feedback Module

The BWF module spanned 12 weeks and was organized around seven iterative writing tasks designed according to CEFR B1–C1 descriptors. Each task represented a different academic genre to expose students to a range of rhetorical contexts: Task 1 focused on argumentative writing, Task 2 on problem–solution reports, and subsequent tasks on opinion and evaluative essays. This genre diversity was intended to help students internalize CEFR descriptors as cross-cutting performance standards rather than one-off requirements.

The feedback cycle for each task comprised three main stages. First, students made an initial submission to Cambridge Write & Improve (W&I), which generated automated feedback within minutes. The system provided CEFR level estimation, highlighted language issues such as grammar and vocabulary, and offered general revision suggestions. Second, students engaged in a revision and resubmission stage where they made initial improvements based on W&I feedback and resubmitted for a second automated assessment. This step aimed to encourage recursive drafting and immediate application of machine-generated suggestions. Third, they received teacher-mediated feedback, in which the instructor provided targeted comments on organization, content development, argumentation, and adherence to genre conventions.

This blended feedback process was intended to combine the speed and objectivity of automated feedback with the depth and contextualization of teacher feedback [38], while also fostering students' ability to make independent revision decisions. By sequencing machine feedback first and teacher feedback second, the module sought to scaffold learners' progression from surface-level corrections to higher-order rhetorical development, thereby promoting feedback literacy and self-regulated learning.

3.3. Data Collection

Data were collected from both qualitative and quantitative sources to capture a comprehensive picture of learner engagement and outcomes. On the qualitative side, the researchers collected individual reflection logs from 32 students at the end of the module. These logs invited students to articulate their perceived achievements, challenges, and strategies in engaging with the BWF system. The open-ended format was designed to elicit rich descriptions of affective, cognitive, and behavioral dimensions of feedback engagement, consistent with recommendations by K. Hyland and F. Hyland [39] for exploring L2 writing processes. Reflection prompts included questions such as: "What aspects of the blended feedback helped you the most?" and "Describe any difficulties you faced in interpreting automated or teacher feedback."

Quantitative data were derived from Write & Improve CEFR level reports for each of the seven writing tasks. Descriptive statistics were applied to calculate the mean CEFR level per task and to identify individual and group progression trends. These quantitative results provided measurable evidence of students' writing development and complemented the qualitative findings. On the quantitative side, CEFR-level reports from W&I were exported for each of the seven tasks. As shown in **Appendix A**, CEFR levels were converted into numerical values (A1 = 1, A2 = 2, B1 = 3, B2 = 4, C1 = 5, C2 = 6). For each participant, the initial score, final score, highest score achieved, and improvement status were recorded.

In addition to the quantitative CEFR data, qualitative data were collected through student reflection logs and semi-structured interviews conducted at the end of the 12-week module. The reflection logs invited students to describe their learning experiences and perceptions of the CEFR-based Blended Writing Feedback (BWF) system, providing insights into their engagement with automated and teacher feedback. The follow-up interviews further explored students' perceived achievements, challenges, and development of feedback literacy in greater depth.

To guide the discussion, the interview checklist included the following key questions: To what extent were you satisfied with your training, and what did you think of or how did you feel about the training segments [1]? What knowledge or skills have you gained or developed throughout your training [2]? How do you think that training contributed to your professional or academic development [3]? What were the main challenges or problems you faced during your training [4]? How did you overcome these challenges [5]? Excerpts from anonymized interview transcripts are provided in **Appendix B** as representative samples to illustrate how the qualitative data were coded and interpreted.

These data allowed for the analysis of both individual trajectories and group-level trends. This dual data source design provided a basis for triangulation, enabling the researchers to test whether students' self-reported perceptions aligned with objective performance changes.

3.4. Data Analysis

The qualitative data were analyzed through a three-phase thematic coding process informed by grounded theory principles [40]. In the open coding phase, initial meaning units were identified without predetermined categories to maximize inclusivity. These meaning units included both direct statements and implicit references to

learners' behaviors, emotions, or interpretations of feedback. During axial coding, the researchers grouped these units into conceptually related subthemes, identifying causal relationships and shared contextual features. Finally, in the selective coding phase, subthemes were synthesized into core themes that directly addressed the study's research questions, distinguishing between perceived achievements and perceived challenges.

To ensure coding reliability, two independent researchers analyzed the data and resolved discrepancies through discussion. An expert in EFL writing pedagogy reviewed the coding framework for validity, ensuring that the resulting themes were both data-driven and theoretically coherent. This iterative process of coding, discussion, and expert consultation enhanced the robustness of the findings.

Quantitative data were analysed using descriptive statistics, including mean scores, standard deviations, and frequency distributions, to examine changes in CEFR levels across the module. The analysis considered shifts in average levels, the proportion of students showing improvement, and patterns in maximum level attainment. These quantitative outcomes were then triangulated with qualitative themes to identify alignment or divergence between perceived and actual progress [34].

3.5. Ethical Considerations

Ethical approval for the study was obtained from the university's institutional review board. Participants were informed about the study's aims, procedures, and their right to withdraw at any time without academic penalty. Confidentiality was maintained by assigning participant codes (S1–S32) when citing excerpts from student reflections, ensuring that individual identities remained protected throughout the reporting process. The research team also explained to students how their data would be used to improve the course and contribute to scholarly knowledge, thereby enhancing transparency and informed consent.

4. Findings and Discussion

This chapter presents a comprehensive analysis of how Chinese undergraduate EFL learners perceived both their achievements and challenges while engaging with the CEFR-based Blended Writing Feedback (BWF) system, thereby addressing the two research questions guiding this study. The analysis synthesizes insights from thematic qualitative coding and CEFR-based quantitative data analysis, enabling a multidimensional interpretation of learner experiences. The integration of these two data sources was informed by established theoretical perspectives, including feedback literacy theory [8], which emphasizes learners' capacity to interpret, evaluate, and act upon feedback; self-regulated learning frameworks, which highlight the cyclical process of goal setting, monitoring, and reflection; and recent scholarship on blended feedback in EFL contexts [4], which has demonstrated the potential of combining automated and teacher-mediated feedback to promote iterative learning and writing development.

4.1. Qualitative

To ensure the credibility and trustworthiness of the findings, qualitative data from 32 student reflection logs were subjected to a rigorous three-level coding procedure adapted from Strauss and Corbin's [40] grounded theory methodology. The process began with open coding, in which over 120 discrete meaning units were identified across the entire dataset, capturing explicit statements as well as implicit references to learner perceptions, behaviors, and emotions. This stage prioritized inclusivity, ensuring that no potentially relevant insight was excluded at an early stage of analysis. The resulting codes were reviewed by two independent researchers to reduce subjectivity and enhance intercoder agreement.

Following this, the analysis proceeded to the axial coding stage, in which the initial meaning units were systematically organized into 7 subthemes based on conceptual similarity, causal relationships, or shared contextual features. This stage facilitated the identification of connections between individual experiences and broader patterns of engagement with the BWF system. Finally, in the selective coding stage, these subthemes were synthesized into a smaller set of major themes that directly addressed the research questions, distinguishing between perceived achievements and perceived challenges (**Appendix B**).

The validity of these categories was reinforced through multiple coder discussions aimed at reconciling any interpretive differences, thereby ensuring consistency in thematic boundaries and definitions. Additionally, expert consultation with a senior scholar in EFL writing pedagogy helped align the coding outcomes with the study's theo-

retical framework, ensuring that the final themes were not only grounded in the data but also theoretically coherent. This iterative process of coding, discussion, and refinement enhanced the robustness of the findings and their relevance to both theory and practice in CEFR-aligned writing feedback research.

As shown in **Table 1**, Learners widely reported perceived achievements across linguistic, cognitive, and emotional dimensions. Linguistically, students noted greater accuracy in grammar and sentence structure, improved vocabulary use, and enhanced coherence in writing. As one student explained, "My grammar improved most when I edited according to both feedback sources." (S1). Another added, "I never paid attention to word choice before, but now I consciously revise for it." (S7). These experiences are consistent with previous findings that feedback interaction improves metalinguistic awareness.

Table 1. Three-Level Thematic Coding Summary of Student Perceived Achievements.

Level 1: Open Codes	Level 2: Subthemes	Level 3: Core Themes
"Improved grammar," "better structure" "CEFR levels help me target my work" "I feel more confident now"	Enhanced linguistic accuracy Awareness of CEFR descriptors Confidence and reduced writing anxiety	Linguistic Development Cognitive Engagement Emotional Motivation

Cognitively, students demonstrated increasing familiarity with CEFR descriptors, with several using them to evaluate their writing. One student stated, "I began using CEFR level phrases to evaluate my own sentences." (S2), while another noted, "Now I can tell what makes a sentence B1 or B2 when writing." (S29). These reflections suggest enhanced metacognitive regulation and writing goal orientation, aligning with Nicol and Macfarlane-Dick's [41] framework of self-regulated learning through feedback.

Emotionally, many participants reported increased writing confidence and a greater sense of autonomy. One student said, "I felt more confident writing after seeing my CEFR level go up." (S18), and another reflected, "I used to be afraid of writing, but this module changed that." (S5). These findings correspond with studies by Ryan and Deci that highlight the motivational role of formative feedback in promoting learner agency.

Challenges were consistently reported in several categories in **Table 2**. One frequent complaint was the ambiguity of automated feedback. "Sometimes I don't understand what the system wants me to fix." (S16), one student reported. Another noted, "The feedback is too general, like 'check grammar'—what grammar?" (S27). This lack of specificity hindered revision efforts and induced frustration. Such issues point to limited feedback literacy and reflect Winstone and Carless's [8] argument that clear, actionable feedback is essential.

Table 2. Three-Level Thematic Coding Summary of Student Perceived Challenges.

Level 1: Open Codes	Level 2: Subthemes	Level 3: Core Themes
"feedback too vague," "unclear advice" "AI and teacher disagree" "still stuck at B2 after revision" "I need feedback before revising anything"	Difficulty interpreting automated feedback Conflicting feedback sources Frustration from lack of progress Over-reliance on external feedback	Feedback Ambiguity Source Contradiction Feedback-Induced Demotivation Feedback Dependency

Conflicts between automatically generated and teacher feedback emerged as another challenge. "Sometimes the AI and teacher give opposite advice—I don't know which to follow." (S19), a student remarked, revealing cognitive overload and decision paralysis. Other students were frustrated by stagnation in CEFR level despite multiple revisions: "Even after many edits, my score stayed B2. It was demotivating." (S15), or "It was frustrating not knowing why I didn't move to C1." (S23). These accounts reflect emotional strain when feedback fails to produce expected outcomes and suggest a gap in feedback orientation. These challenges highlight the cognitive and emotional demands of engaging with blended feedback and suggest that while BWF systems offer benefits, they require structured pedagogical support.

4.2. Quantitative

The quantitative results were derived from Cambridge Write & Improve CEFR-level data collected over seven writing tasks across twelve weeks(**Appendix A**). Each submission was automatically evaluated and recorded using the CEFR scale (A1–C2).

As shown in **Figure 1**, 22 out of 32 students (68.8%) demonstrated a measurable improvement in their CEFR level, while 9 students (28.1%) remained at the same level and only one student (3.1%) showed a slight decline. This indicates that the blended feedback intervention led to a generally upward trend in students' writing proficiency.

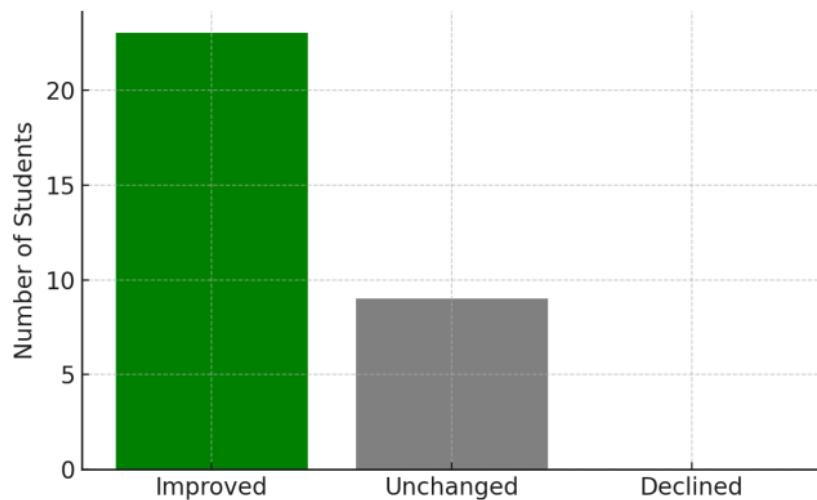


Figure 1. Distribution of CEFR level outcomes post-intervention.

Figure 2 illustrates the change in average CEFR numeric levels before and after the module. The group mean rose from approximately B1.1 (3.1 on the numeric scale) to B1.8 (3.8 on the numeric scale), representing an average gain of 0.7 CEFR bands. The most noticeable progress occurred between Tasks 3 and 5, when the CEFR-based Blended Writing Feedback (BWF) system was fully implemented, combining automated feedback from Write & Improve with teacher mediation. This stage marked a turning point, as students learned to interpret automated comments critically and refine their drafts with greater accuracy and autonomy.

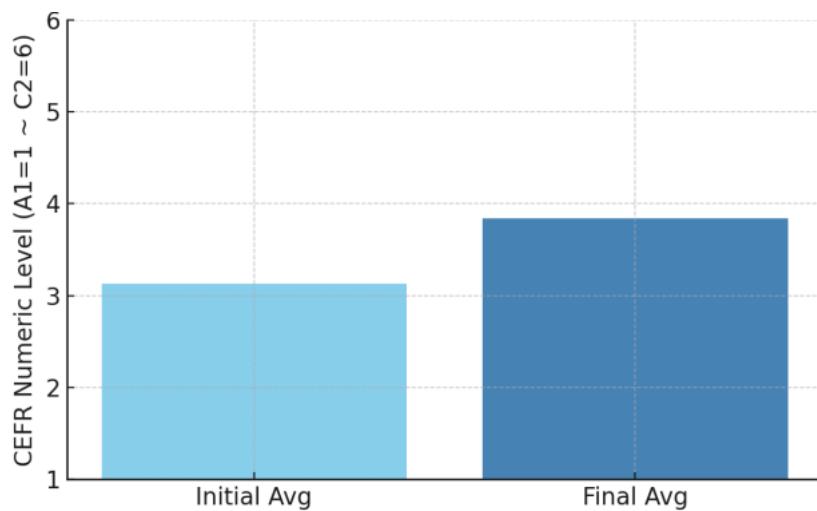


Figure 2. Average CEFR progression over the 12-week writing module.

To further validate the relationship between subjective perception and objective outcomes, a triangulation analysis was conducted (**Figure 3**). Students were grouped into four categories: those who both reported achievement and showed CEFR improvement ($n = 17$), those with neither ($n = 6$), those who perceived achievement but had no measurable improvement ($n = 5$), and those who improved but expressed no perceived achievement ($n = 4$).

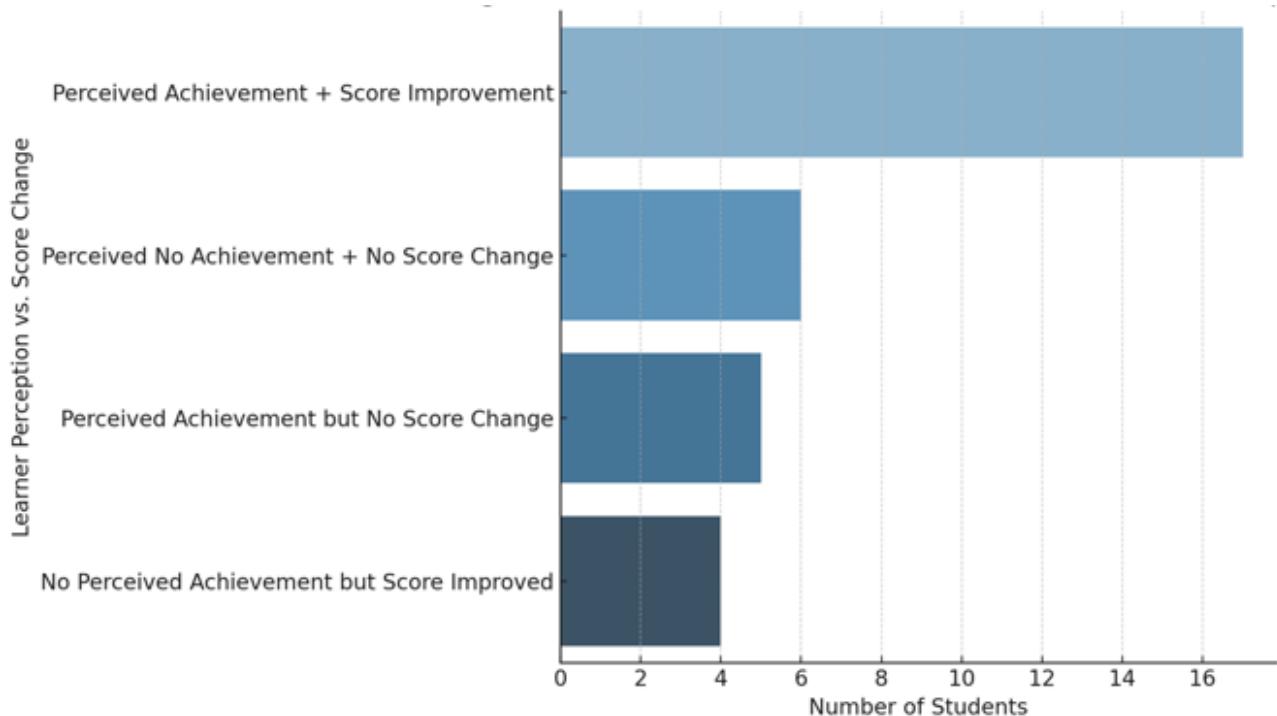


Figure 3. Triangulation of Perceived Achievement and CEFR Score Improvement.

The majority of students ($n = 17$) exhibited both perceived achievement and measurable score improvement, showing alignment between self-reported progress and objective performance. A smaller group ($n = 6$) perceived no achievement and showed no score change, while a few cases reflected mismatches—for instance, several students reported improvement but their CEFR scores remained constant, indicating that motivational or affective growth may precede measurable linguistic gains.

These quantitative patterns, together with the triangulation results, confirm that the CEFR-based blended feedback system fostered both objective progress and subjective engagement. The quantitative findings thus provide empirical support for the qualitative themes discussed in the following sections, illustrating the synergy between measurable outcomes and learners' self-perceived development.

These findings reinforce the growing literature on the importance of learner agency and feedback literacy in second language writing. As noted by Winstone and Carless [8], effective feedback uptake depends not only on the content of the feedback but also on learners' readiness to engage with it. The emotional dimension—often overlooked—emerged as crucial in this study. While automated systems can expedite revision cycles and foster independence, their impersonal tone may undercut motivational effects, particularly for novice learners.

In summary, the BWF system supported meaningful learner development in grammar, organization, and confidence. However, the full potential of CEFR-aligned blended feedback requires clearer feedback literacy training, better mediation of multiple feedback sources, and more transparent links between writing behavior and CEFR assessment criteria. Moreover, this study demonstrates notable significance in advancing EFL writing pedagogy. By integrating CEFR-based assessment with a blended feedback model, the research bridges international standards and local instructional contexts, contributing both theoretical insights and pedagogical innovations. It further extends the understanding of how feedback literacy and self-regulated learning interact to sustain learner motivation and writing improvement. As part of the broader DDR framework, these results underscore the value of iterative module refinement based on learner experience.

Future studies could build on these insights by exploring differentiated instructional strategies for students who show discordance between perceived and actual progress, further illuminating the complexity of feedback processing in blended academic writing environments. Additionally, future inquiries could examine how CEFR descriptors can be culturally and linguistically adapted to better suit the cognitive habits and writing traditions

of Chinese EFL learners in blended contexts [4].

5. Conclusions

This study investigated the perceived achievements and challenges of Chinese undergraduate EFL learners in engaging with a CEFR-aligned Blended Writing Feedback (BWF) system. Drawing on a mixed-methods approach that combined reflection log analysis and CEFR-based writing score tracking, the study revealed that learners benefited across linguistic, cognitive, and affective dimensions. Improvements in grammar accuracy, CEFR awareness, and writing confidence were widely reported, and many learners made demonstrable progress in CEFR levels.

However, the study also uncovered important challenges. Students reported issues with vague or conflicting feedback, emotional frustration from stagnant CEFR progress, and over-reliance on external support. These findings indicate that while blended feedback systems can be pedagogically powerful, their success is contingent on proper scaffolding, feedback literacy development, and clearer integration of CEFR expectations into instructional design.

From a pedagogical standpoint, the achievements reported by students—particularly their improved grammar accuracy, clearer structural organization, and heightened metacognitive awareness—confirm prior claims in the literature regarding the benefits of blended feedback [2,8]. The BWF system enabled iterative drafting and revision that encouraged learners to view writing as a recursive process rather than a linear task. Importantly, learners who actively engaged with CEFR descriptors reported enhanced self-regulatory behaviors, which supports Nicol and Macfarlane-Dick's model of formative feedback facilitating self-regulated learning.

Nevertheless, the challenges that emerged cannot be overlooked. In line with Carless and Boud's framework of feedback literacy, the study revealed that students often struggled to make sense of vague automated feedback and expressed difficulty reconciling divergent input from machine and human sources. These findings echo concerns raised in previous research [42], which emphasize the need for clearer instructional guidance when deploying automated systems. Furthermore, emotional responses such as anxiety and demotivation, particularly when performance gains were not immediately evident, illustrate the affective dimension of feedback engagement—an often underestimated factor in second language writing pedagogy [39,42].

From a theoretical perspective, the integration of quantitative and qualitative data within a triangulation framework enriched the credibility and complexity of the study's conclusions. The alignment—or misalignment—between students' perceived achievements and their actual CEFR progress not only validated the efficacy of the BWF system but also underscored the importance of learners' psychological perceptions in mediating feedback outcomes. This affirms Carless and Winstone's [8] argument that effective feedback must be both epistemically credible and emotionally resonant to produce learning gains.

The study also contributes to CEFR-based research in EFL contexts. Although CEFR is increasingly used as a benchmarking tool in Chinese higher education [43], few studies have explored how students internalize and operationalize CEFR descriptors within recursive writing processes. Our findings show that CEFR levels, when introduced alongside regular feedback and revision, can function as both diagnostic tools and motivational targets. However, their abstraction and unfamiliarity to some learners suggest a need for localized scaffolding that contextualizes CEFR within culturally relevant writing models.

6. Recommendations

Based on the findings of this study, several interrelated pedagogical recommendations can be advanced to enhance the effectiveness of CEFR-aligned blended writing feedback systems. First, writing courses should incorporate explicit feedback literacy training to equip students with the skills to interpret and apply both automated and teacher feedback effectively. Such training may include workshops on CEFR descriptors, guided exercises in feedback interpretation, and the use of reflective writing logs to encourage metacognitive engagement with [8]. By systematically developing feedback literacy, instructors can foster greater learner autonomy and improve the uptake of formative input across iterative writing tasks.

In addition, it is important for instructors to implement coordinated feedback delivery strategies to minimize cognitive overload and contradictory messages. One effective approach is to use automated feedback primarily

for surface-level revisions in the early drafting stages, while reserving teacher comments for higher-order concerns such as content development, coherence, and organization in later stages of revision [3]. This sequencing can help students focus on manageable aspects of improvement at each stage and build a clearer sense of revision priorities.

Given the emotional demands of academic writing, teachers should also provide affective scaffolding to support students' resilience and motivation. Recognizing the emotional labor involved in processing multiple sources of feedback, instructors can combine supportive, formative comments with regular one-on-one conferencing or small-group discussions. Such practices can help mitigate frustration arising from stagnant CEFR levels and sustain student engagement over time [21].

Finally, transparent CEFR alignment should be embedded into instructional materials. This includes providing clear mappings between CEFR descriptors and student writing samples, annotated exemplars illustrating level distinctions, and user-friendly rubrics linked to CEFR criteria. Encouraging students to self-assess their progress using CEFR-aligned checklists can further strengthen their goal-setting and self-regulation skills [10]. Together, these measures can demystify the CEFR framework and make its descriptors actionable in day-to-day writing tasks.

Within the broader Design and Development Research (DDR) framework, the present study demonstrates how implementation-phase research can generate practical feedback for iterative instructional design. The mixed-method triangulation employed here offers evidence not only of system effectiveness but also of user experience, both of which are essential for sustainable educational innovation [37]. Future research should build on these findings by exploring longitudinal effects of feedback literacy training, testing different sequencing strategies for automated and teacher feedback, and examining how cultural adaptation of CEFR descriptors influences learner motivation and uptake.

7. Limitations

Future research could extend this work in several directions. Longitudinal studies could examine how sustained exposure to CEFR-based BWF systems influences learner development over multiple semesters or across disciplines. Comparative research may also investigate how different student populations—such as STEM versus humanities majors, or high-versus low-proficiency learners—respond to CEFR-aligned feedback mechanisms. Additionally, studies could explore how cultural and educational backgrounds shape learners' trust in and interpretation of automated feedback.

Finally, there is a growing need to localize CEFR implementation in China. As the framework was developed in a European context, its application in Chinese EFL classrooms must consider local writing norms, student expectations, and instructional practices [28, 29]. Adjusting CEFR descriptors and feedback tools to align with Chinese rhetorical traditions may enhance learner engagement and relevance.

In sum, the CEFR-aligned Blended Writing Feedback system holds strong potential as a scaffold for linguistic development, self-regulated learning, and motivational growth among EFL students. Yet its efficacy is mediated by learners' feedback literacy, emotional resilience, and the pedagogical context in which it is deployed. This study affirms the importance of feedback system design that balances automation and teacher agency, supports learner interpretation, and makes assessment transparent. As Chinese universities continue to adopt CEFR-based curricula and explore AI-supported learning, a nuanced understanding of learner experience will be critical to shaping effective, sustainable writing pedagogy.

Author Contributions

T.L. designed and conducted the study, analyzed data, and drafted the manuscript. A.B.A.A. and N.A.B.S. supervised the research design, provided theoretical and methodological guidance, and critically revised the manuscript. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board of National University of Malaysia (UKM).

Informed Consent Statement

All participants were informed of the study's purpose, procedures, and confidentiality measures. Participation was voluntary, and informed consent was obtained.

Data Availability Statement

Data supporting the findings of this study (including anonymized reflection logs and interview summaries) are available from the corresponding author upon reasonable request.

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Conflict of Interest

The authors declare no conflict of interest.

Appendix A

Table A1. CEFR Bands across Seven Writing Tasks.

Journal Reflection Code	Writing Task 1		Writing Task 2		Writing Task 3		Writing Task 4		Writing Task 5		Writing Task 6		Writing Task 7	
	Checks	Bands												
S1	1	B2	1	C2	1	C1								
S2	2	B2	3	C1	3	C1	2	B2	2	C2	2	C2	2	C1
S3	1	B1	2	C2	1	C1	1	C2	1	C1	2	C1	2	C1
S4	4	C1	6	C2	1	C2	3	C1	11	C2	1	C2	2	B2
S5	4	C1	3	B2	3	C1	4	C1	5	B2	3	C1	4	B2
S6	1	A2												
S7	2	C1	4	C1	2	C2	2	C1	2	C1	2	C1	2	C1
S8	1	C2	2	C2	1	B2	2	C2	2	C1	2	C1	2	B2
S9	1	C1	4	B2	3	B2	4	C2	3	C1	1	B2	1	C2
S10	3	C1	2	B2	2	C2	2	C1	2	C1	2	C2	2	C1
S11	1	B2	1	C2	1	C2	1	C2	1	C1	1	C1	1	C2
S12	2	B2	2	C2	2	B2								
S13	2	B2	2	C2	4	C2	2	C2	3	C2	2	C1	2	C2
S14	2	B2	2	C2	2	B2	2	C2	2	C1	2	C2	2	C2
S15	1	B1	1	C1	1	C1	1	C1	1	C1	1	B2	1	B2
S16	1	C1	1	B2	1	C1	1	B2	1	C2	1	C2	1	C2
S17	2	C1	1	C2	1	B1	1	C1	1	B2	1	C1	1	C1
S18	1	B2	1	C2	1	C1	1	C1	1	C2	1	C1	1	B2
S19	3	B2	8	C1	4	C2	3	C2	4	C1	3	C1	3	C2
S20	3	C2	3	C2	5	C2	4	C2	6	C2	5	C1	6	C2
S21	2	C1	2	C2	2	C2	2	C2	4	C2	3	C2	2	C2
S22	3	B1	2	B2	2	B1	1	C1	1	C1	1	C2	1	C2
S23	6	C1	4	C2	5	C2	4	C2	4	C2	2	C1	2	C1
S24	3	B2	2	C2	3	C2								
S25	1	B2	1	C2	1	C2	1	C1	1	C1	1	C1	1	C1
S26	1	C1	1	C2	1	C2	1	C2	1	C2	1	C1	1	C1
S27	1	A2	1	C2	1	C1	1	C2	1	B2	1	C2	1	C2
S28	1	B1	1	B2	1	B2	1	B1	1	B1	1	B1	1	B1
S29	2	B1	2	C2	2	C1	4	C1	3	C1	3	C1	2	B2
S30	2	B2	2	C2										
S31	4	C1	3	C2	2	C1	5	C2	3	B1	5	C1	3	C1
S32	1	C1	2	C1	1	C2	1	C2	1	C1	1	C2	3	C2
S33 (No Reflection)	1	C2												
S34 (No Reflection)	2	C1	1	C2	2	C1	2	C1	2	C1	2	C1	1	C1
S35 (No Reflection)	2	B2	2	C2	2	C2	2	C2	2	C1	3	C1	3	C1
S36 (No Reflection)	1	C1	1	C2	1	C1	1	C2	1	C2	1	C1	1	C1
S37 (No Reflection)	1	B2	1	C2	1	C1	1	C1	1	B2	1	C1	1	C1

Appendix B

Table A2. Three-Level Coding Framework with Sample Excerpts.

Student ID	Open Codes	Subthemes	Core Themes	Category
S03	I learned to organize my sentences more logically and use richer vocabulary in my essays.			
S18	Through teacher and AI feedback, I corrected many grammar and punctuation mistakes that I used to overlook.	Enhanced linguistic accuracy	Linguistic Development	
S07	Now I can write paragraphs with clear topic sentences and transitions.			
S11	The automatic feedback helped me find repeated sentence patterns and improve coherence.			
S09	The CEFR levels helped me understand what B1 or B2 means in real writing.			
S14	After checking my W&I score bands, I could see which parts met the CEFR criteria.	Awareness of CEFR descriptors	Cognitive Engagement	Perceived Achievements
S27	Reading CEFR-based descriptors helped me realise why my essay was rated B2 instead of C1.			
S22	I have become more aware of my weaknesses when reading the CEFR feedback.			
S05	I feel more confident now when expressing my ideas in class and in writing.			
S16	At first I was afraid of writing, but the feedback system encouraged me to try again.	Confidence and reduced writing anxiety	Emotional Motivation	
S25	When the teacher praised my improvement, my anxiety decreased a lot.			
S19	Receiving both AI and teacher feedback made me feel that my efforts were recognized.			
S04	The automatic feedback was sometimes too general; it only told me to improve coherence without explaining how.	Difficulty interpreting automated feedback	Feedback Ambiguity	
S15	I didn't quite understand some of the automated comments because they used complex terms.			
S12	AI feedback and teacher comments sometimes gave opposite suggestions.	Conflicting feedback sources	Source Contradiction	
S26	The system told me to shorten sentences, but the teacher wanted me to expand the analysis.			
S10	Even after several revisions, my CEFR level stayed at B2, which was really discouraging.			
S23	It felt frustrating when my writing score did not improve after effort.	Frustration from lack of progress	Feedback-Induced Demotivation	
S08	Before revising, I always waited to see the teacher's or AI feedback first.			
S21	I was afraid to change anything without feedback; I relied on it too much.	Over-reliance on external feedback	Feedback Dependency	

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