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Paper Submission #24533

1 message

World Journal of English Language <wjel@sciedupress.com>

Thu, Sep 28, 2023 at 9:26 AM

To: masrilm25 <masrilm25@gmail.com>

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Dear Masrul M,

Thanks for the submission of your paper to our journal. Your paper has been assigned to a peer review.

We use a double-blind system for peer reviews. The paper will be peer-reviewed by at least two experts. The review process may take four to twelve weeks. We will inform you of our decision and the reviewers' comments as soon as possible.

If you have any questions, please feel free to contact me.

Sincerely,

Joe Nelson
Editorial Assistant
World Journal of English Language
Sciedu Press

Add: 1595 Sixteenth Ave, Suite 301, Richmond Hill, Ontario, L4B 3N9, Canada

Tel: 1-416-479-0028 ext. 218

Email 1: wjel@sciedupress.comEmail 2: wjel@sciedupress.orgWeb: <http://wjel.sciedupress.com>



Masrul Masrul <masrilm25@gmail.com>

Article Status Request

2 messages

Masrul Masrul <masrilm25@gmail.com>
To: World Journal of English Language <wjel@sciedupress.com>

Tue, Oct 17, 2023 at 10:50 PM

Dear editor

I hope you are well. I would like to ask about the status of the article that I submitted to you as of September 27, 2023 - 06:59 AM]. The article is entitled The Effect of Direct and Indirect Written Corrective Feedback on Accuracy and Fluency of University Students' English Writing .

I'm very interested to know how the article is progressing and whether any revisions or additional information is needed. Please provide the latest information regarding the status, and whether there are any further developments that I need to know about.

Thank you very much for your attention to this request. I hope to hear from you soon.

Thank you and regards,

Masrul

World Journal of English Language <wjel@sciedupress.com>
To: masrilm25 <masrilm25@gmail.com>

Wed, Oct 18, 2023 at 12:14 PM

Dear Masrul,

Thank you for your email and for inquiring about the status of your article titled "The Effect of Direct and Indirect Written Corrective Feedback on Accuracy and Fluency of University Students' English Writing," which you submitted on September 27, 2023, at 06:59 AM.

I would like to inform you that your article is currently under review. Our team is diligently evaluating its content and assessing its suitability for publication. We understand the importance of timely feedback and aim to provide you with the review results by November 1st, 2023.

If any revisions or additional information are required, our team will provide you with specific guidance and suggestions. We appreciate your patience during this process and assure you that we are working diligently to expedite the review and decision-making process.

Thank you for your understanding. If you have any further questions or if there are any updates, I will be happy to assist you.

Sincerely,

Joe Nelson
Editorial Assistant
World Journal of English Language

Sciedu Press

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Masrul Masrul <masrilm25@gmail.com>

Result of Review-WJEL

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Mon, Nov 6, 2023 at 12:06 PM

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Dear Masrul M,

Thank you for your submission to the journal. We have reached a decision regarding your submission. Please find the result attached.

Please confirm receipt of this e-mail.

Thank you.

Sincerely,

Joe Nelson
Editorial Assistant
World Journal of English Language
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Mon, Jan 15, 2024 at 5:43 PM

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[Zhicheng Mao, Icy Lee. "Feedback scope in written corrective feedback: Analysis of empirical research in L2 contexts", *Assessing Writing*, 2020](#)

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[Chandler, J. "The efficacy of various kinds of error feedback for improvement in the accuracy and fluency of L2 student writing", *Journal of Second Language Writing*, 200308](#)

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[Elham Eslami. "The Effects of Direct and Indirect Corrective Feedback Techniques on EFL Students' Writing", *Procedia - Social and Behavioral Sciences*, 2014](#)

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[Lira-Gonzales, Maria-Lourdes, Nassaji, Hossein. "The Amount and Usefulness of Written Corrective Feedback Across Different Educational Contexts and Levels", *TESL Canada Federation*, 2020](#)

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[Haiyang Sun, Wenbo QI. "Effects of Written Corrective Feedback on College EFL Students' Writing Accuracy and Linguistic Knowledge Acquisition", *Chinese Journal of Applied Linguistics*, 2022](#)

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[Hyejin Cho, YouJin Kim, Seyoung Park. "Comparing students' responses to synchronous written corrective feedback during individual and collaborative writing tasks", *Language Awareness*, 2021](#)

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[YouJin Kim, Bumyong Choi, Hyunae Yun, Binna Kim, Sujeong Choi. "Task repetition, synchronous written corrective feedback and the learning of Korean grammar: A classroom-based study", *Language Teaching Research*, 2020](#)

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[www.tandfonline.com](#)

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[Fatimah Alkhawajah. "The Effect of Written Corrective Feedback on the Acquisition of Different Types of Linguistic Features", English Language Teaching, 2022](#)

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[Tiefu Zhang. "The effect of highly focused versus mid-focused written corrective feedback on EFL learners' explicit and implicit knowledge development", System, 2021](#)

20 words / < 1% match - Internet

[Fhaeizdhyall, Abang, Jerome, Collin. "THE EFFECT OF WRITTEN CORRECTIVE FEEDBACK STRATEGIES ON COLLOCATION ERRORS OF LOW-PERFORMING ESL LEARNERS", Universitas Muhammadiyah Metro, 2020](#)

18 words / < 1% match - Crossref

[Sonia López-Serrano, Julio Roca de Larios, Rosa M. Manchón. "Chapter10. Processing output during individual L2 writing tasks", John Benjamins Publishing Company, 2020](#)

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[Daphnée Simard, Michael Zuniga. "Chapter13. Exploring the mediating role of emotions expressed in L2 written languaging in ESL learner text revisions", John Benjamins Publishing Company, 2020](#)

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[www.tojelt.com](#)

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[Behrooz Ghoorchaei, Fatemeh Mamashloo, Mohammad Ali Ayatollahi, Ayesheh Mohammadzadeh. "Effect of direct and indirect corrective feedback on Iranian EFL writers' short and long term retention of subject-verb agreement", Cogent Education, 2022](#)

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[Shiman Shae Mao, Peter Crosthwaite. "Investigating written corrective feedback: \(Mis\)alignment of teachers' beliefs and practice", Journal of Second Language Writing, 2019](#)

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[Susan Benson, Robert DeKeyser. "Effects of written corrective feedback and language aptitude on verb tense accuracy", Language Teaching Research, 2018](#)

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[Pan, Yi-chun. "THE EFFECT OF TEACHER ERROR FEEDBACK ON THE ACCURACY OF EFL STUDENT WRITING", Teflin Journal, 2015](#)

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[www.nature.com](#)

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[William S. Pearson. "Research article titles in written feedback on English as a second language writing", Scientometrics, 2020](#)

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[Ye Han, Fiona Hyland. "Academic emotions in written corrective feedback situations", Journal of English for Academic Purposes, 2019](#)

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[Tara Shankar Sinha, Hossein Nassaji. "ESL learners' perception and its relationship with the efficacy of written corrective feedback", International Journal of Applied Linguistics, 2021](#)

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[Xin Wang, "The Effects of Corrective Feedback on Chinese Learners' Writing Accuracy: A Quantitative Analysis in an EFL Context", World Journal of Education, 2017](#)

10 words / < 1% match - Internet

[Saukah, Ali, Dewanti, Desak Made Indah, Laksmi, Ekaning Dewanti. "THE EFFECT OF CODED AND NON-CODED CORRECTION FEEDBACK ON THE QUALITY OF INDONESIAN EFL STUDENTS' WRITING", Universitas Pendidikan Indonesia \(UPI\)', 2017](#)

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[Perez Nunez, Antonio Blas. "The effects of comprehensive written corrective feedback on the revision and acquisition of specific L2 forms", 2015](#)

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[Jianhua Zhang, Lawrence Jun Zhang. "The effect of feedback on metacognitive strategy use in EFL writing", Computer Assisted Language Learning, 2022](#)

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[Vera A. Dugartsyrenova, Veronica G. Sardegna. "Enhancing genre instruction on research proposal introductions with an online academic writing tutor", Journal of Second Language Writing, 2022](#)

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doktori.bibl.u-szeged.hu

9 words / < 1% match - Internet

[Al Harrasi, Sharifa Nasser Mohammed. "The effectiveness of direct and indirect written corrective feedback in improving the grammatical accuracy of Omani EFL learners", University of Stirling](#)

9 words / < 1% match - Internet

[Putri, Natalia Faradheta, Ma, Giovanni Chun Long. "THE EFFECT OF CORRECTIVE FEEDBACKS ON L2 STUDENTS' WRITING PERFORMANCE", Universitas Islam Sumatera Utara', 2022](#)

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pt.scribd.com

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repository.essex.ac.uk

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[Laura Gurzynski-Weiss, YouJin Kim. "Chapter1. Getting started", John Benjamins Publishing Company, 2022](#)

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[Syed Muhammad Mujtaba, Barry Lee Reynolds, Rakesh Parkash, Manjet Kaur Mehar Singh. "Individual and collaborative processing of written corrective feedback affects second language writing accuracy and revision", Assessing Writing, 2021](#)

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[Tatsushi Fukunaga. "L2 writing development through two types of writing task repetition", International Review of Applied Linguistics in Language Teaching, 2021](#)

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aut.researchgateway.ac.nz

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dar.aucegypt.edu

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[Elhawwa, Tazkiyatunnafs, Rukmini, Dwi, Mujiyanto, Januarius, Sutopo, Djoko. "Providing written corrective feedback on students' writing assignments at IAIN Palangka Raya", Institut Agama Islam Negeri Palangka Raya Indonesia, 2018](#)

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[Solares-Altamirano, Maria-Elena. "The effects of different error correction conditions in learner-initiated noticing:in written corrective feedback", Lancaster University, 2015](#)

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[Richardson, C. James. "Aspects of contemporary social mobility in the London region", 'Fraunhofer-Institut fur Materialfluss und Logistik', 1975](#)

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[Aridah Aridah, Weningtyas Parama Iswari. "The effect of indirect feedback on students' writing performance across different learning strategies", Cypriot Journal of Educational Sciences, 2021](#)

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[Valizadeh, Mohammadreza. "The Effect of Comprehensive Written Corrective Feedback on EFL Learners' Written Syntactic Accuracy", 'Australian International Academic Centre', 2020](#)

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[Thi Thuy Minh Nguyen, Thi Thanh Ha Do, Anh Tuan Nguyen, Thi Thanh Thuy Pham. "Teaching email requests in the academic context: a focus on the role of corrective feedback", Language Awareness, 2015](#)

6 words / < 1% match - Internet

[Neomy Storch. "Critical Feedback on Written Corrective Feedback Research", International Journal of English Studies, 2010](#)

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[Abraham, Joji. "The influence of controlled fire on the mobilization of Potentially Toxic Elements \(PTE\) in a mined landscape : Implications for land management and environmental health", 'Federation University Australia', 2018](#)

paper text:

The Effect of Direct and Indirect Written Corrective Feedback on Accuracy and Fluency of University Students

' English Writing Abstract This research aimed to determine

the effect of WCF, direct and indirect, on overall accuracy , error types, and overall accuracy and fluency in

pretest, posttest, and delayed posttest in rewritten text. The

research questions looked at the potential links between the direct & indirect WFC, grammar & non-grammar errors, and standpoint of feedback for accuracy and fluency. The research participants were 100 EFL students from the University of Pahlawan Tuanku Tambusai, Indonesia. The results showed substantial

differences among the three treatment groups in the percentage of successfully and

unsuccessfully corrected errors, as well as the percentage of uncorrected and deleted errors in grammar and non-grammar errors. The group of individuals receiving the Direct WCF experienced the greatest improvement in accuracy. This demonstrated that providing direct WCF can increase participants' accuracy over time (long term). The provision of indirect WCF can raise the fluency of participants in terms of total words, but the provision of direct WCF can increase the fluency of participants in terms of t-units in the long term.

Keywords: Written Corrective Feedback, Feedback accuracy, Feedback fluency, Errors type, English Writing 1.

Introduction Writing in English is challenging for students learning English as a second or foreign language (L2/FL) as

it requires knowledge of new writing habits and English grammar in an English-speaking culture (Hyland & Hyland, 2006).

Academic Writing is an emotionally charged process , particularly for second language learners who must contend with

high linguistic requirements (Langum & Sullivan, 2017). These challenges make writing one of the most challenging activities and increase students' reliance on teachers for corrections and teaching. Hence, many EFL writing teachers and researchers are concentrating their efforts on

assisting L2/FL students in improving their Writing in accordance with their learning needs and course objectives

(Polio & Williams, 2009). Pointing out their errors in the target language is one of the most common strategies for helping these students with their Writing. Written Corrective Feedback (WFC) is the general term for all this

teaching approach. WCF is a typical approach used by second language (L2) teachers to help their pupils improve their writing accuracy. As Truscott (1996) mentioned, WCF effectively improves L2 learners' writing skills and might be part of a learning process.

Responses to linguistic errors in students' written work are referred to as WCF.

As a critical aspect of L2 writing training, WCF has sparked much debate in the literature (Ferris, 2010). In addition, WCF is regarded as a critical condition for students' interlanguage development because it helps them "identify the difference between their interlanguage output and the target language input" and reorganize their linguistic brain processes.

During the WCF study, Van Beuningen et al. (2012) stated that WCF was only presented on one or a few occasions, and depending on the scope of the input and the instance of targeted WCF, the same target error types and text type were used throughout the whole process of target WCF (Rahimi, 2019). WCF improves learners' cognitive growth by encouraging them to communicate with others in their learning contexts.

Aside from providing an overview of WCF studies published over the past four decades with an emphasis on feedback scope, this review study intends to identify and discuss unresolved difficulties related to feedback scope and make recommendations for future studies. The present review, focusing explicitly on the scope of feedback, will provide useful information to earlier syntheses about the efficacy of WCF based on quantitative research, which will benefit from the findings of this review (Truscott, 2007). As a form of help inside a student's constructivist approach, WCF may require the student to go to the next level of her cognitive development. As a result of

the provision of and receipt of WCF, learners and teachers participate in social activities as well as cooperatively explore the meaning and function of language. Moreover, WCF is considered collaborative participation in educational efforts (Ahmadian & Tajabadi, 2014).

Instructors have been observed to deliver several types of WCF in feedback to their student's written work (Leki, 1991), with past studies identifying seven major WCF techniques. These engagement methods include direct, indirect, metalinguistic, focused (selected), unfocused (comprehensive), and WCF on local and global issues

(Ferris & Roberts, 2001). Attempted to study the effects of WCF from a theoretical approach, specifically in terms of the twofold contrast between accuracy and acquisition feedback (Manchón, 2011). Both theoretical and pedagogical issues influenced the direction of the investigation. Nonetheless, this research aimed to assess WCF's effect in relation to the distinction

between feedback for accuracy and for acquisition to gain a better understanding of how WCF functions. In the feedback for accuracy, students participate in processing feedback, error detection, self-reflection on errors, and new output

. On the other hand, feedback for acquisition is intended to promote long-term language learning by engaging students in processing feedback, error detection, self-reflection on errors, and new output

. The researchers simply used the contrast between feedback for accuracy and fluency as a heuristic to study the short-term and long-term possible learning benefits of WCF, which is connected to Norris and Ortega's fluency and accuracy differentiation. In the following sections, we will discuss a few in-depth study strands relevant to our research, focusing on the targeted aims and the methods used. 2. Review of Previous Research 2.1 Accuracy and Fluency Feedback The objectives

of the study are linked to the error correction debate, which is most frequently associated with Truscott (1999). Once it comes to immediate revisions, there is general agreement that WCF enhances grammatical accuracy (although there is much variation in the variables that can influence its effects). However, the empirical evidence for longer-term language-learning implications is mixed. Furthermore, Truscott

&
 Hsu (2008) discovered that successful error reduction of the revised texts in an EFL setting was not a predictor of L2 development (i.e ., decreased new texts errors), whereas (

Van Beuningen, De Jong, & Kuiken 2012) discovered that unfocused feedback was found to improve accuracy in an L2 context not only during editing but also in new pieces of Writing

. Research undertaken by Simard et al. (2015) demonstrated that although the participants understood the WCF they were given, certain corrections nevertheless resulted in incorrect guesses about the goal of the correction. Additionally, there appear to be variances in the verbalizations of the participants based on the feedback they received

. Biber, Nekrasova, and Horn (2011) researched to determine the impact of various WCF forms on the quality of students' Writing . The findings comprised both L1 and L2 WCF trials, which revealed that WCF had a small significant impact on writing quality, depending on the level of difficulty of

the writing task. Students studying English as a second language (ESL) were investigated by Nusrat, Ashraf, and Narcy-Combes (2019). The impact of instructor feedback on the written English accuracy of ESL students was investigated in this research. The findings imply that incorporating oral metalinguistic teacher feedback into the context of Pakistani language acquisition might help students achieve more success in their efforts to learn the English language more quickly and efficiently. Benson and DeKeyser (2019) investigated the influence of direct or metalinguistic written feedback on simple past tense and present perfect tense mistakes in the past and present perfect tense.

Both treatment groups outperformed the control group, with direct feedback being more durable than metalinguistic input in one structure, the simple past tense . In the following up research, Rahimi (2019) assessed the impact of focused versus comprehensive WCF and revision on improving writing accuracy in ESL students. The results revealed that the focused groups outperformed the comprehensive groups in minimizing their word errors at T2. However , there was no statistically significant difference between the two groups regarding revision. Furthermore,

Kim et al. (2020) investigated the impact of direct and indirect WCF on the learning among high beginning-level Korean students when they collaborate on collaborative writing assignments. Direct WCF

proved to be more helpful in supporting students in creating accurate Writing . However, both types of feedback proved to be effective in fostering the learning of new linguistic elements through collaborative Writing , as evidenced by the findings. 2.2 WCF and Types of Errors This study looked at which sort of WCF, direct or indirect, resulted in greater error reduction across broad error categories (for example, grammar and non-grammar errors) and

specific error types. A broad coding system (Van Beuningen et al., 2012) was used to distinguish between grammar & non-grammar errors, and a data-driven narrow coding approach was utilized (Ferris et al., 2013). Furthermore, the researchers discriminated between WCF mistakes that were effectively fixed and WCF errors that were not: uncorrected errors, successful corrections, unsuccessful corrections , and deleted errors

(Van Beuningen, De Jong & Kuiken 2012). Direct (oral) and indirect (written) feedback have been employed in error feedback studies. Furthermore, most WCF research (Lalande, 1982) distinguished between direct and indirect corrective feedback, the two frequent types of written corrective feedback

. Direct WCF involves the teacher providing the correct form to the students, which is preferable for students with a low level of competence who are unable to self-correct and are unaware of what the correct form is. Ferris & Hedgcock (2014) argued that direct feedback helps to avoid confusion, reduces learners' cognitive burden, and allows them to test their hypotheses more directly. Based on the directed nature of direct feedback, it can point to specific errors made by the learners, such as errors connected to spelling errors or any form of vocabulary or morpheme modifications. Furthermore, it can assist the student in producing the correct phonetics in a margin or frame misaligned (Ellis et al., 2008). However, indirect feedback is more effective at facilitating internalization of the form and deepening metalinguistic knowledge processing than direct feedback (Bitchener, 2012). Additionally, indirect feedback forces students to correct flaws identified by their teachers, who do not provide the appropriate form of feedback to students (Ferris & Roberts, 2001).

The following research questions guided this research: 1

. How does WCF (direct and indirect) affect the overall accuracy of a rewritten text? 2. How does

WCF (direct and indirect) affect the accuracy, specifically the type of error in the rewritten text? 3. How does WCF (direct and indirect) affect the overall accuracy in the posttest and the delayed posttest

? 4. How does WCF (direct and indirect) affect the overall fluency of participants in the pretest, posttest, and delayed posttest

? 1. Materials and Methods As mentioned by Bitchener & Ferris (2012), four or more tasks should be included in the design of WCF research: a pretest, an update of the pretest, and a delayed posttest. Participants revised a previously written text as part of this research after they received one of two forms of WCF (direct or indirect) in contrast to a control group receiving no WCF. In addition, each participant created two more texts during the research at different times.

The two types of WCF differed in terms of their explicitness; given that the correction was offered, the direct WCF was more explicit than the indirect WCF because the actual location of each mistake was sent along with an code identifying its kind. Bitchener & Ferris (2012) solved the focused–unfocused issue as well as challenges such as the interplay between error categories and kinds of WCF (direct and indirect). In this research, the researchers investigated which form of WCF (direct or indirect) produced higher error reduction across broad error categories; grammar & non-grammar errors. In this research, the researchers distinguished between effectively successful corrections, uncorrected errors, unsuccessfully corrections, and deleted errors (Van Beuningen, 2011).

3.1 Participants and setting The participants were 100 EFL students from the University of Pahlawan Tuanku Tambusai, Indonesia, enrolled in the course as part of their English Studies degree. Before studying at the university, they had been learning English for about 12 years, and their proficiency matched that of a B1 Threshold-Independent User, the highest level of proficiency. This level was chosen for this study to allow learners to process and participate in the feedback received throughout the language learning session. 3.2 Design and Data Collection Procedures One intrasubject component with four possible values (pretest, rewrite, posttest, and delayed posttest) and one intrasubject factor WCF with three possible values (unfocused direct WCF, unfocused indirect WCF, and no feedback) were employed in the design and data collection. Hence, there were

two treatment groups and one control group (CG). The treatment groups got direct (direct group [DG]) or indirect WCF (indirect group [IG]) WCF, while the control group (CG) received no feedback prior to rewriting their

articles. Overall, five weeks were spent collecting information in four stages. Over the five weeks, participants wrote their first text (pretest), received WCF (treatment groups) or no feedback (control groups), and language

about their errors in their original texts (with or without the availability of WCF for the intervention and control groups, respectively), rewrote their initial text (rewriting), and finally wrote two additional texts on different topics (posttest and delayed posttest

). They produced several writing contexts before making adjustments to their texts and created new ones to allow for self-reflection processes in reaction to the criticism they received.

This data collection method may have resulted in an unexpected practice effect

, which the researchers were informed of. However, they had no other choice for gathering data to analyze the effects of feedback on new writing pieces. The

researchers were concerned about the possible combined influence of WCF and languaging in the data. Although no control group did not engage in languaging but get WCF, the researcher was able to dissociate the possible combined impact of WCF and languaging since there was a control group that did not engage in languaging about their errors but did receive WCF. During the language sessions,

all participants received 50 minutes to evaluate their errors and receive feedback (feedback groups) or to identify their own errors and reflect on them (CG

). According to Suzuki (2012), the following instructions were given to the participants. All three groups (DG, IG, and CG) traveled through a languaging session, which included

copying each error from the pretest on a piece of paper, providing a correction (already provided in the feedback for the DG), an ML code (already provided in the feedback for the IG), and an ML explanation (not provided in the feedback for either of the two feedback groups

). During the rewriting session, the participants were required to find errors they recognized from the languaging session in their previous uncorrected essays to recreate their writings more accurately in the rewriting session.

After revising their texts for a week, each participant ended up with a new piece of Writing. Following the

posttest, all

participants were required to write a new piece of

Writing. 3.3 Procedures for Data Coding and Analysis Despite the highly precise coding schemes used, two reviewers (knowledgeable EFL instructors and researchers) effectively

coded all errors for all coding schemes to

maintain a high level of reliability (100 percent), despite appearances in applied linguistics. When raters argued, the errors were reviewed until everyone agreed. Moreover,

a broad coding system on Van Beuningen et al. (2012

) was used to distinguish between grammar and non-grammar

errors, and a narrow coding system (Ferris et al., 2013) and partly data-driven

. The researchers devised a coding scheme based on the

operationalization of depth of processing to distinguish between learners' cognitive effort when digesting the WCF they got (intervention groups

) and their own self-identified errors (control groups) in terms of language (CG). A non-parametric statistical approach was used to evaluate the data because of our small sample size and non-normal data distribution. The Kruskal–Wallis

tests, Mann–Whitney U, Wilcoxon Signed Rank, and Friedman tests were all used to

examine the data. It was decided to utilize Kruskal–Wallis tests to examine how many mistakes and types of errors were made, and how many errors were reduced in each group in the study. Following the confirmation that statistically significant differences existed between the

three groups,

the Mann–Whitney U tests were used to determine whether any statistically significant differences existed between the two specific groups

. Friedman tests were utilized when comparing the reduction in errors produced in one group's tests to the other group's tests. 2. Result 2.1 WCF's effect (direct & indirect) on the overall accuracy of a rewritten text Table 1

Error Correction Rate in Rewritten Texts: Descriptive Statistics and Kruskal-Wallis

M (SD) Kruskal-Wallis Test Category DG IG CG H Successful corrections Unsuccessful correction Uncorrected errors Deleted errors 47.81 (6.03) 7.28 (2.35) 40.21 (5.88) 4.67 (1.58) 41.37 (3.84) 10.17 (1.81) 40.48 (4.91) 7.96 (1.99) 18.31 (2.64) 3.72 (1.00) 64.99 (4.21) 12.96 (3.45) 43.65 38.61 39.57 41.35 0.00 0.00 0.00 0.00 Table 1 presents the error correction rate

in rewritten texts and indicates significant differences between the three treatment groups (DG, IG, CG) in the percentage of successful and unsuccessful corrections, as well as the percentage of uncorrected and deleted errors. Table 2 Comparison of Error Correction Rate in Rewritten Texts across Group: Mann-Whitney DG vs. IG DG vs. CG IG vs. CG

Category Successful corrections Unsuccessful correction 66.50 0.00 53.5 0.00 0.00 0.00 42.50 0.00 0.00 0.00 0.00 0.00 Uncorrected errors Deleted errors 158.0 0.69 40.5 0.00 0.00 0.00 0.00 0.00 0.00 0.00 33.00 0.00 Table 2 shows that WCF (DG and IG) gave more successful corrections than CG, and Direct WCF had more successful corrections than Indirect WCF. Although WCF provides more successful corrections, it turns out that WCF also provides more unsuccessful corrections than CG. In addition, WCF had significantly less uncorrected error than CG,

but there was no significant difference between different types of

WCF (DG and IG). Also, direct WCF has the smallest deleted errors significantly. 4.2 WCF's effect (direct & indirect) on the accuracy, specifically the type of error in the rewritten text.

Table 3 Number of Error Type in Rewritten

Text:
Descriptive Statistics and Kruskal-Wallis Category Error Type Test
M (SD) Kruskal-Wallis DG IG CG H Successful corrections Unsuccessful correction Uncorrected errors Deleted errors Grammar Non-grammar

Grammar Non-grammar Grammar Non-grammar Grammar Non-grammar
11.68 8.09 (1.49) (1.35) 9.43 8.57 (0.94) (0.93) 1.08 2.10 (0.61) (0.57) 2.25 2.01 (0.83) (0.58) 9.55 7.40 (2.14) (1.73) 8.61 9.20 (2.76) (2.51) 1.00 1.07 (0.56) (0.62) 1.05 2.10 (0.60) (0.69) 5.04 (1.15) 2.56 (0.29) 1.05 (0.57) 0.50 (0.28) 14.82 (1.67) 12.30 (2.22) 2.90 (1.68) 2.52 (0.95) 47.47 42.02 21.59 39.87 41.72 17.52 17.53 23.07

0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 The results of the number of error types in rewritten text in Table 3 reveal significant differences between the three treatment groups (DG, IG, CG) in successful and unsuccessful corrections, with the DG group being the highest. There is also

a significant difference in the percentage of uncorrected and deleted errors in terms of grammar and non-grammar. Table 4 Comparison of Number Error Type in Rewritten Text: Mann-Whitney DG vs. IG DG vs. CG IG vs. CG Category Error Type Successful corrections Unsuccessful correction Uncorrected errors Deleted errors Grammar Non-grammar

Grammar Non-grammar Grammar Non-grammar Grammar Non-grammar
9.50 0.00 91.00 0.01 43.5 0.00 142.0 0.38 81.5 0.00 152.0 0.56 157.5 0.68 46.5 0.00 0.00 0.00 0.00 0.00 193.0 0.86 0.00 0.00 5.00 0.00 62.0 0.00 65.0 0.00 39.0 0.00 14.50 0.00 40.50 0.00 0.00 68.5 65.5 150.5 0.00 0.00 0.00 0.00 0.00 0.28 Table 4 compares the number of error types in rewritten text. It shows that successful

corrections of grammar and non-grammar errors WCF were significantly higher than CG. However, DG provides better successful correction than IG, both in terms of grammar and non-grammar. In unsuccessful correction of grammar errors, DG was significantly better than IG but only slightly different from CG. As for non-grammar, WCF was significantly superior to CG. In terms of uncorrected grammar and non-grammar errors, WCF was significantly superior to CG. Moreover, IG has significantly more uncorrected grammar errors than DG. While, in deleted grammar errors, WCF had significantly fewer deleted grammar errors than CG. As for non-grammar, DG had significantly fewer deleted grammar errors than IG and CG. 4.3 WCF's effect (direct & indirect) on the overall accuracy in the posttest and delayed posttest. Table 5 Percentage of Errors: Analysis of

Descriptive Statistics and Kruskal-Wallis M (SD) Kruskal-Wallis Test Test DG IG CG H Pretest Posttest Delayed posttest 12.76 (1.49) 12.77 (1.50) 13.26 (1.25) 1.49 0.47 11.31 (1.35) 10.36 (1.35) 10.91 (1.52) 3.80 0.15 8.44 (0.95) 9.61 (1.61) 9.71 (1.54) 8.32 0.02 When viewed from the type of test, Table 4 reveals that the

percentage of errors in the delayed posttest was significantly different between the three treatment groups (DG, IG, CG). Participants receiving direct WCF statistically had a lower percentage of error than those receiving indirect WCF and those not receiving WCF

(DG vs. IG: $U = 97.00$, $p = 0.02$; DG vs. CG: $U = 100.0$, $p = 0.01$). On the other hand, based on each treatment group, the results of Friedman's test showed that three groups had a significant difference in the error percentage in the pretest, posttest, and delayed posttest: DG, ; IG, CG,) based on Figure 1. Figure 1 Average Percentage of Error across Time Table 6

Reduction of Percentage of Error Across Tests within Groups: Wilcoxon DG IG

CG Pair Pretest – Posttest Pretest – Delayed Posttest -3.65 0.00 -3.83 0.00 -3.20 0.00 -3.48 0.00 -3.55 0.00 -4.01 0.00 The results in Table 6 show a

significant increase in the participants' accuracy over time, from pretest to posttest and from pretest to delayed posttest ($p < 0.05$). An increase in accuracy occurred in participants who obtained WCF (DG and IG) and those who did not (CG). The highest increase in accuracy occurred in the group of participants who received the Direct WCF. This shows that administering WCF, especially direct WCF, can improve participant accuracy over time (long term). 4.4 WCF's effect (direct & indirect) on the overall fluency of participants

in the pretest, posttest, and delayed posttest . a. Overall words Table 7 illustrates the overall words based on the type of test. It indicates that the number of words in the posttest and delayed posttest was significantly different between

the three treatment groups (DG, IG, CG). In the posttest, participants receiving indirect WCF had significantly greater word count than those receiving direct WCF and those not receiving WCF (DG vs. IG: ; IG vs. CG:).

In the delayed posttest, the participants with indirect WCF had the largest number of words. While, participants obtaining direct WCF had significantly lower word counts than those without WCF (DG vs. IG: ; IG vs. CG:). Table 7 Overall Words: Analysis of Descriptive Statistics and Kruskal-Wallis M (SD) Kruskal-Wallis Test Test DG IG CG H Pretest Posttest Delayed posttest 118.2 (63.02) 90.0 (38.38) 143.6 (54.37) 120.6 (56.88) 125.1 (25.06) 204.8 (39.46) 119.8 (39.43) 99.0 (29.95) 181.7 (30.37) 0.06 9.78 13.98 0.97 0.01 0.00

Figure 2 also depicts the Friedman test results, showing that the three groups have significantly different overall words, both decreasing and increasing in

the pretest, posttest, and delayed posttest in each treatment group

: DG, ; IG, CG,). Figure 2 Overall Words across Time Table 8 Improvement of Overall Words Across Time within Groups: Wilcoxon DG IG CG Pair Pretest – Posttest Pretest – Delayed Posttest -2.36 0.02 -1.61 0.11 -0.28 0.77 -3.46 0.00 -1.99 0.04 -3.98 0.00 Table 8 showed that the overall words from pretest to posttest in participants receiving Direct WCF and those not receiving WCF significantly decreased ($p < 0.05$). Meanwhile, the overall words of participants receiving Indirect WCF increased but not significantly. There was a significant increase in overall word from pretest to delayed posttest in participants who received Indirect WCF and those who did not (CG). This shows that giving Indirect WCF can increase the number of words that participants can compose over time (long term). b. T-Units Based on the type of test, the t-units in the delayed posttest showed significant differences between the three treatment groups (DG, IG, CG), as seen in Table 9

. Participants who obtained WCF statistically had lower t-units than those who did not (DG vs. IG: ; DG vs. CG: ; IG vs. CG:). Table 9 T-Units: Analysis of Descriptive Statistics and Kruskal-Wallis Test DG M (SD) IG CG Kruskal-Wallis Test H Pretest 8.53 (3.63) 9.61 (3.52) 9.38 (3.52) 1.01 0.61 Posttest 9.05 (3.06) 8.28 (2.72) 11.3 (8.72) 2.39 0.30 Delayed posttest 11.2 (3.75) 10.28 (3.72) 14.0 (1.82) 11.45 0.00

The Friedman test results show that participants who received direct WCF and those who did not (CG) had significantly different t-units, both decreasing and increasing, on the pretest, posttest, and delayed posttest: DG, ; IG, CG,), as illustrated in Figure 3. Figure 3 T-Units across Time Table 10 Improvement of T-Units Across Time within Groups: Wilcoxon DG IG CG Pair Pretest – Posttest Pretest – Delayed Posttest -0.51 0.61 -2.49 0.01 -1.10 0.27 -0.59 0.55 -1.05 0.29 -3.93 0.00 Table 10 shows that the t-units from the pretest to posttest of the participants receiving Direct WCF and those not receiving WCF increased but not significantly. Meanwhile, it was decreased for the participants who received Indirect WCF . There was a

significant increase in t-units between the pretest and delayed posttest in participants who obtained Direct WCF and those who did not (CG). The increase in t-units in participants who did not receive WCF was greater than that in participants who received Direct WCF. This shows that implementing Direct WCF and without WCF can increase participants' t-units over time (long term). c. Sentence Counts When viewed from the type of test, the sentence counts

in the pretest, posttest, and delayed posttest

showed

significant differences between the three treatment groups (DG, IG, CG), as presented in Table 11. In the pretest, participants receiving direct WCF statistically had lower sentence counts than those receiving indirect WCF and not receiving WCF (DG vs. IG: ; DG vs. CG:). In the posttest, participants receiving direct WCF statistically had lower sentence counts than those receiving indirect WCF and not receiving WCF (DG vs. IG: ; DG vs. CG:). In the delayed posttest, participants with WCF had lower sentence counts than those without WCF (DG vs. CG: ; IG vs. CG:). Table 11 Sentence Counts: Analysis of Descriptive Statistics and Kruskal-Wallis Test

	DG M (SD)	IG M (SD)	CG M (SD)	Kruskal-Wallis Test H
Pretest	9.51 (1.90)	16.01 (1.67)	14.30 (4.34)	24.14 0.00
Posttest	5.50 (0.56)	10.81 (4.03)	13.41 (0.81)	37.77 0.00
Delayed posttest	10.28 (2.61)	9.52 (2.78)	7.94 (1.89)	12.73 0.00

Concerning each treatment group, the Friedman test results show that the three groups have significantly different sentence counts, both decreasing and increasing, on the pretest, posttest, and delayed posttest: DG, ; IG, CG,), as illustrated in Figure 4. Figure 4 Sentence Counts Across Time Table 12 Improvement of Sentence Counts Across Time within Groups: Wilcoxon

	DG	IG	CG	Pair Pretest – Posttest	Pretest – Delayed Posttest
	-3.82	0.00	-0.95	0.34	-3.72
	0.00	-3.72	0.00	-0.95	0.34
	-3.77	0.00	-0.95	0.34	-3.77
	0.00	-3.77	0.00	-0.95	0.34

Table 12 presents the improvement of sentence counts. It shows that the sentence counts between the pretest and posttest in participants obtaining WCF significantly decreased. In addition,

there was a significant decrease in sentence counts from pretest

to delayed posttest in participants receiving indirect WCF and those who did not receive WCF (CG). This shows that either with WCF or without WCF, the sentence counts decrease over time (long term). Among the three fluency indicators: overall words, t-units, and sentence count, only overall words and t-units showed increased participant fluency after obtaining WCF. The provision of indirect WCF can increase the fluency of participants in terms of overall words, while the provision of direct WCF can increase the fluency of participants in terms of t-units in the long term.

3. Discussion

The first research question investigated the WCF's effect (direct and indirect) on the overall accuracy of the rewritten text. The results revealed that the proportion of successful and unsuccessful corrections, as well as the percentage of uncorrected and deleted errors, substantially varied across three treatment groups (DG, IG, CG). WCF (DG and IG) had a greater proportion of successful corrections than CG, and

direct WCF had a higher percentage of effective corrections than indirect WCF

. WCF has a higher rate of successful corrections than CG; it also has a higher rate of unsuccessful corrections. There was a substantial difference between WCF and CG in terms of uncorrected error but no significant difference between the different forms of WCF (DG and IG). Furthermore, direct WCF has the smallest deleted errors. It was observed that the successful corrections of updated texts in an EFL context were

not a predictor of L2 development (i.e ., fewer errors in new texts

). However, successful corrections of revised texts in an EFL setting were predictors (Truscott & Hsu, 2008). Moreover,

Van Beuningen et al. (2012) showed that providing unfocused feedback increased accuracy in Writing, not only while revising but also when developing new writing pieces.

The second research question was about the WFC's effect (both direct and indirect) on the accuracy, specifically, the sort of mistake introduced into the rewritten text. The findings revealed statistically significant differences between the three treatment groups (DG, IG, CG) in terms of successful and failed repairs, as well as the proportion of uncorrected and deleted errors, both in grammar and non-grammar. Furthermore, when it came to successful fixes of grammar and non-grammar problems, WCF outperformed CG by a wide margin. On the other hand, DG delivers more successful corrections than IG in terms of grammar and non-grammar correction. In unsuccessful corrections of grammar errors, DG was significantly better than IG but only slightly different from CG. As for non-grammar, WCF was significantly superior to CG. In terms of uncorrected grammar and non-grammar errors, WCF was significantly superior to CG. Furthermore, IG has a higher percentage of uncorrected grammatical errors than DG. On the other hand, WFC had significantly more deleted grammatical errors than CG in this category. In terms of non-grammatical errors, DG had significantly fewer than IG and CG. The following four WCF conditions were investigated: corrective, underlined, and discussion (underlining errors and providing error codes), description (provided error codes without notifying learners where the errors occurred), and simply highlight (underlining errors without delivering error codes) (Chandler, 2003). Specifically, the data demonstrated that providing direct and indirect feedback was more efficient in reducing learner errors than just mentioning the categories of errors.

The most effective of the four feedback forms for producing precise changes were direct correction, which was the most common (i.e., correct uptake). Similarly, Van Beuningen et al. (2012) discovered that direct feedback had a stronger impact on both short-term and long-term improvements in correctness in rewritten texts.

The third research question addressed the WCF's effect

(direct and indirect) on overall accuracy in the posttest and delayed posttest.

The results indicated that the percentage of errors was significantly different between the three treatment groups (DG, IG, CG) in the delayed posttest. Participants experiencing direct WCF had a lower rate of error than those receiving indirect WCF or not given WCF. Moreover, there was a significant increase in the participants' accuracy over time, from pretest to posttest and from pretest to delayed posttest. The participants receiving WCF (DG and IG) and those who did not both improved their accuracy (CG). There have been studies that show that teacher error feedback is no more effective

than content-related comments or no feedback in developing accuracy in L2 student writing

(e.g., Kepner (1991); Polio et al., (1998); and Semke (1984), but these studies need to be looked into further. According to Kepner (1991), college students who got surface-level error correction produced fewer errors in their journals than those who got message-related remarks. However, the students were not required to do anything with the teacher's corrections

. The lack of effect of error correction on accuracy and negative effect on fluency found by Semke (1984) may not be fully related to the different treatment approaches but rather to disparities in the amount of writing practice. The last research question addressed the WCF's effect (direct and indirect) on the overall fluency

in the pretest, posttest, and delayed posttest. According to the results, the total number of words in the posttest and

the delayed posttest demonstrated a statistically significant difference between the three treatment groups (DG, IG, CG). Furthermore, the Friedman test findings from each treatment group demonstrate that they had substantially different total words, decreasing and increasing

in the pretest, posttest, and delayed posttest compared to the other groups

. This shows that giving Indirect WCF can increase the number of words composed by participants over time (long term). While in the t-units, it can be seen that

the delayed posttest showed significant differences between the three treatment groups (DG, IG, CG). There was a significant increase in t-units from pretest to delayed posttest in participants who received Direct WCF and those who did not (CG). This shows that giving Direct WCF and without WCF can increase participants' t-units over time (long term). In addition,

there was a significant decrease in sentence counts from pretest

to delayed posttest in participants receiving indirect WCF and those who did not (CG). This shows WCF or not; the sentence counts always decrease over time (long term). References Ahmadian, M., & Tajabadi, A. (2014). A Sociocultural Perspective on Corrective Feedback in L2: The Effect of Negotiated versus Nonnegotiated Feedback on the Accuracy Improvement in Writing. *The Iranian EFL Journal*, December(November 2017), 6–36. Benson, S., & DeKeyser, R. (2019). Effects of written corrective feedback and language aptitude on verb tense accuracy. *Language Teaching Research*, 23(6), 702–726. <https://doi.org/10.1177/1362168818770921> Biber, D., Nekrasova, T., & Horn, B. (2011). the Effectiveness of Feedback for L1-English and L2-Writing Development: a Meta-Analysis. *ETS Research Report Series*, 2011(1), i – 99. <https://doi.org/10.1002/j.2333-8504.2011.tb02241.x> Bitchener, J. (2012). A reflection on “the language learning potential” of written CF. *Journal of Second Language Writing*, 21(4), 348–363. <https://doi.org/10.1016/j.jslw.2012.09.006> Bitchener, J., & Ferris, D. R. (2012). Written corrective feedback in second language acquisition and Writing. *Written Corrective Feedback in Second Language Acquisition and Writing*, 1–220. <https://doi.org/10.4324/9780203832400>

Chandler, J. (2003). The efficacy of various kinds of error feedback for improvement in the accuracy and fluency of L2 student writing. *Journal of Second Language Writing*, 12(3), 267–296. [https://doi.org/10.1016/S1060-3743\(03\)00038-9](https://doi.org/10.1016/S1060-3743(03)00038-9)

Ellis, R., Sheen, Y., Murakami, M., & Takashima, H. (2008). The effects of focused and unfocused written corrective feedback in an English as a foreign language context. *System*, 36(3), 353–371. <https://doi.org/10.1016/j.system.2008.02.001>

Ferris, D. R. (1999). The case for “The Case Against Grammar Correction in L2 Writing Classes”: A response to Truscott (1996). *Journal of Second Language Writing*, 8(2), 111–122. [https://doi.org/10.1016/S1060-3743\(99\)80124-6](https://doi.org/10.1016/S1060-3743(99)80124-6)

Ferris, D. R. (2010). Second language writing research and written corrective feedback in SLA: Intersections and practical applications. *Studies in Second Language Acquisition*, 32(2), 181–201. <https://doi.org/10.1017/S0272263109990490>

Ferris, D. R., Liu, H., Sinha, A., & Senna, M. (2013). Written corrective feedback for individual L2 writers. *Journal of Second Language Writing*, 22(3), 307–329. <https://doi.org/10.1016/j.jslw.2012.09.009>

Ferris, D. R. & Roberts, B. (2001). Error feedback in L2 writing classes How explicit does it need to be? *Journal of Second Language Writing*, 10(3), 161–184. [https://doi.org/10.1016/S1060-3743\(01\)00039-X](https://doi.org/10.1016/S1060-3743(01)00039-X)

Hyland, K. & Hyland, F. (2006). Feedback on second language students' Writing. *Language Teaching*, 39(2), 83–101. <https://doi.org/10.1017/S0261444806003399>

Kepner, C. G. (1991). An Experiment in the Relationship of Types of Written Feedback to the Development of Second-Language Writing Skills. *The Modern Language Journal*, 75(3), 305–313. <https://doi.org/10.1111/j.1540-4781.1991.tb05359.x>

Kim, Y. J., Choi, B., Yun, H., Kim, B., & Choi, S. (2020). Task repetition, synchronous written corrective feedback and the learning of Korean grammar: A classroom-based study. *Language Teaching Research*. <https://doi.org/10.1177/1362168820912354>

Lalande, J. F. (1982). Reducing Composition Errors: An Experiment. *The Modern Language Journal*, 66(2), 140–149. <https://doi.org/10.1111/j.1540-4781.1982.tb06973.x>

Langum, V., & Sullivan, K. P. H. (2017). Writing academic english as a doctoral student in sweden: narrative perspectives. *Journal of Second Language Writing*, 35, 20–25. <https://doi.org/10.1016/j.jslw.2016.12.004>

Leki, I. (1991). The preferences of ESL students for error correction in college-level writing classes. *Foreign Language Annals*, 24, 204–218.

Manchón, R. M. (2011). Writing in foreign language contexts: Learning, teaching, and research. In *Writing in Foreign Language Contexts: Learning, Teaching, and Research*. Nusrat, A., Ashraf, F., & Narcy-Combes, M. F. (2019). Effect of direct and indirect teacher feedback on accuracy of english Writing: A quasi-experimental study among Pakistani undergraduate students. *3L: Language, Linguistics, Literature*, 25(4), 84–98. <https://doi.org/10.17576/3L-2019-2504-06>

Polio, C., Fleck, C., & Leder, N. (1998). “If I Only Had More Time:” ESL Learners’ Changes in Linguistic Accuracy on Essay Revisions. *Journal of Second Language Writing*, 7(1), 43–68. [https://doi.org/10.1016/S1060-3743\(98\)90005-4](https://doi.org/10.1016/S1060-3743(98)90005-4)

Polio, C., & Williams, J. (2009). Teaching and Testing Writing. In *The Handbook of Language Teaching*. <https://doi.org/10.1002/9781444315783.ch26>

Rahimi, M. (2019). A comparative study of the impact of focused vs. comprehensive corrective feedback and revision on ESL learners’ writing accuracy and quality. *Language Teaching Research*, 25(5), 687–710. <https://doi.org/10.1177/1362168819879182>

Semke, H. D. (1984). Effects of the Red Pen. *Foreign Language Annals*, 17(3), 195–202. <https://doi.org/10.1111/j.1944-9720.1984.tb01727.x>

Simard, D., Guénette, D., & Bergeron, A. (2015). L2 learners’ interpretation and understanding of written corrective feedback: insights from their metalinguistic reflections. *Language Awareness*, 24(3), 233–254. <https://doi.org/10.1080/09658416.2015.1076432>

Suzuki, W. (2012). Written Language, Direct Correction, and Second Language Writing Revision. *Language Learning*, 62(4), 1110–1133. <https://doi.org/10.1111/j.1467-9922.2012.00720.x>

Truscott, J. (1996). Truscott 1996 Case against grammar correction. *Language Learning*, 46(2), 327–369.

Truscott, J. (1999). The case for “The Case Against Grammar Correction in L2 Writing Classes”: A response to Ferris. *Journal of Second Language Writing*, 8(2), 111–122. [https://doi.org/10.1016/S1060-3743\(99\)80124-6](https://doi.org/10.1016/S1060-3743(99)80124-6)

Truscott, J. (2007). The effect of error correction on learners’ ability to write accurately. *Journal of Second Language Writing*, 16(4), 255–272. <https://doi.org/10.1016/j.jslw.2007.06.003>

Truscott, J., & Hsu, A. Y. ping. (2008). Error correction, revision, and learning. *Journal of Second Language Writing*, 17(4), 292–305. <https://doi.org/10.1016/j.jslw.2008.05.003>

Van Beuningen, C. G. (2011). The effectiveness of comprehensive corrective feedback in second language writing. *Accelerating the World’s Research*.

Van Beuningen, C. G., De Jong, N. H., & Kuiken, F. (2012). Evidence on the Effectiveness of Comprehensive Error Correction in Second Language Writing. *Language Learning*, 62(1), 1–41. <https://doi.org/10.1111/j.1467-9922.2011.00674.x>

Appendix A: Number of Error Type in Rewritten Text

Category	Error Types	Successful Corrections	Grammar	Nongrammar	Unsuccessful Corrections	Grammar	Nongrammar
Grammar	Uncorrected Errors	Grammar	Nongrammar	Deleted Errors	Grammar	Nongrammar	

Result of Review

Article Title: The Effect of Direct and Indirect Written Corrective Feedback on Accuracy and Fluency of University Students' English Writing

Author(s): Masrul, Santi Erliana, Ummi Rasyidah, Melyann Melani, Bayu Hendri Wicaksono, Aswir

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<p>(*) 1. Revise the paper according to <i>Paper Submission Guide</i>: http://author.sciedupress.com</p> <p>() 2. Picture(s)/figure(s) are not clear; 300 dpi is required.</p> <p>() 3. Move the footnotes to endnotes.</p> <p>() 4. Resize the table(s)/figure(s), to fit letter size paper (8.5*11 inch, 21.59*27.94cm), and make all pages be vertical.</p> <p>() 5. Revise table(s) into three-line table(s).</p> <p>() 6. Insert table(s) and figure(s) into the text, not after references.</p> <p>(*) 7. Similarity index (checked by iThenticate) is high, please find the iThenticate report attached, revise to keep the Similarity Index $\leq 30\%$ and single source matches are $\leq 6\%$.</p> <p>() 8. Add DOI persistent links to those references that have DOIs, please see <i>Paper Submission Guide</i>.</p> <p>(*) 9. Improve the language quality by a professional proofreader. You may arrange the proofreading by yourself. We recommend you use the proofreading service at: http://home.redfame.com/language-service/.</p> <p>(*) 10. Complete the <i>Response to the Comments</i>, and send to us, along with the revised manuscript. (Template attached)</p> <p>() 11. Each reference cited in the text must appear in the reference list, and each entry in the reference list must be cited in the text.</p> <p>() 12. References should not be numbered, so citations in the text with numbers within brackets should be modified as with author's name and publication year. For example, (Smith, 1999), please see Paper Submission Guide.</p> <p>() 13. The format of references section is not appropriate; please revise them according to the paper submission guide file.</p>	

Note: revise your paper according to the items with “*”

Comments from Reviewer A

❖ Evaluation (Please evaluate the manuscript by grade 1-5)	
5=Excellent 4=Good 3=Average 2=Below Average 1=Poor	
Items	Grade
Contribution to existing knowledge	3
Organization and readability	3
Soundness of methodology	2
Evidence supports conclusion	2
Adequacy of literature review	3
❖ Strengths	
<ul style="list-style-type: none"> ❖ The aim of this paper is to examine the potential links between the direct & indirect WFC, grammar & non-grammar errors, and standpoint of feedback for accuracy and fluency. ❖ It presented relevant evidence in the Literature part which support these links. ❖ The references were clearly stated within the text. 	
❖ Weaknesses	
<ul style="list-style-type: none"> ❖ The language was language should be more academic. ❖ The literature review should be a section on its own in the article. ❖ The methodology should be improved by stating the instrument of the research and the explaining the tests that were used to analyse the data from students' answers. ❖ It was not clearly stated what the students' essays were about. ❖ The conclusion part missed in the article. ❖ What kind of mistakes were the ones that were analyzed? Grammar mistakes? Vocabulary mistakes? Style? 	
❖ Suggestions to Author/s	
<ul style="list-style-type: none"> ❖ Please, revise the article again based on the ideas mentioned above. ❖ Carefully proofread the paper. 	

Appendix

Ethical Guidelines for Authors

- The author should not submit concurrent manuscripts (or manuscripts essentially describing the same subject matter) to multiple journals. Likewise, an author should not submit any paper previously published anywhere to the journals for consideration. The publication of articles on specific subject matter, such as clinical guidelines and translations, in more than one journal is acceptable if certain conditions are met.
- The author should present a precise and brief report of his or her research and an impartial description of its significance.
- The author should honestly gather and interpret his or her research data. Publishers, editors, reviewers, and readers are entitled to request the author to provide the raw data for his or her research for convenience of editorial review and public access. If practicable, the author should retain such data for any possible use after publication.
- The author should guarantee that the works he or she has submitted are original. If the author has used work and/or words by others, appropriate citations are required. Plagiarism in all its forms constitutes unethical publishing behavior and is unacceptable.
- The author should indicate explicitly all sources that have supported the research and also declare any conflict(s) of interest.
- The author should give due acknowledgement to all of those who have made contributions to the research. Those who have contributed significantly to the research should be listed as coauthors. The author should ensure that all coauthors have affirmed the final version of the paper and have agreed on its final publication.
- The author should promptly inform the journal editor of any obvious error(s) in his or her published paper and cooperate earnestly with the editor in retraction or correction of the paper. If the editor is notified by any party other than the author that the published paper contains an obvious error, the author should write a retraction or make the correction based on the medium of publication.

Tools for Authors

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The Effect of Direct and Indirect Written Corrective Feedback on Accuracy and Fluency of University Students' English Writing

Abstract

This research aimed to determine the effect of WCF, direct and indirect, on overall accuracy, error types, and overall accuracy and fluency in pretest, posttest, and delayed posttest in rewritten text. The research questions looked at the potential links between the direct & indirect WFC, grammar & non-grammar errors, and standpoint of feedback for accuracy and fluency. The research participants were 100 EFL students from the University of Pahlawan Tuanku Tambusai, Indonesia. The results showed substantial differences among the three treatment groups in the percentage of successfully and unsuccessfully corrected errors, as well as the percentage of uncorrected and deleted errors in grammar and non-grammar errors. The group of individuals receiving the Direct WCF experienced the greatest improvement in accuracy. This demonstrated that providing direct WCF can increase participants' accuracy over time (long term). The provision of indirect WCF can raise the fluency of participants in terms of total words, but the provision of direct WCF can increase the fluency of participants in terms of t-units in the long term.

Keywords: Written Corrective Feedback, Feedback accuracy, Feedback fluency, Errors type, English Writing

1. Introduction

Writing in English is challenging for students learning English as a second or foreign language (L2/FL) as it requires knowledge of new writing habits and English grammar in an English-speaking culture (Hyland & Hyland, 2006). Academic Writing is an emotionally charged process, particularly for second language learners who must contend with high linguistic requirements (Langum & Sullivan, 2017). These challenges make writing one of the most challenging activities and increase students' reliance on teachers for corrections and teaching. Hence, many EFL writing teachers and researchers are concentrating their efforts on assisting L2/FL students in improving their Writing in accordance with their learning needs and course objectives (Polio & Williams, 2009).

Pointing out their errors in the target language is one of the most common strategies for helping these students with their Writing. Written Corrective Feedback (WCF) is the general term for all this teaching approach. WCF is a typical approach used by second language (L2) teachers to help their pupils improve their writing accuracy. As Truscott (1996) mentioned, WCF effectively improves L2 learners' writing skills and might be part of a learning process. Responses to linguistic errors in students' written work are referred to as WCF. As a critical aspect of L2 writing training, WCF has sparked much debate in the literature (Ferris, 2010). In addition, WCF is regarded as a critical condition for students' interlanguage development because it helps them "identify the difference between their interlanguage output and the target language input" and reorganize their linguistic brain processes. During the WCF study, Van Beuningen et al. (2012) stated that WCF was only presented on one or a few occasions, and depending on the scope of the input and the instance of targeted WCF, the same target error types and text type were used throughout the whole process of target WCF (Rahimi, 2019).

WCF improves learners' cognitive growth by encouraging them to communicate with others in their learning contexts. Aside from providing an overview of WCF studies published over the past four decades with an emphasis on feedback scope, this review study intends to identify and discuss unresolved difficulties related to feedback scope and make recommendations for future studies. The present review, focusing explicitly on the scope of feedback, will provide useful information to earlier syntheses about the efficacy of WCF based on quantitative research, which will benefit from the findings of this review (Truscott, 2007). As a form of help inside a student's constructivist approach, WCF may require the student to go to the next level of her cognitive development. As a result of the provision of and receipt of WCF, learners and teachers participate in social activities as well as

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Commented [A3]: A more academic version would be: A total of 100 English as a Foreign Language (EFL) students from the University of Pahlawan Tuanku Tambusai in Indonesia were involved in the research. The findings revealed significant variations among the three treatment groups in the proportions of both effectively and unsuccessfully rectified errors, as well as the proportions of uncorrected and deleted errors in both grammar and non-grammar categories. The cohort that received the Direct WCF had the most significant enhancement in accuracy. This study showed that offering direct WCF (written corrective feedback) can enhance participants' accuracy gradually over an extended period of time (long term). Indirect written corrective feedback (WCF) can enhance participants' fluency in terms of overall word count, while direct WCF can improve participants' fluency in terms of t-units over a longer period of time.

cooperatively explore the meaning and function of language. Moreover, WCF is considered collaborative participation in educational efforts (Ahmadian & Tajabadi, 2014). Instructors have been observed to deliver several types of WCF in feedback to their student's written work (Leki, 1991), with past studies identifying seven major WCF techniques. These engagement methods include direct, indirect, metalinguistic, focused (selected), unfocused (comprehensive), and WCF on local and global issues (Ferris & Roberts, 2001).

Attempted to study the effects of WCF from a theoretical approach, specifically in terms of the twofold contrast between accuracy and acquisition feedback (Manchón, 2011). Both theoretical and pedagogical issues influenced the direction of the investigation. Nonetheless, this research aimed to assess WCF's effect in relation to the distinction between feedback for accuracy and for acquisition to gain a better understanding of how WCF functions. In the feedback for accuracy, students participate in processing feedback, error detection, self-reflection on errors, and new output. On the other hand, feedback for acquisition is intended to promote long-term language learning by engaging students in processing feedback, error detection, self-reflection on errors, and new output.

The researchers simply used the contrast between feedback for accuracy and fluency as a heuristic to study the short-term and long-term possible learning benefits of WCF, which is connected to Norris and Ortega's fluency and accuracy differentiation. In the following sections, we will discuss a few in-depth study strands relevant to our research, focusing on the targeted aims and the methods used.

2. Literature Review ~~Review of previous Research~~

2.1 Accuracy and Fluency Feedback

The objectives of the study are linked to the error correction debate, which is most frequently associated with Truscott (1999). Once it comes to immediate revisions, there is general agreement that WCF enhances grammatical accuracy (although there is much variation in the variables that can influence its effects). However, the empirical evidence for longer-term language-learning implications is mixed. Furthermore, Truscott & Hsu (2008) discovered that successful error reduction of the revised texts in an EFL setting was not a predictor of L2 development (i.e., decreased new texts errors), whereas (Van Beuningen, De Jong, & Kuiken 2012) discovered that unfocused feedback was found to improve accuracy in an L2 context not only during editing but also in new pieces of Writing.

Research undertaken by Simard et al. (2015) demonstrated that although the participants understood the WCF they were given, certain corrections nevertheless resulted in incorrect guesses about the goal of the correction. Additionally, there appear to be variances in the verbalizations of the participants based on the feedback they received. Biber, Nekrasova, and Horn (2011) researched to determine the impact of various WCF forms on the quality of students' Writing. The findings comprised both L1 and L2 WCF trials, which revealed that WCF had a small significant impact on writing quality, depending on the level of difficulty of the writing task.

Students studying English as a second language (ESL) were investigated by Nusrat, Ashraf, and Narcy-Combes (2019). The impact of instructor feedback on the written English accuracy of ESL students was investigated in this research. The findings imply that incorporating oral metalinguistic teacher feedback into the context of Pakistani language acquisition might help students achieve more success in their efforts to learn the English language more quickly and efficiently. Benson and DeKeyser (2019) investigated the influence of direct or metalinguistic written feedback on simple past tense and present perfect tense mistakes in the past and present perfect tense. Both treatment groups outperformed the control group, with direct feedback being more durable than metalinguistic input in one structure, the simple past tense.

In the following up research, Rahimi (2019) assessed the impact of focused versus comprehensive WCF and revision on improving writing accuracy in ESL students. The results revealed that the focused groups outperformed

the comprehensive groups in minimizing their word errors at T2. However, there was no statistically significant difference between the two groups regarding revision. Furthermore, Kim et al. (2020) investigated the impact of direct and indirect WCF on the learning among high beginning-level Korean students when they collaborate on collaborative writing assignments. Direct WCF proved to be more helpful in supporting students in creating accurate Writing. However, both types of feedback proved to be effective in fostering the learning of new linguistic elements through collaborative Writing, as evidenced by the findings.

2.2 WCF and Types of Errors

This study looked at which sort of WCF, direct or indirect, resulted in greater error reduction across broad error categories (for example, grammar and non-grammar errors) and specific error types. A broad coding system (Van Beuningen et al., 2012) was used to distinguish between grammar & non-grammar errors, and a data-driven narrow coding approach was utilized (Ferris et al., 2013). Furthermore, the researchers discriminated between WCF mistakes that were effectively fixed and WCF errors that were not: uncorrected errors, successful corrections, unsuccessful corrections, and deleted errors (Van Beuningen, De Jong & Kuiken 2012).

Direct (oral) and indirect (written) feedback have been employed in error feedback studies. Furthermore, most WCF research (Lalande, 1982) distinguished between direct and indirect corrective feedback, the two frequent types of written corrective feedback. Direct WCF involves the teacher providing the correct form to the students, which is preferable for students with a low level of competence who are unable to self-correct and are unaware of what the correct form is. Ferris & Hedgcock (2014) argued that direct feedback helps to avoid confusion, reduces learners' cognitive burden, and allows them to test their hypotheses more directly.

Based on the directed nature of direct feedback, it can point to specific errors made by the learners, such as errors connected to spelling errors or any form of vocabulary or morpheme modifications. Furthermore, it can assist the student in producing the correct phonetics in a margin or frame misaligned (Ellis et al., 2008). However, indirect feedback is more effective at facilitating internalization of the form and deepening metalinguistic knowledge processing than direct feedback (Bitchener, 2012). Additionally, indirect feedback forces students to correct flaws identified by their teachers, who do not provide the appropriate form of feedback to students (Ferris & Roberts, 2001).

2. Methodology

3.

3.1 2.1 Research questions

The following research questions guided this research:

1. How does WCF (direct and indirect) affect the overall accuracy of a rewritten text?
2. How does WCF (direct and indirect) affect the accuracy, specifically the type of error in the rewritten text?
3. How does WCF (direct and indirect) affect the overall accuracy in the post-test and the delayed posttest?
4. How does WCF (direct and indirect) affect the overall fluency of participants in the pre-test, post-test, and delayed post-test?

1.3.2 Materials and Methods

As mentioned by Bitchener & Ferris (2012), four or more tasks should be included in the design of WFC research: a pretest, an update of the pretest, and a delayed posttest. Participants revised a previously written text as part of this research after they received one of two forms of WCF (direct or indirect) in contrast to a control group receiving no WCF. In addition, each participant created two more texts during the research at different times. The two types of WCF differed in terms of their explicitness; given that the correction was offered, the direct WCF was

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more explicit than the indirect WCF because the actual location of each mistake was sent along with an code identifying its kind.

Bitchener & Ferris (2012) solved the focused–unfocused issue as well as challenges such as the interplay between error categories and kinds of WCF (direct and indirect). In this research, the researchers investigated which form of WCF (direct or indirect) produced higher error reduction across broad error categories; grammar & non-grammar errors. In this research, the researchers distinguished between effectively successful corrections, uncorrected errors, unsuccessfully corrections, and deleted errors (Van Beuningen, 2011).

3.3.3.1 Participants and setting

The participants were 100 EFL students from the University of Pahlawan Tuanku Tambusai, Indonesia, enrolled in the course as part of their English Studies degree. Before studying at the university, they had been learning English for about 12 years, and their proficiency matched that of a B1 Threshold-Independent User, the highest level of proficiency. This level was chosen for this study to allow learners to process and participate in the feedback received throughout the language learning session.

3.4 3.2 Design and Data Collection Procedures

One intrasubject component with four possible values (pretest, rewrite, posttest, and delayed posttest) and one intrasubject factor WCF with three possible values (unfocused direct WCF, unfocused indirect WCF, and no feedback) were employed in the design and data collection. Hence, there were two treatment groups and one control group (CG). The treatment groups got direct (direct group [DG]) or indirect WCF (indirect group [IG]) WCF, while the control group (CG) received no feedback prior to rewriting their articles.

Overall, five weeks were spent collecting information in four stages. Over the five weeks, participants wrote their first text (pretest), received WCF (treatment groups) or no feedback (control groups), and language about their errors in their original texts (with or without the availability of WCF for the intervention and control groups, respectively), rewrote their initial text (rewriting), and finally wrote two additional texts on different topics (posttest and delayed posttest). They produced several writing contexts before making adjustments to their texts and created new ones to allow for self-reflection processes in reaction to the criticism they received.

This data collection method may have resulted in an unexpected practice effect, which the researchers were informed of. However, they had no other choice for gathering data to analyze the effects of feedback on new writing pieces. The researchers were concerned about the possible combined influence of WCF and languaging in the data. Although no control group did not engage in languaging but get WCF, the researcher was able to dissociate the possible combined impact of WCF and languaging since there was a control group that did not engage in languaging about their errors but did receive WCF.

During the language sessions, all participants received 50 minutes to evaluate their errors and receive feedback (feedback groups) or to identify their own errors and reflect on them (CG). According to Suzuki (2012), the following instructions were given to the participants. All three groups (DG, IG, and CG) traveled through a languaging session, which included copying each error from the pretest on a piece of paper, providing a correction (already provided in the feedback for the DG), an ML code (already provided in the feedback for the IG), and an ML explanation (not provided in the feedback for either of the two feedback groups).

During the rewriting session, the participants were required to find errors they recognized from the languaging session in their previous uncorrected essays to recreate their writings more accurately in the rewriting session. After revising their texts for a week, each participant ended up with a new piece of Writing. Following the posttest, all participants were required to write a new piece of Writingwriting.

3.5 3 Procedures for Data Coding and Analysis

Despite the highly precise coding schemes used, two reviewers (knowledgeable EFL instructors and researchers) effectively coded all errors for all coding schemes to maintain a high level of reliability (100 percent), despite appearances in applied linguistics. When raters argued, the errors were reviewed until everyone agreed. Moreover, a broad coding system on Van Beuningen et al. (2012) was used to distinguish between grammar and non-grammar errors, and a narrow coding system (Ferris et al., 2013) and partly data-driven.

The researchers devised a coding scheme based on the operationalization of depth of processing to distinguish between learners' cognitive effort when digesting the WCF they got (intervention groups) and their own self-identified errors (control groups) in terms of language (CG). A non-parametric statistical approach was used to evaluate the data because of our small sample size and non-normal data distribution. The Kruskal–Wallis tests, Mann–Whitney U, Wilcoxon Signed Rank, and Friedman tests were all used to examine the data. It was decided to utilize Kruskal–Wallis tests to examine how many mistakes and types of errors were made, and how many errors were reduced in each group in the study.

Following the confirmation that statistically significant differences existed between the three groups, the Mann–Whitney U tests were used to determine whether any statistically significant differences existed between the two specific groups. Friedman tests were utilized when comparing the reduction in errors produced in one group's tests to the other group's tests.

4. Result

2. You have to write something to introduce the audience with the results of the paper:

2.14.1 WCF's effect (direct & indirect) on the overall accuracy of a rewritten text

Table 1
Error Correction Rate in Rewritten Texts: Descriptive Statistics and Kruskal-Wallis

Category	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Successful corrections	47.81 (6.03)	41.37 (3.84)	18.31 (2.64)	43.65	0.00
Unsuccessful correction	7.28 (2.35)	10.17 (1.81)	3.72 (1.00)	38.61	0.00
Uncorrected errors	40.21 (5.88)	40.48 (4.91)	64.99 (4.21)	39.57	0.00
Deleted errors	4.67 (1.58)	7.96 (1.99)	12.96 (3.45)	41.35	0.00

Table 1 presents the error correction rate in rewritten texts and indicates significant differences between the three treatment groups (DG, IG, CG) in the percentage of successful and unsuccessful corrections, as well as the percentage of uncorrected and deleted errors.

Table 2
Comparison of Error Correction Rate in Rewritten Texts across Group: Mann-Whitney

Category	DG vs. IG		DG vs. CG		IG vs. CG	
	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>

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Successful corrections	66.50	0.00	0.00	0.00	0.00	0.00
Unsuccessful correction	53.5	0.00	42.50	0.00	0.00	0.00
Uncorrected errors	158.0	0.69	0.00	0.00	0.00	0.00
Deleted errors	40.5	0.00	0.00	0.00	33.00	0.00

Table 2 shows that WCF (DG and IG) gave more successful corrections than CG, and Direct WCF had more successful corrections than Indirect WCF. Although WCF provides more successful corrections, it turns out that WCF also provides more unsuccessful corrections than CG. In addition, WCF had significantly less uncorrected error than CG, but there was no significant difference between different types of WCF (DG and IG). Also, direct WCF has the smallest deleted errors significantly.

4.2 WCF's effect (direct & indirect) on the accuracy, specifically the type of error in the rewritten text.

Table 3
Number of Error Type in Rewritten Text: Descriptive Statistics and Kruskal-Wallis

Category	Error Type	M (SD)			Kruskal-Wallis Test	
		DG	IG	CG	H	<i>p</i>
Successful corrections	Grammar	11.68 (1.49)	8.09 (1.35)	5.04 (1.15)	47.47	0.00
	Non-grammar	9.43 (0.94)	8.57 (0.93)	2.56 (0.29)	42.02	0.00
Unsuccessful correction	Grammar	1.08 (0.61)	2.10 (0.57)	1.05 (0.57)	21.59	0.00
	Non-grammar	2.25 (0.83)	2.01 (0.58)	0.50 (0.28)	39.87	0.00
Uncorrected errors	Grammar	9.55 (2.14)	7.40 (1.73)	14.82 (1.67)	41.72	0.00
	Non-grammar	8.61 (2.76)	9.20 (2.51)	12.30 (2.22)	17.52	0.00
Deleted errors	Grammar	1.00 (0.56)	1.07 (0.62)	2.90 (1.68)	17.53	0.00
	Non-grammar	1.05 (0.60)	2.10 (0.69)	2.52 (0.95)	23.07	0.00

The results of the number of error types in rewritten text in Table 3 reveal significant differences between the three treatment groups (DG, IG, CG) in successful and unsuccessful corrections, with the DG group being the highest. There is also a significant difference in the percentage of uncorrected and deleted errors in terms of grammar and non-grammar.

Table 4
Comparison of Number Error Type in Rewritten Text: Mann-Whitney

Category	Error Type	DG vs. IG		DG vs. CG		IG vs. CG	
		<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>
Successful corrections	Grammar	9.50	0.00	0.00	0.00	14.50	0.00
	Non-grammar	91.00	0.01	0.00	0.00	0.00	0.00
Unsuccessful correction	Grammar	43.5	0.00	193.0	0.86	40.50	0.00
	Non-grammar	142.0	0.38	0.00	0.00	0.00	0.00
Uncorrected errors	Grammar	81.5	0.00	5.00	0.00	0.00	0.00
	Non-grammar	152.0	0.56	62.0	0.00	68.5	0.00
Deleted errors	Grammar	157.5	0.68	65.0	0.00	65.5	0.00
	Non-grammar	46.5	0.00	39.0	0.00	150.5	0.28

Table 4 compares the number of error types in rewritten text. It shows that successful corrections of grammar and non-grammar errors WCF were significantly higher than CG. However, DG provides better successful correction than IG, both in terms of grammar and non-grammar. In unsuccessful correction of grammar errors, DG was significantly better than IG but only slightly different from CG. As for non-grammar, WCF was significantly superior to CG. In terms of uncorrected grammar and non-grammar errors, WCF was significantly superior to CG. Moreover, IG has significantly more uncorrected grammar errors than DG. While, in deleted grammar errors, WCF had significantly fewer deleted grammar errors than CG. As for non-grammar, DG had significantly fewer deleted grammar errors than IG and CG.

4.3 WCF's effect (direct & indirect) on the overall accuracy in the posttest and delayed posttest.

Table 5
Percentage of Errors: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pretest	12.76 (1.49)	12.77 (1.50)	13.26 (1.25)	1.49	0.47
Posttest	11.31 (1.35)	10.36 (1.35)	10.91 (1.52)	3.80	0.15
Delayed posttest	8.44 (0.95)	9.61 (1.61)	9.71 (1.54)	8.32	0.02

When viewed from the type of test, Table 4 reveals that the percentage of errors in the delayed posttest was significantly different between the three treatment groups (DG, IG, CG). Participants receiving direct WCF statistically had a lower percentage of error than those receiving indirect WCF and those not receiving WCF (DG vs.

IG: $U = 97.00, p = 0.02$; DG vs. CG: $U = 100.0, p = 0.01$). On the other hand, based on each treatment group, the results of Friedman's test showed that three groups had a significant difference in the error percentage in the pretest, posttest, and delayed posttest: DG, $\chi^2_F = 35.71, p = 0.00$; IG, $\chi^2_F = 14.73, p = 0.00$; CG, $\chi^2_F = 26.91, p = 0.00$) based on Figure 1.

Figure 1
Average Percentage of Error across Time

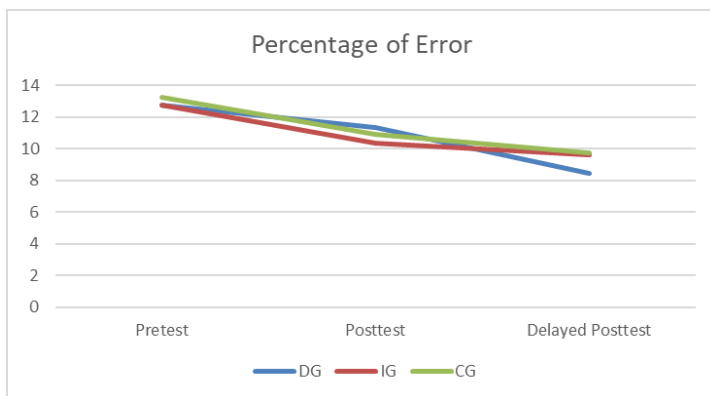


Table 6
Reduction of Percentage of Error Across Tests within Groups: Wilcoxon

Pair	DG		IG		CG	
	Z	p	Z	p	Z	p
Pretest – Posttest	-3.65	0.00	-3.20	0.00	-3.55	0.00
Pretest – Delayed Posttest	-3.83	0.00	-3.48	0.00	-4.01	0.00

The results in Table 6 show a significant increase in the participants' accuracy over time, from pretest to posttest and from pretest to delayed posttest ($p < 0.05$). An increase in accuracy occurred in participants who obtained WCF (DG and IG) and those who did not (CG). The highest increase in accuracy occurred in the group of participants who received the Direct WCF. This shows that administering WCF, especially direct WCF, can improve participant accuracy over time (long term).

4.4 WCF's effect (direct & indirect) on the overall fluency of participants in the pretest, posttest, and delayed posttest.

a. Overall words

Table 7 illustrates the overall words based on the type of test. It indicates that the number of words in the posttest and delayed posttest was significantly different between the three treatment groups (DG, IG, CG). In the posttest, participants receiving indirect WCF had significantly greater word count than those receiving direct WCF and those not receiving WCF (DG vs. IG: $U = 84.0, p = 0.01$; IG vs. CG: $U = 92.5, p = 0.01$). In the delayed posttest, the participants with indirect WCF had the largest number of words. While, participants obtaining direct WCF had significantly lower word counts than those without WCF (DG vs. IG: $U = 84.0, p = 0.01$; IG vs. CG: $U = 92.5, p = 0.01$).

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Table 7
Overall Words: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pretest	118.2 (63.02)	120.6 (56.88)	119.8 (39.43)	0.06	0.97
Posttest	90.0 (38.38)	125.1 (25.06)	99.0 (29.95)	9.78	0.01
Delayed posttest	143.6 (54.37)	204.8 (39.46)	181.7 (30.37)	13.98	0.00

Figure 2 also depicts the Friedman test results, showing that the three groups have significantly different overall words, both decreasing and increasing in the pretest, posttest, and delayed posttest in each treatment group: DG, $\chi^2_F = 9.58, p = 0.01$; IG, $\chi^2_F = 18.78, p = 0.00$; CG, $\chi^2_F = 32.00, p = 0.00$).

Figure 2
Overall Words across Time

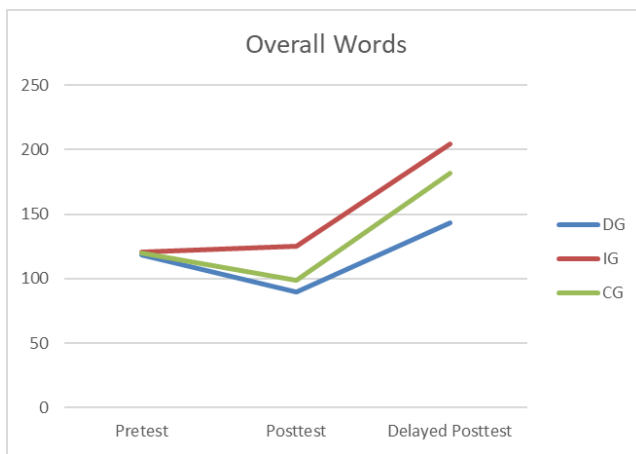


Table 8
Improvement of Overall Words Across Time within Groups: Wilcoxon

Pair	DG		IG		CG	
	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pretest – Posttest	-2.36	0.02	-0.28	0.77	-1.99	0.04
Pretest – Delayed Posttest	-1.61	0.11	-3.46	0.00	-3.98	0.00

Table 8 showed that the overall words from pretest to posttest in participants receiving Direct WCF and those not receiving WCF significantly decreased ($p < 0.05$). Meanwhile, the overall words of participants receiving Indirect WCF increased but not significantly. There was a significant increase in overall word from pretest to delayed posttest in participants who received Indirect WCF and those who did not (CG). This shows that giving Indirect WCF can increase the number of words that participants can compose over time (long term).

b. T-Units

Based on the type of test, the t-units in the delayed posttest showed significant differences between the three treatment groups (DG, IG, CG), as seen in Table 9. Participants who obtained WCF statistically had lower t-units than those who did not (DG vs. IG: $U = 143.5, p = 0.40$; DG vs. CG: $U = 112.0, p = 0.02$; IG vs. CG: $U = 75.0, p = 0.00$).

Table 9
T-Units: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pretest	8.53 (3.63)	9.61 (3.52)	9.38 (3.52)	1.01	0.61
Posttest	9.05 (3.06)	8.28 (2.72)	11.3 (8.72)	2.39	0.30
Delayed posttest	11.2 (3.75)	10.28 (3.72)	14.0 (1.82)	11.45	0.00

The Friedman test results show that participants who received direct WCF and those who did not (CG) had significantly different t-units, both decreasing and increasing, on the pretest, posttest, and delayed posttest: DG, $\chi^2_F = 8.24, p = 0.02$; IG, $\chi^2_F = 1.94, p = 0.38$; CG, $\chi^2_F = 26.88, p = 0.00$), as illustrated in Figure 3.

Figure 3
T-Units across Time

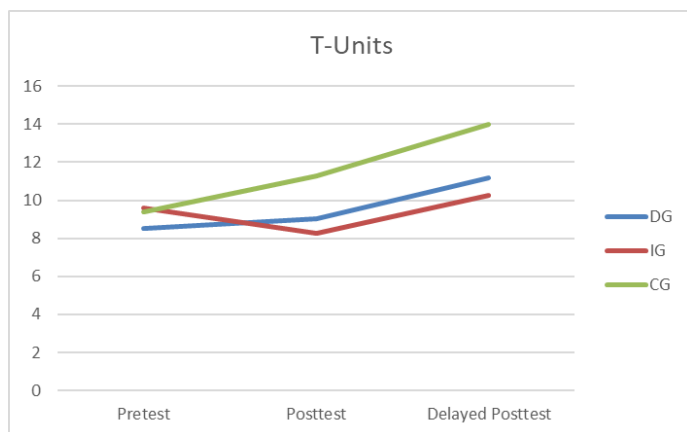


Table 10
Improvement of T-Units Across Time within Groups: Wilcoxon

Pair	DG	IG	CG
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	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pretest – Posttest	-0.51	0.61	-1.10	0.27	-1.05	0.29
Pretest – Delayed Posttest	-2.49	0.01	-0.59	0.55	-3.93	0.00

Table 10 shows that the t-units from the pretest to posttest of the participants receiving Direct WCF and those not receiving WCF increased but not significantly. Meanwhile, it was decreased for the participants who received Indirect WCF. There was a significant increase in t-units between the pretest and delayed posttest in participants who obtained Direct WCF and those who did not (CG). The increase in t-units in participants who did not receive WCF was greater than that in participants who received Direct WCF. This shows that implementing Direct WCF and without WCF can increase participants' t-units over time (long term).

c. Sentence Counts

When viewed from the type of test, the sentence counts in the pretest, posttest, and delayed posttest showed significant differences between the three treatment groups (DG, IG, CG), as presented in Table 11. In the pretest, participants receiving direct WCF statistically had lower sentence counts than those receiving indirect WCF and not receiving WCF (DG vs. IG: $U = 0.00, p = 0.0$; DG vs. CG: $U = 81.5, p = 0.00$). In the posttest, participants receiving direct WCF statistically had lower sentence counts than those receiving indirect WCF and not receiving WCF (DG vs. IG: $U = 0.00, p = 0.0$; DG vs. CG: $U = 0.00, p = 0.00$). In the delayed posttest, participants with WCF had lower sentence counts than those without WCF (DG vs. CG: $U = 00.00, p = 0.0$; IG vs. CG: $U = 102.50, p = 0.02$).

Table 11
Sentence Counts: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pretest	9.51 (1.90)	16.01 (1.67)	14.30 (4.34)	24.14	0.00
Posttest	5.50 (0.56)	10.81 (4.03)	13.41 (0.81)	37.77	0.00
Delayed posttest	10.28 (2.61)	9.52 (2.78)	7.94 (1.89)	12.73	0.00

Concerning each treatment group, the Friedman test results show that the three groups have significantly different sentence counts, both decreasing and increasing, on the pretest, posttest, and delayed posttest: DG, $\chi^2_F = 23.47, p = 0.00$; IG, $\chi^2_F = 28.78, p = 0.00$; CG, $\chi^2_F = 26.48, p = 0.00$), as illustrated in Figure

4.

Figure 4
Sentence Counts Across Time

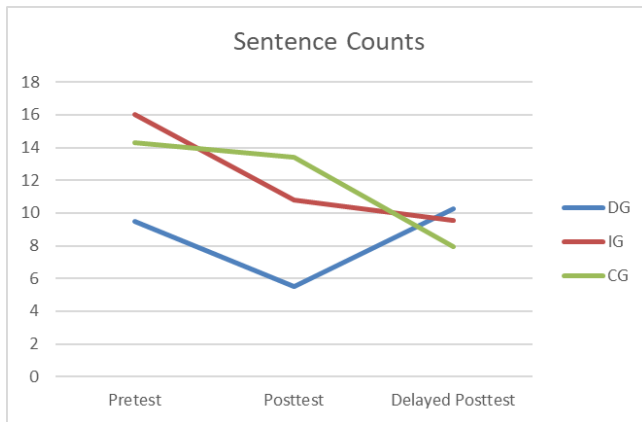


Table 12
Improvement of Sentence Counts Across Time within Groups: Wilcoxon

Pair	DG		IG		CG	
	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pretest – Posttest	-3.82	0.00	-3.72	0.00	-0.95	0.34
Pretest – Delayed Posttest	-0.95	0.34	-3.72	0.00	-3.77	0.00

Table 12 presents the improvement of sentence counts. It shows that the sentence counts between the pretest and posttest in participants obtaining WCF significantly decreased. In addition, there was a significant decrease in sentence counts from pretest to delayed posttest in participants receiving indirect WCF and those who did not receive WCF (CG). This shows that either with WCF or without WCF, the sentence counts decrease over time (long term).

Among the three fluency indicators: overall words, t-units, and sentence count, only overall words and t-units showed increased participant fluency after obtaining WCF. The provision of indirect WCF can increase the fluency of participants in terms of overall words, while the provision of direct WCF can increase the fluency of participants in terms of t-units in the long term.

3.5. Discussion

The first research question investigated the WCF's effect (direct and indirect) on the overall accuracy of the rewritten text. The results revealed that the proportion of successful and unsuccessful corrections, as well as the percentage of uncorrected and deleted errors, substantially varied across three treatment groups (DG, IG, CG). WCF

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(DG and IG) had a greater proportion of successful corrections than CG, and direct WCF had a higher percentage of effective corrections than indirect WCF.

WCF has a higher rate of successful corrections than CG; it also has a higher rate of unsuccessful corrections. There was a substantial difference between WCF and CG in terms of uncorrected error but no significant difference between the different forms of WCF (DG and IG). Furthermore, direct WCF has the smallest deleted errors. It was observed that the successful corrections of updated texts in an EFL context were not a predictor of L2 development (i.e., fewer errors in new texts). However, successful corrections of revised texts in an EFL setting were predictors (Truscott & Hsu, 2008). Moreover, Van Beuningen et al. (2012) showed that providing unfocused feedback increased accuracy in Writing, not only while revising but also when developing new writing pieces.

The second research question was about the WCF's effect (both direct and indirect) on the accuracy, specifically, the sort of mistake introduced into the rewritten text. The findings revealed statistically significant differences between the three treatment groups (DG, IG, CG) in terms of successful and failed repairs, as well as the proportion of uncorrected and deleted errors, both in grammar and non-grammar. Furthermore, when it came to successful fixes of grammar and non-grammar problems, WCF outperformed CG by a wide margin. On the other hand, DG delivers more successful corrections than IG in terms of grammar and non-grammar correction.

In unsuccessful corrections of grammar errors, DG was significantly better than IG but only slightly different from CG. As for non-grammar, WCF was significantly superior to CG. In terms of uncorrected grammar and non-grammar errors, WCF was significantly superior to CG. Furthermore, IG has a higher percentage of uncorrected grammatical errors than DG. On the other hand, WCF had significantly more deleted grammatical errors than CG in this category. In terms of non-grammatical errors, DG had significantly fewer than IG and CG. The following four WCF conditions were investigated: corrective, underlined, and discussion (underlining errors and providing error codes), description (provided error codes without notifying learners where the errors occurred), and simply highlight (underlining errors without delivering error codes) (Chandler, 2003).

Specifically, the data demonstrated that providing direct and indirect feedback was more efficient in reducing learner errors than just mentioning the categories of errors. The most effective of the four feedback forms for producing precise changes were direct correction, which was the most common (i.e., correct uptake). Similarly, Van Beuningen et al. (2012) discovered that direct feedback had a stronger impact on both short-term and long-term improvements in correctness in rewritten texts.

The third research question addressed the WCF's effect (direct and indirect) on overall accuracy in the posttest and delayed posttest. The results indicated that the percentage of errors was significantly different between the three treatment groups (DG, IG, CG) in the delayed posttest. Participants experiencing direct WCF had a lower rate of error than those receiving indirect WCF or not given WCF. Moreover, there was a significant increase in the participants' accuracy over time, from pretest to posttest and from pretest to delayed posttest. The participants receiving WCF (DG and IG) and those who did not both improved their accuracy (CG). There have been studies that show that teacher error feedback is no more effective than content-related comments or no feedback in developing accuracy in L2 student writing (e.g., Kepner (1991); Polio et al., (1998); and Semke (1984), but these studies need to be looked into further. According to Kepner (1991), college students who got surface-level error correction produced fewer errors in their journals than those who got message-related remarks. However, the students were not required to do anything with the teacher's corrections. The lack of effect of error correction on accuracy and negative effect on fluency found by Semke (1984) may not be fully related to the different treatment approaches but rather to disparities in the amount of writing practice.

The last research question addressed the WCF's effect (direct and indirect) on the overall fluency in the pretest, posttest, and delayed posttest. According to the results, the total number of words in the posttest and the delayed posttest demonstrated a statistically significant difference between the three treatment groups (DG, IG, CG). Furthermore, the Friedman test findings from each treatment group demonstrate that they had substantially different total words, decreasing and increasing in the pretest, posttest, and delayed posttest compared to the other groups. This shows that giving Indirect WCF can increase the number of words composed by participants over time (long term). While in the t-units, it can be seen that the delayed posttest showed significant differences between the three treatment groups (DG, IG, CG).

There was a significant increase in t-units from pretest to delayed posttest in participants who received Direct WCF and those who did not (CG). This shows that giving Direct WCF and without WCF can increase participants' t-units over time (long term). In addition, there was a significant decrease in sentence counts from pretest to delayed posttest in participants receiving indirect WCF and those who did not (CG). This shows WCF or not; the sentence counts always decrease over time (long term).

6. Conclusion?

References

- Ahmadian, M., & Tajabadi, A. (2014). A Sociocultural Perspective on Corrective Feedback in L2: The Effect of Negotiated versus Nonnegotiated Feedback on the Accuracy Improvement in Writing. *The Iranian EFL Journal, December*(November 2017), 6–36.
- Benson, S., & DeKeyser, R. (2019). Effects of written corrective feedback and language aptitude on verb tense accuracy. *Language Teaching Research, 23*(6), 702–726. <https://doi.org/10.1177/1362168818770921>
- Biber, D., Nekrasova, T., & Horn, B. (2011). the Effectiveness of Feedback for L1-English and L2-Writing Development: a Meta-Analysis. *ETS Research Report Series, 2011*(1), i – 99. <https://doi.org/10.1002/j.2333-8504.2011.tb02241.x>
- Bitchener, J. (2012). A reflection on “the language learning potential” of written CF. *Journal of Second Language Writing, 21*(4), 348–363. <https://doi.org/10.1016/j.jslw.2012.09.006>
- Bitchener, J., & Ferris, D. R. (2012). Written corrective feedback in second language acquisition and Writing. *Written Corrective Feedback in Second Language Acquisition and Writing, 1–220*. <https://doi.org/10.4324/9780203832400>
- Chandler, J. (2003). The efficacy of various kinds of error feedback for improvement in the accuracy and fluency of L2 student writing. *Journal of Second Language Writing, 12*(3), 267–296. [https://doi.org/10.1016/S1060-3743\(03\)00038-9](https://doi.org/10.1016/S1060-3743(03)00038-9)
- Ellis, R., Sheen, Y., Murakami, M., & Takashima, H. (2008). The effects of focused and unfocused written corrective feedback in an English as a foreign language context. *System, 36*(3), 353–371. <https://doi.org/10.1016/j.system.2008.02.001>
- Ferris, D. R. (1999). The case for “The Case Against Grammar Correction in L2 Writing Classes”: A response to Truscott (1996). *Journal of Second Language Writing, 8*(2), 111–122. [https://doi.org/10.1016/S1060-3743\(99\)80124-6](https://doi.org/10.1016/S1060-3743(99)80124-6)
- Ferris, D. R. (2010). Second language writing research and written corrective feedback in SLA: Intersections and practical applications. *Studies in Second Language Acquisition, 32*(2), 181–201. <https://doi.org/10.1017/S0272263109990490>
- Ferris, D. R., Liu, H., Sinha, A., & Senna, M. (2013). Written corrective feedback for individual L2 writers. *Journal*

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- of *Second Language Writing*, 22(3), 307–329. <https://doi.org/10.1016/j.jslw.2012.09.009>
- Ferris, D. R. & Roberts, B. (2001). Error feedback in L2 writing classes How explicit does it need to be? *Journal of Second Language Writing*, 10(3), 161–184. [https://doi.org/10.1016/S1060-3743\(01\)00039-X](https://doi.org/10.1016/S1060-3743(01)00039-X)
- Hyland, K. & Hyland, F. (2006). Feedback on second language students' Writing. *Language Teaching*, 39(2), 83–101. <https://doi.org/10.1017/S0261444806003399>
- Kepner, C. G. (1991). An Experiment in the Relationship of Types of Written Feedback to the Development of Second-Language Writing Skills. *The Modern Language Journal*, 75(3), 305–313. <https://doi.org/10.1111/j.1540-4781.1991.tb05359.x>
- Kim, Y. J., Choi, B., Yun, H., Kim, B., & Choi, S. (2020). Task repetition, synchronous written corrective feedback and the learning of Korean grammar: A classroom-based study. *Language Teaching Research*. <https://doi.org/10.1177/1362168820912354>
- Lalande, J. F. (1982). Reducing Composition Errors: An Experiment. *The Modern Language Journal*, 66(2), 140–149. <https://doi.org/10.1111/j.1540-4781.1982.tb06973.x>
- Langum, V., & Sullivan, K. P. H. (2017). Writing academic english as a doctoral student in sweden: narrative perspectives. *Journal of Second Language Writing*, 35, 20–25. <https://doi.org/10.1016/j.jslw.2016.12.004>
- Leki, I. (1991). The preferences of ESL students for error correction in college-level writing classes. *Foreign Language Annals*, 24, 204–218.
- Manchón, R. M. (2011). Writing in foreign language contexts: Learning, teaching, and research. In *Writing in Foreign Language Contexts: Learning, Teaching, and Research*.
- Nusrat, A., Ashraf, F., & Narcy-Combes, M. F. (2019). Effect of direct and indirect teacher feedback on accuracy of english Writing: A quasi-experimental study among Pakistani undergraduate students. *3L: Language, Linguistics, Literature*, 25(4), 84–98. <https://doi.org/10.17576/3L-2019-2504-06>
- Polio, C., Fleck, C., & Leder, N. (1998). "If I Only Had More Time:" ESL Learners' Changes in Linguistic Accuracy on Essay Revisions. *Journal of Second Language Writing*, 7(1), 43–68. [https://doi.org/10.1016/S1060-3743\(98\)90005-4](https://doi.org/10.1016/S1060-3743(98)90005-4)
- Polio, C., & Williams, J. (2009). Teaching and Testing Writing. In *The Handbook of Language Teaching*. <https://doi.org/10.1002/9781444315783.ch26>
- Rahimi, M. (2019). A comparative study of the impact of focused vs. comprehensive corrective feedback and revision on ESL learners' writing accuracy and quality. *Language Teaching Research*, 25(5), 687–710. <https://doi.org/10.1177/1362168819879182>
- Semke, H. D. (1984). Effects of the Red Pen. *Foreign Language Annals*, 17(3), 195–202. <https://doi.org/10.1111/j.1944-9720.1984.tb01727.x>
- Simard, D., Guénette, D., & Bergeron, A. (2015). L2 learners' interpretation and understanding of written corrective feedback: insights from their metalinguistic reflections. *Language Awareness*, 24(3), 233–254. <https://doi.org/10.1080/09658416.2015.1076432>
- Suzuki, W. (2012). Written Linguaging, Direct Correction, and Second Language Writing Revision. *Language Learning*, 62(4), 1110–1133. <https://doi.org/10.1111/j.1467-9922.2012.00720.x>
- Truscott, J. (1996). Truscott 1996 Case against grammar correction. *Language Learning*, 46(2), 327–369.
- Truscott, J. (1999). The case for "The Case Against Grammar Correction in L2 Writing Classes": A response to Ferris. *Journal of Second Language Writing*, 8(2), 111–122. [https://doi.org/10.1016/S1060-3743\(99\)80124-6](https://doi.org/10.1016/S1060-3743(99)80124-6)

- Truscott, J. (2007). The effect of error correction on learners' ability to write accurately. *Journal of Second Language Writing*, 16(4), 255–272. <https://doi.org/10.1016/j.jslw.2007.06.003>
- Truscott, J., & Hsu, A. Y. ping. (2008). Error correction, revision, and learning. *Journal of Second Language Writing*, 17(4), 292–305. <https://doi.org/10.1016/j.jslw.2008.05.003>
- Van Beuningen, C. G. (2011). The effectiveness of comprehensive corrective feedback in second language writing. *Accelerating the World's Research*.
- Van Beuningen, C. G., De Jong, N. H., & Kuiken, F. (2012). Evidence on the Effectiveness of Comprehensive Error Correction in Second Language Writing. *Language Learning*, 62(1), 1–41. <https://doi.org/10.1111/j.1467-9922.2011.00674.x>

Appendix A: Number of Error Type in Rewritten Text

Category	Error Types
Successful Corrections	Grammar Nongrammar
Unsuccessful Corrections	Grammar Nongrammar
Uncorrected Errors	Grammar Nongrammar
Deleted Errors	Grammar Nongrammar



Masrul Masrul <masrilm25@gmail.com>

Article Revision

6 messages

Masrul Masrul <masrilm25@gmail.com>
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Mon, Jan 15, 2024 at 8:24 PM

Dear Editor,

This is our revision for the article entitled "The Effect of Direct and Indirect Written Corrective Feedback on Accuracy and Fluency of University Students' English Writing". The document attached, Thank You.

Sincerely,
Masrul

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Dear Masrul Masrul,

Thank you for sending us the revised version of your article titled "The Effect of Direct and Indirect Written Corrective Feedback on Accuracy and Fluency of University Students' English Writing." We have received the document, and we will now have our reviewers assess the revised manuscript to ensure that it meets our publication requirements. We will notify you promptly once we have any updates.

Thank you for your cooperation. If you have any further questions or concerns, please don't hesitate to let us know.

Sincerely,

Joe Nelson
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Additionally, please ensure that you complete the "add-info" file as requested. We need this information to be included in the article during the typesetting process. Your cooperation in completing this document would be greatly appreciated.

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Fri, Feb 2, 2024 at 8:02 AM

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My article will be published in the Vol. 14, No. 2, March 2024 issue. I hope to get published online under e-version first.

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10	Author has been complete the <i>Response to the Comment</i>
11	
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Response to Reviewer A's Comments

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3	The methodology section has been added to the research instrument

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6	Vocabulary mistakes have been revised

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The Effect of Direct and Indirect Written Corrective Feedback on Accuracy and Fluency of University Students' English Writing

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The Effect of Direct and Indirect Written Corrective Feedback on Accuracy and Fluency of University Students' English Writing

Abstract

This research aimed to determine the effect of WCF (Written Corrective Feedback), direct and indirect, on overall accuracy, error types, and overall accuracy and fluency in pre-test, post-test, and delayed post-test in rewritten text. The research questions examined the potential links between the direct & indirect WCF, grammar & non-grammar errors, and standpoint of feedback for accuracy and fluency. A total of 100 English as a Foreign Language (EFL) students from the University of Pahlawan Tuanku Tambusai in Indonesia were involved in the research. The findings revealed significant variations among the three experimental groups in the proportions of both effectively and unsuccessfully rectified errors, as well as the proportions of uncorrected and deleted errors in both grammar and non-grammar categories. The cohort that received the Direct WCF had the most significant enhancement in accuracy. This study showed that offering direct WCF (written corrective feedback) can enhance participants' accuracy gradually over an extended period of time (long term). Indirect written corrective feedback (WCF) can enhance participants' fluency in terms of overall word count, while direct WCF can improve participants' fluency in terms of t-units over a longer period of time.

Keywords: Written Corrective Feedback, Feedback accuracy, Feedback fluency, Errors type, English Writing

1. Introduction

Writing in English is challenging for students learning English as a second or foreign language (L2/FL) as it requires knowledge of new writing habits and English grammar in an English-speaking culture (Hyland & Hyland, 2006). Academic Writing is an emotionally charged process, particularly for second language learners who must contend with high linguistic requirements (Langum & Sullivan, 2017). These challenges make writing one of the most challenging activities and increase students' reliance on teachers for corrections and teaching. Hence, many EFL writing teachers and researchers are concentrating their efforts on assisting L2/FL students in improving their Writing in accordance with their learning needs and course objectives (Polio & Williams, 2009).

Pointing out their errors in the target language is one of the most common strategies for helping these students with their Writing. Written Corrective Feedback (WCF) is the general term for all this teaching approach. WCF is a typical approach used by second language (L2) teachers to help their pupils improve their writing accuracy. As Truscott (1996) mentioned, WCF effectively improves L2 learners' writing skills and might be part of a learning process. Responses to linguistic errors in students' written work are referred to as WCF. As a critical aspect of L2 writing training, WCF has sparked much debate in the literature (Ferris, 2010). In addition, WCF is regarded as a critical condition for students' interlanguage development because it helps them "identify the difference between their interlanguage output and the target language input" and reorganize their linguistic brain processes. During the WCF study, Van Beuningen et al. (2012) stated that WCF was only presented on one or a few occasions, and depending on the scope of the input and the instance of targeted WCF, the same target error types and text type were used throughout the whole process of target WCF (Rahimi, 2019).

WCF improves learners' cognitive growth by encouraging them to communicate with others in their learning contexts. Aside from providing an overview of WCF studies published over the past four decades with an emphasis on feedback scope, this review study intends to identify and discuss unresolved difficulties related to feedback scope and make recommendations for future studies. The present review, focusing explicitly on the scope of feedback, will provide useful information to earlier syntheses about the efficacy of WCF based on quantitative research, which will benefit from the findings of this review (Truscott, 2007). As a form of help inside a student's constructivist approach, WCF may require the student to go to the next level of her cognitive development. As a result of the provision of and receipt of WCF, learners and teachers participate in social activities as well as cooperatively explore the meaning and function of language. Moreover, WCF is considered collaborative participation in educational efforts (Ahmadian & Tajabadi, 2014). Instructors have been observed to deliver several types of WCF in feedback to their student's written work (Leki, 1991), with past studies identifying seven major WCF techniques. These engagement methods include direct, indirect, metalinguistic, focused (selected), unfocused (comprehensive), and WCF on local and global issues (Ferris & Roberts, 2001).

Attempted to study the effects of WCF from a theoretical approach, specifically in terms of the twofold contrast between accuracy and acquisition feedback (Manchón, 2011). Both theoretical and pedagogical issues influenced the direction of the investigation. Nonetheless, this research aimed to assess WCF's effect in relation to the distinction between feedback provided for accuracy and feedback aimed at acquisition to gain a better understanding of how WCF functions. In the feedback for accuracy, students participate in processing feedback, error detection, self-reflection on errors, and new output. On the other hand, feedback for acquisition is intended to promote long-term language learning by engaging students in processing feedback, error detection, self-reflection on errors, and new output.

The investigators employed the distinction in feedback pertaining to accuracy and fluency as a heuristic approach to investigate potential short-term and long-term learning advantages of Written Corrective Feedback (WCF). This approach is aligned with Norris and Ortega's differentiation between fluency and accuracy. In the following sections, we will discuss a few in-depth study strands relevant to our research, focusing on the targeted aims and the methods used.

2. Literature Review

2.1 Accuracy and Fluency Feedback

The objectives of the study are linked to the error correction debate, which is most frequently associated with Truscott (1999). Once it comes to immediate revisions, there is general agreement that WCF enhances grammatical accuracy (although there is much variation in the variables that can influence its effects). However, the empirical evidence for longer-term language-learning implications is mixed. Furthermore, Truscott & Hsu (2008) discovered that the effective reduction of errors in revised texts within an English as a Foreign Language (EFL) context did not serve as an indicator of second language (L2) development (i.e., decreased new texts errors), whereas (Van Beuningen, De Jong, & Kuiken 2012) discovered that providing unfocused feedback was identified as enhancing accuracy in a second language (L2) context, not only in the process of editing but also in subsequent pieces of writing.

Research undertaken by Simard et al. (2015) demonstrated that although the participants understood the WCF they were given, certain corrections nevertheless resulted in incorrect guesses about the goal of the correction. Additionally, there appear to be variances in the verbalizations of the participants based on the feedback they received. Biber, Nekrasova, and Horn (2011) researched to determine the impact of various WCF forms on the quality of students' Writing. The findings comprised both L1 and L2 WCF trials, which revealed that WCF had a small significant impact on writing quality, depending on the level of difficulty of the writing task.

Students studying English as a second language (ESL) were investigated by Nusrat, Ashraf, and Nancy-Combes (2019). The impact of instructor feedback on the written English accuracy of ESL students was investigated in this research. The findings imply that incorporating oral metalinguistic teacher feedback into the context of Pakistani language acquisition might help students achieve more success in their efforts to learn the English language more quickly and efficiently. Benson and DeKeyser (2019) investigated the influence of direct or metalinguistic written feedback on simple past tense and present perfect tense mistakes in the past and present perfect tense. Both experimental groups outperformed the control group, with direct feedback being more durable than metalinguistic input in one structure, the simple past tense.

In the following up research, Rahimi (2019) assessed the impact of focused versus comprehensive WCF and revision on improving writing accuracy in ESL students. The results revealed that the focused groups outperformed the comprehensive groups in minimizing their word errors at T2. However, there was no statistically significant difference between the two groups regarding revision. Furthermore, Kim et al. (2020) investigated the impact of direct and indirect WCF on the learning among high beginning-level Korean students when they collaborate on collaborative writing assignments. Direct WCF proved to be more helpful in supporting students in creating accurate Writing. However, both types of feedback proved to be effective in fostering the learning of new linguistic elements through collaborative Writing, as evidenced by the findings.

2.2 WCF and Types of Errors

This study looked at which sort of WCF, direct or indirect, resulted in greater error reduction across broad error categories (for example, grammar and non-grammar errors) and specific error types. A broad coding system (Van Beuningen et al., 2012) was used to distinguish between grammar & non-grammar errors, and a data-driven narrow coding approach was utilized (Ferris et al., 2013). Furthermore, the researchers discriminated between WCF mistakes that were effectively fixed and WCF errors that were not: uncorrected errors, successful corrections,

unsuccessful corrections, and deleted errors (Van Beuningen, De Jong & Kuiken [2012](#)).

Direct (oral) and indirect (written) feedback have been employed in error feedback studies. Furthermore, most WCF research (Lalande, [1982](#)) distinguished between direct and indirect corrective feedback, the two frequent types of written corrective feedback. Direct WCF involves the teacher providing the correct form to the students, which is preferable for students with a low level of competence who are unable to self-correct and are unaware of what the correct form is. Ferris & Hedgcock ([2014](#)) argued that direct feedback helps to avoid confusion, reduces learners' cognitive burden, and allows them to test their hypotheses more directly.

Based on the directed nature of direct feedback, it can point to specific errors made by the learners, such as errors connected to spelling errors or any form of vocabulary or morpheme modifications. Furthermore, it can assist the student in producing the correct phonetics in a margin or frame misaligned (Ellis et al., [2008](#)). However, indirect feedback is more effective at facilitating internalization of the form and deepening metalinguistic knowledge processing than direct feedback (Bitchener, [2012](#)). Additionally, indirect feedback forces students to correct flaws identified by their teachers, who do not provide the appropriate form of feedback to students (Ferris & Roberts, [2001](#)).

3. Methodology

3.1 Research questions

The following research questions guided this research:

1. How does WCF (direct and indirect) affect the overall accuracy of a rewritten text?
2. How does WCF (direct and indirect) affect the accuracy, specifically the type of error in the rewritten text?
3. How does WCF (direct and indirect) affect the overall accuracy in the post-test and the delayed post-test?
4. How does WCF (direct and indirect) affect the overall fluency of participants in the pre-test, post-test, and delayed post-test?

3.2 Materials and Methods

As mentioned by Bitchener & Ferris ([2012](#)), four or more tasks should be included in the design of WFC research: a pre-test, an update of the pre-test, and a delayed post-test. Participants revised a previously written text as part of this research after they received one of two forms of WCF (direct or indirect) in contrast to a control group receiving no WCF. In addition, each participant created two more texts during the research at different times after a week.

Bitchener & Ferris ([2012](#)) solved the focused–unfocused issue as well as challenges such as the interplay between error categories and kinds of WCF (direct and indirect). In this research, the researchers investigated which form of WCF (direct or indirect) produced higher error reduction across broad error categories; grammar & non-grammar errors. In this research, the researchers distinguished between effectively successful corrections, uncorrected errors, unsuccessfully corrections, and deleted errors (Van Beuningen, [2011](#)).

3.3 Participants and setting

The participants were 100 EFL students from the University of Pahlawan Tuanku Tambusai, Indonesia, enrolled in the course as part of their English Studies degree. Before studying at the university, they had been learning English for about 12 years, and their proficiency matched the level of a B1 Threshold-Independent User, the highest level of proficiency. The selection of this level for the study was made in order to facilitate learners engagement with and integration of the It feedback provided during the language learning session.

3.4 Instrument

The instruments used in this study are categorized as test instruments, as they support the collection of data measuring students' writing skills at various stages (pre-test, post-test, and delayed post-test). The pre-test assesses participants' initial writing abilities, covering parameters such as structure, grammar, vocabulary, and content. Subsequently, the languaging session provides an opportunity for participants to identify and comprehend errors in their own texts, requiring active engagement in the process of error identification and correction. Furthermore, it assesses participants' ability to apply feedback and reflections from the languaging session to the rewriting process, focusing on error correction and the enhancement of writing quality. Finally, the post-test and delayed post-test stages are conducted to measure participants' writing abilities after receiving feedback and engaging in the rewriting session. This includes assessments of progress in structure, grammar, vocabulary, and content.

3.5 Design and Data Collection Procedures

One intrasubject component with four possible values (pre-test, rewrite, post-test, and delayed post-test) and one intrasubject factor WCF with three possible values (unfocused direct WCF, unfocused indirect WCF, and no feedback) were employed in the design and data collection. Hence, there existed two experimental groups and a control group (CG). The experimental groups were exposed to either direct written corrective feedback (DG - direct group) or indirect written corrective feedback (IG - indirect group), whereas the control group (CG) did not receive any feedback before revising their articles.

Overall, five weeks were spent collecting information in four stages. During that period, participants wrote their first text (pre-test), received WCF (experimental groups) or no feedback (control groups), and discussed the errors present in their original texts, whether or not WCF was available for the intervention and control groups. Subsequently, they revised their initial text through the process of rewriting and ultimately composed two extra texts on distinct subjects (post-test and delayed post-test). They produced several writing contexts before making adjustments to their texts and created new ones to allow for self-reflection processes in reaction to the criticism they received.

This data collection method may have resulted in an unexpected practice effect, which the researchers were informed of. However, they had no other choice for gathering data to analyze the effects of feedback on new writing pieces. They were concerned about the possible combined influence of WCF and languaging in the data. Although no control group did not engage in languaging but get WCF, the researcher was able to dissociate the possible combined impact of WCF and languaging since there was a control group that did not engage in languaging about their errors but did receive WCF.

During the language sessions, each participant was allocated a period of 50 minutes to assess their errors and receive feedback (in the feedback groups) or to independently identify their errors and engage in reflection (in the CG - control group). According to Suzuki (2012), the following instructions were given to the participants. All three groups (DG, IG, and CG) traveled through a languaging session, this involved transcribing each error identified in the pre-test onto a sheet of paper and offering a correction (already supplied in the feedback for the DG), an ML code (already provided in the feedback for the IG), and an ML explanation (not provided in the feedback for either of the two feedback groups).

During the rewriting session, the participants were required to find errors they recognized from the languaging session in their previous uncorrected essays to recreate their writings more accurately in the rewriting session. After revising their texts for a week, each participant ended up with a new piece of Writing. Following the post-test, all participants were required to write a new piece of writing.

3.6 Procedures for Data Coding and Analysis

Despite the highly precise coding schemes used, two reviewers (knowledgeable EFL instructors and researchers) effectively coded all errors for all coding schemes to maintain a high level of reliability (100 percent), despite appearances in applied linguistics. When raters argued, the errors were reviewed until everyone agreed. Moreover, a broad coding system on Van Beuningen et al. (2012) was used to distinguish between grammar and non-grammar errors, and a narrow coding system (Ferris et al., 2013) and partly data-driven.

The researchers devised a coding scheme based on the operationalization of depth of processing to distinguish between learners' cognitive effort when digesting the WCF they got (intervention groups) and their own self-identified errors (control groups) in terms of language (CG). A non-parametric statistical approach was used to evaluate the data because of our small sample size and non-normal data distribution. The Kruskal–Wallis tests, Mann–Whitney U, Wilcoxon Signed Rank, and Friedman tests were all used to examine the data. It was decided to utilize Kruskal–Wallis tests to examine how many mistakes and types of errors were made, and how many errors were reduced in each group in the study.

Following the confirmation that statistically significant differences existed between the three groups, the Mann-Whitney U tests were employed to ascertain if there were any statistically significant variations between the two designated groups. Friedman tests were utilized when comparing the reduction in errors produced in one group's tests to the other group's tests.

4. Result

The results of this study provide valuable insights into how the feedback influences the writing abilities of university students. Let us examine together the findings of this research to understand the contribution of corrective feedback to the accuracy and fluency in the English writing of university students.

4.1 WCF's effect (direct & indirect) on the overall accuracy of a rewritten text

Table 1

Category	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Successful corrections	47.81 (6.03)	41.37 (3.84)	18.31 (2.64)	43.65	0.00
Unsuccessful correction	7.28 (2.35)	10.17 (1.81)	3.72 (1.00)	38.61	0.00
Uncorrected errors	40.21 (5.88)	40.48 (4.91)	64.99 (4.21)	39.57	0.00
Deleted errors	4.67 (1.58)	7.96 (1.99)	12.96 (3.45)	41.35	0.00

Table 1 presents the error correction rate in rewritten texts and indicates significant differences between the three experimental groups (DG, IG, CG) in the percentage of successful and unsuccessful corrections, as well as the percentage of uncorrected and deleted errors.

Table 2

Comparison of Error Correction Rate in Rewritten Texts across Group: Mann-Whitney

Category	DG vs. IG		DG vs. CG		IG vs. CG	
	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>
Successful corrections	66.50	0.00	0.00	0.00	0.00	0.00
Unsuccessful correction	53.5	0.00	42.50	0.00	0.00	0.00
Uncorrected errors	158.0	0.69	0.00	0.00	0.00	0.00
Deleted errors	40.5	0.00	0.00	0.00	33.00	0.00

Table 2 shows that WCF (DG and IG) gave more successful corrections than CG, and Direct WCF had more successful corrections than Indirect WCF. Although WCF provides more successful corrections, it turns out that WCF also provides more unsuccessful corrections than CG. In addition, WCF had significantly less uncorrected error than CG, but there was no significant difference between different types of WCF (DG and IG). Also, direct WCF has the smallest deleted errors significantly.

4.2 WCF's effect (direct & indirect) on the accuracy, specifically the type of error in the rewritten text.

Table 3

Category	Error Type	M (SD)			Kruskal-Wallis Test	
		DG	IG	CG	H	<i>p</i>
Successful corrections	Grammar	11.68 (1.49)	8.09 (1.35)	5.04 (1.15)	47.47	0.00
	Non-grammar	9.43 (0.94)	8.57 (0.93)	2.56 (0.29)	42.02	0.00

Unsuccessful correction	Grammar	1.08 (0.61)	2.10 (0.57)	1.05 (0.57)	21.59	0.00
	Non-grammar	2.25 (0.83)	2.01 (0.58)	0.50 (0.28)	39.87	0.00
Uncorrected errors	Grammar	9.55 (2.14)	7.40 (1.73)	14.82 (1.67)	41.72	0.00
	Non-grammar	8.61 (2.76)	9.20 (2.51)	12.30 (2.22)	17.52	0.00
Deleted errors	Grammar	1.00 (0.56)	1.07 (0.62)	2.90 (1.68)	17.53	0.00
	Non-grammar	1.05 (0.60)	2.10 (0.69)	2.52 (0.95)	23.07	0.00

The results of the number of error types in rewritten text in Table 3 reveal significant differences between the three experimental groups (DG, IG, CG) in successful and unsuccessful corrections, with the DG group being the highest. There is also a significant difference in the percentage of uncorrected and deleted errors in terms of grammar and non-grammar.

Table 4
Comparison of Number Error Type in Rewritten Text: Mann-Whitney

Category	Error Type	DG vs. IG		DG vs. CG		IG vs. CG	
		<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>
Successful corrections	Grammar	9.50	0.00	0.00	0.00	14.50	0.00
	Non-grammar	91.00	0.01	0.00	0.00	0.00	0.00
Unsuccessful correction	Grammar	43.5	0.00	193.0	0.86	40.50	0.00
	Non-grammar	142.0	0.38	0.00	0.00	0.00	0.00
Uncorrected errors	Grammar	81.5	0.00	5.00	0.00	0.00	0.00
	Non-grammar	152.0	0.56	62.0	0.00	68.5	0.00
Deleted errors	Grammar	157.5	0.68	65.0	0.00	65.5	0.00
	Non-grammar	46.5	0.00	39.0	0.00	150.5	0.28

Table 4 compares the number of error types in rewritten text. It shows that successful corrections of grammar and non-grammar errors WCF were significantly higher than CG. However, DG provides better successful correction than IG, both in terms of grammar and non-grammar. In unsuccessful correction of grammar errors, DG was significantly better than IG but only slightly different from CG. As for non-grammar, WCF was significantly superior to CG. In terms of uncorrected grammar and non-grammar errors, WCF was significantly superior to CG. Moreover, IG has significantly more uncorrected grammar errors than DG. While, in deleted grammar errors, WCF had significantly fewer deleted grammar errors than CG. As for non-grammar, DG had significantly fewer deleted grammar errors than IG and CG.

4.3 WCF's effect (direct & indirect) on the overall accuracy in the post-test and delayed post-test.

Table 5
Percentage of Errors: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pre-test	12.76 (1.49)	12.77 (1.50)	13.26 (1.25)	1.49	0.47
Post-test	11.31 (1.35)	10.36 (1.35)	10.91 (1.52)	3.80	0.15
Delayed post-test	8.44 (0.95)	9.61 (1.61)	9.71 (1.54)	8.32	0.02

When viewed from the type of test, Table 4 reveals that the percentage of errors in the delayed post-test was significantly different between the three experimental groups (DG, IG, CG). Participants receiving direct WCF statistically had a lower percentage of error than those receiving indirect WCF and those not receiving WCF (DG vs. IG: $U = 97.00$, $p = 0.02$; DG vs. CG: $U = 100.0$, $p = 0.01$). On the other hand, based on each treatment group, the results of Friedman's test showed that three groups had a significant difference in the error percentage in the pre-test, post-test, and delayed post-test: DG, $X^2_F = 35.71$, $p = 0.00$; IG, $X^2_F = 14.73$, $p = 0.00$; CG, $X^2_F = 26.91$, $p = 0.00$) based on Figure 1.

Figure 1
Average Percentage of Error across Time

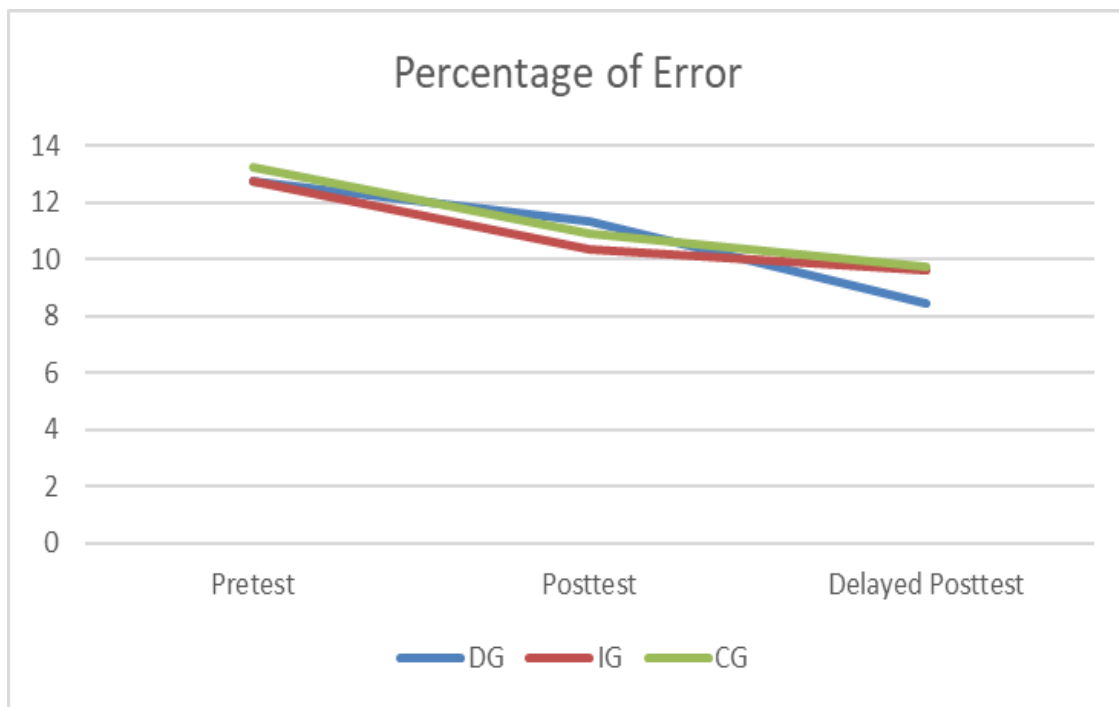


Table 6
Reduction of Percentage of Error Across Tests within Groups: Wilcoxon

Pair	DG		IG		CG	
	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pre-test – Post-test	-3.65	0.00	-3.20	0.00	-3.55	0.00
Pre-test – Delayed Post-test	-3.83	0.00	-3.48	0.00	-4.01	0.00

The results in Table 6 show a significant increase in the participants' accuracy over time, from pre-test to post-test and from pre-test to delayed post-test ($p < 0.05$). An increase in accuracy occurred in participants who obtained WCF (DG and IG) and those who did not (CG). The highest increase in accuracy occurred in the group of participants who received the Direct WCF. This shows that administering WCF, especially direct WCF, can improve participant accuracy over time (long term).

4.4 WCF's effect (direct & indirect) on the overall fluency of participants in the pre-test, post-test, and delayed post-test.

a. Overall words

Table 7 illustrates the overall words based on the type of test. It indicates that the number of words in the post-test and delayed post-test was significantly different between the three experimental groups (DG, IG, CG). In the post-test, participants receiving indirect WCF had significantly greater word count than those receiving direct WCF and those not receiving WCF (DG vs. IG: $U = 84.0, p = 0.01$; IG vs. CG: $U = 92.5, p = 0.01$). In the delayed post-test, the participants with indirect WCF had the largest number of words. While, participants obtaining direct WCF had significantly lower word counts than those without WCF (DG vs. IG: $U = 84.0, p = 0.01$; IG vs. CG: $U = 92.5, p = 0.01$).

Table 7
Overall Words: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pre-test	118.2 (63.02)	120.6 (56.88)	119.8 (39.43)	0.06	0.97
Post-test	90.0 (38.38)	125.1 (25.06)	99.0 (29.95)	9.78	0.01
Delayed post-test	143.6 (54.37)	204.8 (39.46)	181.7 (30.37)	13.98	0.00

Figure 2 also depicts the Friedman test results, showing that the three groups have significantly different overall words, both decreasing and increasing in the pre-test, post-test, and delayed post-test in each treatment group: DG, $X^2_F = 9.58, p = 0.01$; IG, $X^2_F = 18.78, p = 0.00$ CG, $X^2_F = 32.00, p = 0.00$).

Figure 2
Overall Words across Time

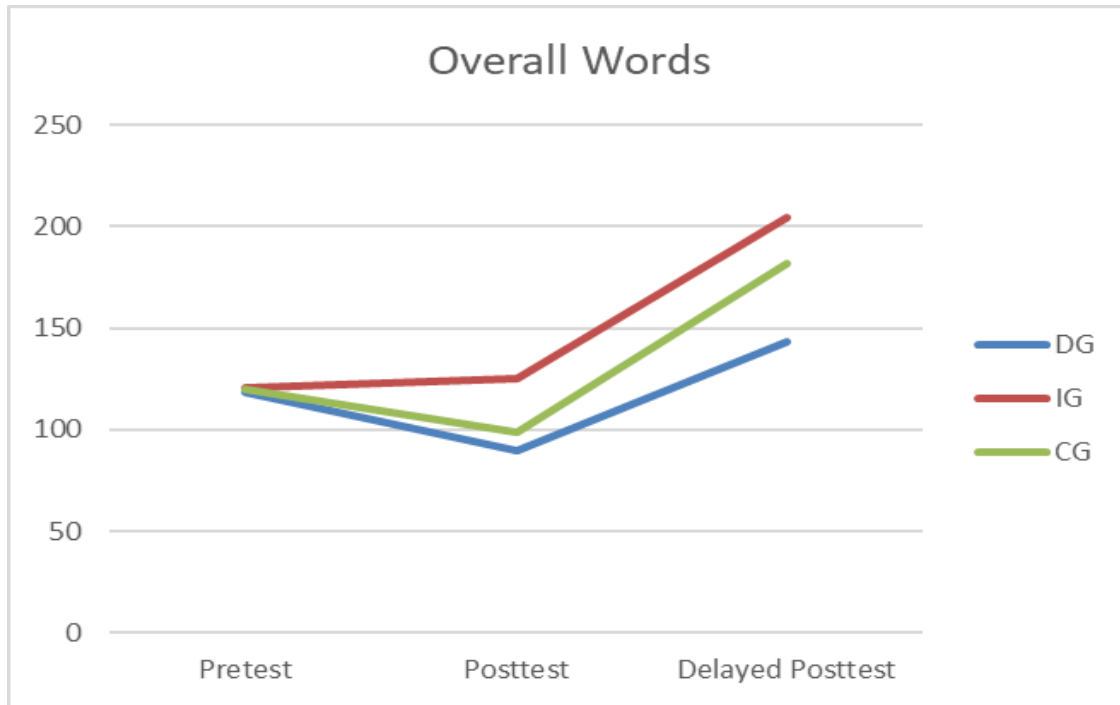


Table 8
Improvement of Overall Words Across Time within Groups: Wilcoxon

Pair	DG		IG		CG	
	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pre-test – Post-test	-2.36	0.02	-0.28	0.77	-1.99	0.04
Pre-test – Delayed Post-test	-1.61	0.11	-3.46	0.00	-3.98	0.00

Table 8 showed that the overall words from pre-test to post-test in participants receiving Direct WCF and those not receiving WCF significantly decreased ($p < 0.05$). Meanwhile, the overall words of participants receiving Indirect WCF increased but not significantly. There was a significant increase in overall word from pre-test to delayed post-test in participants who received Indirect WCF and those who did not (CG). This shows that giving Indirect WCF can increase the number of words that participants can compose over time (long term).

b. T-Units

Based on the type of test, the t-units in the delayed post-test showed significant differences between the three experimental groups (DG, IG, CG), as seen in Table 9. Participants who obtained WCF statistically had lower t-units than those who did not (DG vs. IG: $U = 143.5, p = 0.40$; DG vs. CG: $U = 112.0, p = 0.02$; IG vs. CG: $U = 75.0, p = 0.00$).

Table 9
T-Units: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pre-test	8.53 (3.63)	9.61 (3.52)	9.38 (3.52)	1.01	0.61
Post-test	9.05 (3.06)	8.28 (2.72)	11.3 (8.72)	2.39	0.30
Delayed post-test	11.2 (3.75)	10.28 (3.72)	14.0 (1.82)	11.45	0.00

The Friedman test results show that participants who received direct WCF and those who did not (CG) had significantly different t-units, both decreasing and increasing, on the pre-test, post-test, and delayed post-test: DG, $X^2_F = 8.24, p = 0.02$; IG, $X^2_F = 1.94, p = 0.38$; CG, $X^2_F = 26.88, p = 0.00$, as illustrated in Figure 3.

Figure 3
T-Units across Time

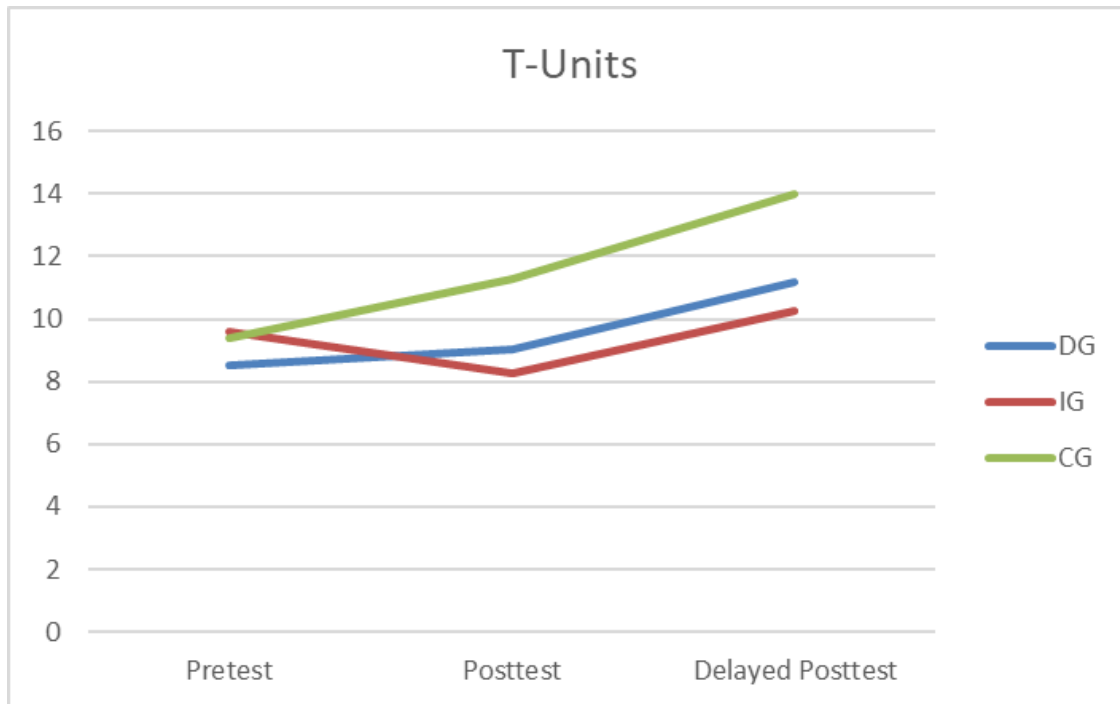


Table 10
Improvement of T-Units Across Time within Groups: Wilcoxon

Pair	DG		IG		CG	
	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pre-test – Post-test	-0.51	0.61	-1.10	0.27	-1.05	0.29
Pre-test – Delayed Post-test	-2.49	0.01	-0.59	0.55	-3.93	0.00

Table 10 shows that the t-units from the pre-test to post-test of the participants receiving Direct WCF and those not receiving WCF increased but not significantly. Meanwhile, it was decreased for the participants who received Indirect WCF. There was a significant increase in t-units between the pre-test and delayed post-test in participants who obtained Direct WCF and those who did not (CG). The increase in t-units in participants who did not receive WCF was greater than that in participants who received Direct WCF. This shows that implementing Direct WCF and without WCF can increase participants' t-units over time (long term).

c. Sentence Counts

When viewed from the type of test, the sentence counts in the pre-test, post-test, and delayed post-test showed significant differences between the three experimental groups (DG, IG, CG), as presented in Table 11. In the pre-test, participants receiving direct WCF statistically had lower sentence counts than those receiving indirect WCF and not receiving WCF (DG vs. IG: $U = 0.00, p = 0.0$; DG vs. CG: $U = 81.5, p = 0.00$). In the post-test, participants receiving direct WCF statistically had lower sentence counts than those receiving indirect WCF and not receiving WCF (DG vs. IG: $U = 0.00, p = 0.0$; DG vs. CG: $U = 0.00, p = 0.00$). In the delayed post-test, participants with WCF had lower sentence counts than those without WCF (DG vs. CG: $U = 00.00, p = 0.0$; IG vs. CG: $U = 102.50, p = 0.02$).

Table 11
Sentence Counts: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pre-test	9.51 (1.90)	16.01 (1.67)	14.30 (4.34)	24.14	0.00
Post-test	5.50 (0.56)	10.81 (4.03)	13.41 (0.81)	37.77	0.00
Delayed post-test	10.28 (2.61)	9.52 (2.78)	7.94 (1.89)	12.73	0.00

Concerning each treatment group, the Friedman test results show that the three groups have significantly different sentence counts, both decreasing and increasing, on the pre-test, post-test, and delayed post-test: DG, $X^2_F = 23.47, p = 0.00$; IG, $X^2_F = 28.78, p = 0.00$; CG, $X^2_F = 26.48, p = 0.00$), as illustrated in Figure 4.

Figure 4
Sentence Counts Across Time

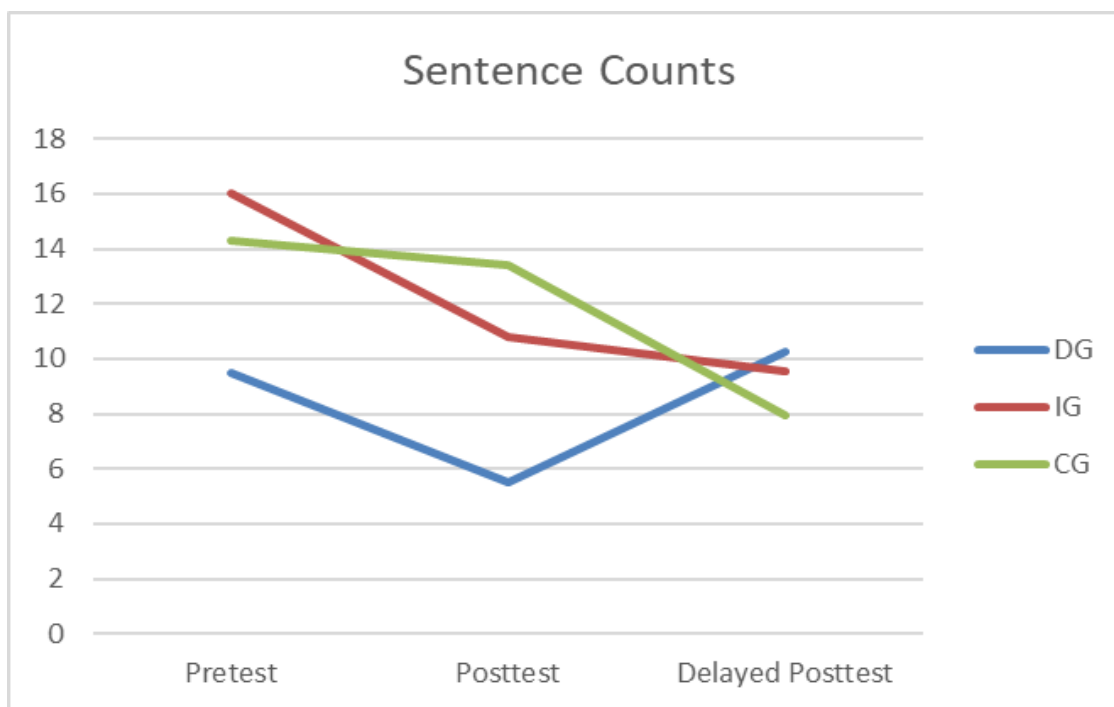


Table 12
Improvement of Sentence Counts Across Time within Groups: Wilcoxon

Pair	DG		IG		CG	
	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pre-test – Post-test	-3.82	0.00	-3.72	0.00	-0.95	0.34
Pre-test – Delayed Post-test	-0.95	0.34	-3.72	0.00	-3.77	0.00

Table 12 presents the improvement of sentence counts. It shows that the sentence counts between the pre-test and post-test in participants obtaining WCF significantly decreased. In addition, there was a significant decrease in sentence counts from pre-test to delayed post-test in participants receiving indirect WCF and those who did not receive WCF (CG). This shows that either with WCF or without WCF, the sentence counts decrease over time (long term).

Among the three fluency indicators: overall words, t-units, and sentence count, only overall words and t-units showed increased participant fluency after obtaining WCF. The provision of indirect WCF can increase the fluency of participants in terms of overall words, while the provision of direct WCF can increase the fluency of participants in terms of t-units in the long term.

5. Discussion

The first research question investigated the WCF's effect (direct and indirect) on the overall accuracy of the rewritten text. The results revealed that the proportion of successful and unsuccessful corrections, as well as the percentage of uncorrected and deleted errors, substantially varied across three experimental groups (DG, IG, CG). WCF (DG and IG) had a greater proportion of successful corrections than CG, and direct WCF had a higher percentage of effective corrections than indirect WCF.

WCF has a higher rate of successful corrections than CG; it also has a higher rate of unsuccessful

corrections. There was a substantial difference between WCF and CG in terms of uncorrected error but no significant difference between the different forms of WCF (DG and IG). Furthermore, direct WCF has the smallest deleted errors. It was observed that the successful corrections of updated texts in an EFL context were not a predictor of L2 development (i.e., fewer errors in new texts). However, successful corrections of revised texts in an EFL setting were predictors (Truscott & Hsu, 2008). Moreover, Van Beuningen et al. (2012) showed that providing unfocused feedback increased accuracy in Writing, not only while revising but also when developing new writing pieces.

The second research question was about the WCF's effect (both direct and indirect) on the accuracy, specifically, the sort of mistake introduced into the rewritten text. The findings revealed statistically significant differences between the three experimental groups (DG, IG, CG) in terms of successful and failed repairs, as well as the proportion of uncorrected and deleted errors, both in grammar and non-grammar. Furthermore, when it came to successful fixes of grammar and non-grammar problems, WCF outperformed CG by a wide margin. On the other hand, DG delivers more successful corrections than IG in terms of grammar and non-grammar correction.

In unsuccessful corrections of grammar errors, DG was significantly better than IG but only slightly different from CG. As for non-grammar, WCF was significantly superior to CG. In terms of uncorrected grammar and non-grammar errors, WCF was significantly superior to CG. Furthermore, IG has a higher percentage of uncorrected grammatical errors than DG. On the other hand, WCF had significantly more deleted grammatical errors than CG in this category. In terms of non-grammatical errors, DG had significantly fewer than IG and CG. The following four WCF conditions were investigated: corrective, underlined, and discussion (underlining errors and providing error codes), description (provided error codes without notifying learners where the errors occurred), and simply highlight (underlining errors without delivering error codes) (Chandler, 2003).

Specifically, the data demonstrated that providing direct and indirect feedback was more efficient in reducing learner errors than just mentioning the categories of errors. The most effective of the four feedback forms for producing precise changes were direct correction, which was the most common (i.e., correct uptake). Similarly, Van Beuningen et al. (2012) discovered that direct feedback had a stronger impact on both short-term and long-term improvements in correctness in rewritten texts.

The third research question addressed the WCF's effect (direct and indirect) on overall accuracy in the post-test and delayed post-test. The results indicated that the percentage of errors was significantly different between the three experimental groups (DG, IG, CG) in the delayed post-test. Participants experiencing direct WCF had a lower rate of error than those receiving indirect WCF or not given WCF. Moreover, there was a significant increase in the participants' accuracy over time, from pre-test to post-test and from pre-test to delayed post-test. The participants receiving WCF (DG and IG) and those who did not both improved their accuracy (CG). There have been studies that show that teacher error feedback is no more effective than content-related comments or no feedback in developing accuracy in L2 student writing (e.g., Kepner (1991); Polio et al., (1998); and Semke (1984), but these studies need to be looked into further. According to Kepner (1991), college students who got surface-level error correction produced fewer errors in their journals than those who got message-related remarks. However, the students were not required to do anything with the teacher's corrections. The lack of effect of error correction on accuracy and negative effect on fluency found by Semke (1984) may not be fully related to the different treatment approaches but rather to disparities in the amount of writing practice.

The last research question addressed the WCF's effect (direct and indirect) on the overall fluency in the pre-test, post-test, and delayed post-test. According to the results, the total number of words in the post-test and the delayed post-test demonstrated a statistically significant difference between the three experimental groups (DG, IG, CG). Furthermore, the Friedman test findings from each treatment group demonstrate that they had substantially different total words, decreasing and increasing in the pre-test, post-test, and delayed post-test compared to the other groups. This shows that giving Indirect WCF can increase the number of words composed by participants over time (long term). While in the t-units, it can be seen that the delayed post-test showed significant differences between the three experimental groups (DG, IG, CG).

There was a significant increase in t-units from pre-test to delayed post-test in participants who received Direct WCF and those who did not (CG). This shows that giving Direct WCF and without WCF can increase participants' t-units over time (long term). In addition, there was a significant decrease in sentence counts from pre-test to delayed post-test in participants receiving indirect WCF and those who did not (CG). This shows WCF or not; the sentence counts always decrease over time (long term).

6. Conclusion

Based on the findings of this research, several conclusions can be drawn. Written Corrective Feedback (WCF), whether in direct or indirect form, positively impacts the overall accuracy of the rewritten text. The proportion of successful corrections is higher in the experimental groups (DG and IG) compared to the control group (CG), with direct WCF showing a more effective correction percentage than indirect WCF. Significant differences exist in both successful and unsuccessful corrections between the experimental groups (DG and IG) and the control group (CG), in both grammar and non-grammar categories. Particularly, direct WCF demonstrates superior performance in correcting grammar and non-grammar errors compared to the control group and indirect WCF.

There is a significant difference in error percentages between the experimental groups (DG and IG) and the control group (CG) in the delayed post-test. Receiving direct WCF contributes to a lower error rate compared to indirect WCF or no WCF. The total number of words in the post-test and delayed post-test shows a significant difference between the experimental groups (DG and IG) and the control group (CG). Indirect WCF appears to increase the number of words produced by participants over time (long term), while both direct WCF and no WCF increase the participants' t-units over time.

Previous studies suggest that teacher error feedback is no more effective than content-related comments or no feedback in developing accuracy in second language (L2) student writing. Further research is crucial to understanding the effects of feedback on accuracy and fluency in writing, involving a balanced amount of writing exercises. Overall, the findings of this research support the importance of both direct and indirect feedback in improving the accuracy and fluency of student writing in the context of a second language (L2). Direct WCF, in particular, significantly contributes to error correction and the long-term development of writing skills.

References

- Ahmadian, M., & Tajabadi, A. (2014). A Sociocultural Perspective on Corrective Feedback in L2: The Effect of Negotiated versus Nonnegotiated Feedback on the Accuracy Improvement in Writing. *The Iranian EFL Journal, December*(November 2017), 6–36.
- Benson, S., & DeKeyser, R. (2019). Effects of written corrective feedback and language aptitude on verb tense accuracy. *Language Teaching Research, 23*(6), 702–726. <https://doi.org/10.1177/1362168818770921>
- Biber, D., Nekrasova, T., & Horn, B. (2011). the Effectiveness of Feedback for L1-English and L2-Writing Development: a Meta-Analysis. *ETS Research Report Series, 2011*(1), i – 99. <https://doi.org/10.1002/j.2333-8504.2011.tb02241.x>
- Bitchenor, J. (2012). A reflection on “the language learning potential” of written CF. *Journal of Second Language Writing, 21*(4), 348–363. <https://doi.org/10.1016/j.jslw.2012.09.006>
- Bitchenor, J., & Ferris, D. R. (2012). Written corrective feedback in second language acquisition and Writing. *Written Corrective Feedback in Second Language Acquisition and Writing, 1–220*. <https://doi.org/10.4324/9780203832400>
- Chandler, J. (2003). The efficacy of various kinds of error feedback for improvement in the accuracy and fluency of L2 student writing. *Journal of Second Language Writing, 12*(3), 267–296. [https://doi.org/10.1016/S1060-3743\(03\)00038-9](https://doi.org/10.1016/S1060-3743(03)00038-9)
- Ellis, R., Sheen, Y., Murakami, M., & Takashima, H. (2008). The effects of focused and unfocused written corrective feedback in an English as a foreign language context. *System, 36*(3), 353–371. <https://doi.org/10.1016/j.system.2008.02.001>
- Ferris, D. R. (1999). The case for “The Case Against Grammar Correction in L2 Writing Classes”: A response to Truscott (1996). *Journal of Second Language Writing, 8*(2), 111–122. [https://doi.org/10.1016/S1060-3743\(99\)80124-6](https://doi.org/10.1016/S1060-3743(99)80124-6)
- Ferris, D. R. (2010). Second language writing research and written corrective feedback in SLA: Intersections and practical applications. *Studies in Second Language Acquisition, 32*(2), 181–201. <https://doi.org/10.1017/S0272263109990490>
- Ferris, D. R., Liu, H., Sinha, A., & Senna, M. (2013). Written corrective feedback for individual L2 writers. *Journal of Second Language Writing, 22*(3), 307–329. <https://doi.org/10.1016/j.jslw.2012.09.009>
- Ferris, D. R. & Roberts, B. (2001). Error feedback in L2 writing classes How explicit does it need to be? *Journal of*

- Second Language Writing*, 10(3), 161–184. [https://doi.org/10.1016/S1060-3743\(01\)00039-X](https://doi.org/10.1016/S1060-3743(01)00039-X)
- Hyland, K. & Hyland, F. (2006). Feedback on second language students' Writing. *Language Teaching*, 39(2), 83–101. <https://doi.org/10.1017/S0261444806003399>
- Kepner, C. G. (1991). An Experiment in the Relationship of Types of Written Feedback to the Development of Second-Language Writing Skills. *The Modern Language Journal*, 75(3), 305–313. <https://doi.org/10.1111/j.1540-4781.1991.tb05359.x>
- Kim, Y. J., Choi, B., Yun, H., Kim, B., & Choi, S. (2020). Task repetition, synchronous written corrective feedback and the learning of Korean grammar: A classroom-based study. *Language Teaching Research*. <https://doi.org/10.1177/1362168820912354>
- Lalande, J. F. (1982). Reducing Composition Errors: An Experiment. *The Modern Language Journal*, 66(2), 140–149. <https://doi.org/10.1111/j.1540-4781.1982.tb06973.x>
- Langum, V., & Sullivan, K. P. H. (2017). Writing academic english as a doctoral student in sweden: narrative perspectives. *Journal of Second Language Writing*, 35, 20–25. <https://doi.org/10.1016/j.jslw.2016.12.004>
- Leki, I. (1991). The preferences of ESL students for error correction in college-level writing classes. *Foreign Language Annals*, 24, 204–218.
- Manchón, R. M. (2011). Writing in foreign language contexts: Learning, teaching, and research. In *Writing in Foreign Language Contexts: Learning, Teaching, and Research*.
- Nusrat, A., Ashraf, F., & Nancy-Combes, M. F. (2019). Effect of direct and indirect teacher feedback on accuracy of english Writing: A quasi-experimental study among Pakistani undergraduate students. *3L: Language, Linguistics, Literature*, 25(4), 84–98. <https://doi.org/10.17576/3L-2019-2504-06>
- Polio, C., Fleck, C., & Leder, N. (1998). “If I Only Had More Time:” ESL Learners’ Changes in Linguistic Accuracy on Essay Revisions. *Journal of Second Language Writing*, 7(1), 43–68. [https://doi.org/10.1016/S1060-3743\(98\)90005-4](https://doi.org/10.1016/S1060-3743(98)90005-4)
- Polio, C., & Williams, J. (2009). Teaching and Testing Writing. In *The Handbook of Language Teaching*. <https://doi.org/10.1002/9781444315783.ch26>
- Rahimi, M. (2019). A comparative study of the impact of focused vs. comprehensive corrective feedback and revision on ESL learners’ writing accuracy and quality. *Language Teaching Research*, 25(5), 687–710. <https://doi.org/10.1177/1362168819879182>
- Semke, H. D. (1984). Effects of the Red Pen. *Foreign Language Annals*, 17(3), 195–202. <https://doi.org/10.1111/j.1944-9720.1984.tb01727.x>
- Simard, D., Guénette, D., & Bergeron, A. (2015). L2 learners’ interpretation and understanding of written corrective feedback: insights from their metalinguistic reflections. *Language Awareness*, 24(3), 233–254. <https://doi.org/10.1080/09658416.2015.1076432>
- Suzuki, W. (2012). Written Languageing, Direct Correction, and Second Language Writing Revision. *Language Learning*, 62(4), 1110–1133. <https://doi.org/10.1111/j.1467-9922.2012.00720.x>
- Truscott, J. (1996). Truscott 1996 Case against grammar correction. *Language Learning*, 46(2), 327–369.
- Truscott, J. (1999). The case for “The Case Against Grammar Correction in L2 Writing Classes”: A response to Ferris. *Journal of Second Language Writing*, 8(2), 111–122. [https://doi.org/10.1016/S1060-3743\(99\)80124-6](https://doi.org/10.1016/S1060-3743(99)80124-6)
- Truscott, J. (2007). The effect of error correction on learners’ ability to write accurately. *Journal of Second Language Writing*, 16(4), 255–272. <https://doi.org/10.1016/j.jslw.2007.06.003>
- Truscott, J., & Hsu, A. Y. ping. (2008). Error correction, revision, and learning. *Journal of Second Language Writing*, 17(4), 292–305. <https://doi.org/10.1016/j.jslw.2008.05.003>
- Van Beuningen, C. G. (2011). The effectiveness of comprehensive corrective feedback in second language writing. *Accelerating the World’s Research*.
- Van Beuningen, C. G., De Jong, N. H., & Kuiken, F. (2012). Evidence on the Effectiveness of Comprehensive Error Correction in Second Language Writing. *Language Learning*, 62(1), 1–41. <https://doi.org/10.1111/j.1467-9922.2011.00674.x>

Appendix A: Number of Error Type in Rewritten Text

Category	Error Types
Successful Corrections	Grammar Nongrammar
Unsuccessful Corrections	Grammar Nongrammar
Uncorrected Errors	Grammar Nongrammar
Deleted Errors	Grammar Nongrammar

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The Effect of Direct and Indirect Written Corrective Feedback on Accuracy and Fluency of University Students' English Writing

Abstract

This research aimed to determine the effect of WCF (Written Corrective Feedback), direct and indirect, on overall accuracy, error types, and overall accuracy and fluency in pre-test, post-test, and delayed post-test in rewritten text. The research questions examined the potential links between the direct & indirect WCF, grammar & non-grammar errors, and standpoint of feedback for accuracy and fluency. A total of 100 English as a Foreign Language (EFL) students from the University of Pahlawan Tuanku Tambusai in Indonesia were involved in the research. The findings revealed significant variations among the three experimental groups in the proportions of both effectively and unsuccessfully rectified errors, as well as the proportions of uncorrected and deleted errors in both grammar and non-grammar categories. The cohort that received the Direct WCF had the most significant enhancement in accuracy. This study showed that offering direct WCF (written corrective feedback) can enhance participants' accuracy gradually over an extended period of time (long term). Indirect written corrective feedback (WCF) can enhance participants' fluency in terms of overall word count, while direct WCF can improve participants' fluency in terms of t-units over a longer period of time.

Keywords: Written Corrective Feedback, Feedback accuracy, Feedback fluency, Errors type, English Writing

1. Introduction

Writing in English is challenging for students learning English as a second or foreign language (L2/FL) as it requires knowledge of new writing habits and English grammar in an English-speaking culture (Hyland & Hyland, 2006). Academic Writing is an emotionally charged process, particularly for second language learners who must contend with high linguistic requirements (Langum & Sullivan, 2017). These challenges make writing one of the most challenging activities and increase students' reliance on teachers for corrections and teaching. Hence, many EFL writing teachers and researchers are concentrating their efforts on assisting L2/FL students in improving their Writing in accordance with their learning needs and course objectives (Polio & Williams, 2009).

Pointing out their errors in the target language is one of the most common strategies for helping these students with their Writing. Written Corrective Feedback (WCF) is the general term for all this teaching approach. WCF is a typical approach used by second language (L2) teachers to help their pupils improve their writing accuracy. As Truscott (1996) mentioned, WCF effectively improves L2 learners' writing skills and might be part of a learning process. Responses to linguistic errors in students' written work are referred to as WCF. As a critical aspect of L2 writing training, WCF has sparked much debate in the literature (Ferris, 2010). In addition, WCF is regarded as a critical condition for students' interlanguage development because it helps them "identify the difference between their interlanguage output and the target language input" and reorganize their linguistic brain processes. During the WCF study, Van Beuningen et al. (2012) stated that WCF was only presented on one or a few occasions, and depending on the scope of the input and the instance of targeted WCF, the same target error types and text type were used throughout the whole process of target WCF (Rahimi, 2019).

WCF improves learners' cognitive growth by encouraging them to communicate with others in their learning contexts. Aside from providing an overview of WCF studies published over the past four decades with an emphasis on feedback scope, this review study intends to identify and discuss unresolved difficulties related to feedback scope and make recommendations for future studies. The present review, focusing explicitly on the scope of feedback, will provide useful information to earlier syntheses about the efficacy of WCF based on quantitative research, which will benefit from the findings of this review (Truscott, 2007). As a form of help inside a student's constructivist approach, WCF may require the student to go to the next level of her cognitive development. As a result of the provision of and receipt of WCF, learners and teachers participate in social activities as well as cooperatively explore the meaning and function of language. Moreover, WCF is considered collaborative participation in educational efforts (Ahmadian & Tajabadi, 2014). Instructors have been observed to deliver several types of WCF in feedback to their student's written work (Leki, 1991), with past studies identifying seven major WCF techniques. These engagement methods include direct, indirect, metalinguistic, focused (selected), unfocused (comprehensive), and WCF on local and global issues (Ferris & Roberts, 2001).

Attempted to study the effects of WCF from a theoretical approach, specifically in terms of the twofold contrast between accuracy and acquisition feedback (Manchón, 2011). Both theoretical and pedagogical issues influenced the direction of the investigation. Nonetheless, this research aimed to assess WCF's effect in relation to the distinction between feedback provided for accuracy and feedback aimed at acquisition to gain a better understanding of how WCF functions. In the feedback for accuracy, students participate in processing feedback, error detection, self-reflection on errors, and new output. On the other hand, feedback for acquisition is intended to promote long-term language learning by engaging students in processing feedback, error detection, self-reflection on errors, and new output.

The investigators employed the distinction in feedback pertaining to accuracy and fluency as a heuristic approach to investigate potential short-term and long-term learning advantages of Written Corrective Feedback (WCF). This approach is aligned with Norris and Ortega's differentiation between fluency and accuracy. In the following sections, we will discuss a few in-depth study strands relevant to our research, focusing on the targeted aims and the methods used.

2. Literature Review

2.1 Accuracy and Fluency Feedback

The objectives of the study are linked to the error correction debate, which is most frequently associated with Truscott (1999). Once it comes to immediate revisions, there is general agreement that WCF enhances grammatical accuracy (although there is much variation in the variables that can influence its effects). However, the empirical evidence for longer-term language-learning implications is mixed. Furthermore, Truscott & Hsu (2008) discovered that the effective reduction of errors in revised texts within an English as a Foreign Language (EFL) context did not serve as an indicator of second language (L2) development (i.e., decreased new texts errors), whereas (Van Beuningen, De Jong, & Kuiken 2012) discovered that providing unfocused feedback was identified as enhancing accuracy in a second language (L2) context, not only in the process of editing but also in subsequent pieces of writing.

Research undertaken by Simard et al. (2015) demonstrated that although the participants understood the WCF they were given, certain corrections nevertheless resulted in incorrect guesses about the goal of the correction. Additionally, there appear to be variances in the verbalizations of the participants based on the feedback they received. Biber, Nekrasova, and Horn (2011) researched to determine the impact of various WCF forms on the quality of students' Writing. The findings comprised both L1 and L2 WCF trials, which revealed that WCF had a small significant impact on writing quality, depending on the level of difficulty of the writing task.

Students studying English as a second language (ESL) were investigated by Nusrat, Ashraf, and Nancy-Combes (2019). The impact of instructor feedback on the written English accuracy of ESL students was investigated in this research. The findings imply that incorporating oral metalinguistic teacher feedback into the context of Pakistani language acquisition might help students achieve more success in their efforts to learn the English language more quickly and efficiently. Benson and DeKeyser (2019) investigated the influence of direct or metalinguistic written feedback on simple past tense and present perfect tense mistakes in the past and present perfect tense. Both experimental groups outperformed the control group, with direct feedback being more durable than metalinguistic input in one structure, the simple past tense.

In the following up research, Rahimi (2019) assessed the impact of focused versus comprehensive WCF and revision on improving writing accuracy in ESL students. The results revealed that the focused groups outperformed the comprehensive groups in minimizing their word errors at T2. However, there was no statistically significant difference between the two groups regarding revision. Furthermore, Kim et al. (2020) investigated the impact of direct and indirect WCF on the learning among high beginning-level Korean students when they collaborate on collaborative writing assignments. Direct WCF proved to be more helpful in supporting students in creating accurate Writing. However, both types of feedback proved to be effective in fostering the learning of new linguistic elements through collaborative Writing, as evidenced by the findings.

2.2 WCF and Types of Errors

This study looked at which sort of WCF, direct or indirect, resulted in greater error reduction across broad error categories (for example, grammar and non-grammar errors) and specific error types. A broad coding system (Van Beuningen et al., 2012) was used to distinguish between grammar & non-grammar errors, and a data-driven narrow coding approach was utilized (Ferris et al., 2013). Furthermore, the researchers discriminated between WCF mistakes that were effectively fixed and WCF errors that were not: uncorrected errors, successful corrections,

unsuccessful corrections, and deleted errors (Van Beuningen, De Jong & Kuiken [2012](#)).

Direct (oral) and indirect (written) feedback have been employed in error feedback studies. Furthermore, most WCF research (Lalande, [1982](#)) distinguished between direct and indirect corrective feedback, the two frequent types of written corrective feedback. Direct WCF involves the teacher providing the correct form to the students, which is preferable for students with a low level of competence who are unable to self-correct and are unaware of what the correct form is. Ferris & Hedgcock ([2014](#)) argued that direct feedback helps to avoid confusion, reduces learners' cognitive burden, and allows them to test their hypotheses more directly.

Based on the directed nature of direct feedback, it can point to specific errors made by the learners, such as errors connected to spelling errors or any form of vocabulary or morpheme modifications. Furthermore, it can assist the student in producing the correct phonetics in a margin or frame misaligned (Ellis et al., [2008](#)). However, indirect feedback is more effective at facilitating internalization of the form and deepening metalinguistic knowledge processing than direct feedback (Bitchener, [2012](#)). Additionally, indirect feedback forces students to correct flaws identified by their teachers, who do not provide the appropriate form of feedback to students (Ferris & Roberts, [2001](#)).

3. Methodology

3.1 Research questions

The following research questions guided this research:

1. How does WCF (direct and indirect) affect the overall accuracy of a rewritten text?
2. How does WCF (direct and indirect) affect the accuracy, specifically the type of error in the rewritten text?
3. How does WCF (direct and indirect) affect the overall accuracy in the post-test and the delayed post-test?
4. How does WCF (direct and indirect) affect the overall fluency of participants in the pre-test, post-test, and delayed post-test?

3.2 Materials and Methods

As mentioned by Bitchener & Ferris ([2012](#)), four or more tasks should be included in the design of WFC research: a pre-test, an update of the pre-test, and a delayed post-test. Participants revised a previously written text as part of this research after they received one of two forms of WCF (direct or indirect) in contrast to a control group receiving no WCF. In addition, each participant created two more texts during the research at different times after a week.

Bitchener & Ferris ([2012](#)) solved the focused–unfocused issue as well as challenges such as the interplay between error categories and kinds of WCF (direct and indirect). In this research, the researchers investigated which form of WCF (direct or indirect) produced higher error reduction across broad error categories; grammar & non-grammar errors. In this research, the researchers distinguished between effectively successful corrections, uncorrected errors, unsuccessfully corrections, and deleted errors (Van Beuningen, [2011](#)).

3.3 Participants and setting

The participants were 100 EFL students from the University of Pahlawan Tuanku Tambusai, Indonesia, enrolled in the course as part of their English Studies degree. Before studying at the university, they had been learning English for about 12 years, and their proficiency matched the level of a B1 Threshold-Independent User, the highest level of proficiency. The selection of this level for the study was made in order to facilitate learners engagement with and integration of the It feedback provided during the language learning session.

3.4 Instrument

The instruments used in this study are categorized as test instruments, as they support the collection of data measuring students' writing skills at various stages (pre-test, post-test, and delayed post-test). The pre-test assesses participants' initial writing abilities, covering parameters such as structure, grammar, vocabulary, and content. Subsequently, the languaging session provides an opportunity for participants to identify and comprehend errors in their own texts, requiring active engagement in the process of error identification and correction. Furthermore, it assesses participants' ability to apply feedback and reflections from the languaging session to the rewriting process, focusing on error correction and the enhancement of writing quality. Finally, the post-test and delayed post-test stages are conducted to measure participants' writing abilities after receiving feedback and engaging in the rewriting session. This includes assessments of progress in structure, grammar, vocabulary, and content.

3.5 Design and Data Collection Procedures

One intrasubject component with four possible values (pre-test, rewrite, post-test, and delayed post-test) and one intrasubject factor WCF with three possible values (unfocused direct WCF, unfocused indirect WCF, and no feedback) were employed in the design and data collection. Hence, there existed two experimental groups and a control group (CG). The experimental groups were exposed to either direct written corrective feedback (DG - direct group) or indirect written corrective feedback (IG - indirect group), whereas the control group (CG) did not receive any feedback before revising their articles.

Overall, five weeks were spent collecting information in four stages. During that period, participants wrote their first text (pre-test), received WCF (experimental groups) or no feedback (control groups), and discussed the errors present in their original texts, whether or not WCF was available for the intervention and control groups. Subsequently, they revised their initial text through the process of rewriting and ultimately composed two extra texts on distinct subjects (post-test and delayed post-test). They produced several writing contexts before making adjustments to their texts and created new ones to allow for self-reflection processes in reaction to the criticism they received.

This data collection method may have resulted in an unexpected practice effect, which the researchers were informed of. However, they had no other choice for gathering data to analyze the effects of feedback on new writing pieces. They were concerned about the possible combined influence of WCF and languaging in the data. Although no control group did not engage in languaging but get WCF, the researcher was able to dissociate the possible combined impact of WCF and languaging since there was a control group that did not engage in languaging about their errors but did receive WCF.

During the language sessions, each participant was allocated a period of 50 minutes to assess their errors and receive feedback (in the feedback groups) or to independently identify their errors and engage in reflection (in the CG - control group). According to Suzuki (2012), the following instructions were given to the participants. All three groups (DG, IG, and CG) traveled through a languaging session, this involved transcribing each error identified in the pre-test onto a sheet of paper and offering a correction (already supplied in the feedback for the DG), an ML code (already provided in the feedback for the IG), and an ML explanation (not provided in the feedback for either of the two feedback groups).

During the rewriting session, the participants were required to find errors they recognized from the languaging session in their previous uncorrected essays to recreate their writings more accurately in the rewriting session. After revising their texts for a week, each participant ended up with a new piece of Writing. Following the post-test, all participants were required to write a new piece of writing.

3.6 Procedures for Data Coding and Analysis

Despite the highly precise coding schemes used, two reviewers (knowledgeable EFL instructors and researchers) effectively coded all errors for all coding schemes to maintain a high level of reliability (100 percent), despite appearances in applied linguistics. When raters argued, the errors were reviewed until everyone agreed. Moreover, a broad coding system on Van Beuningen et al. (2012) was used to distinguish between grammar and non-grammar errors, and a narrow coding system (Ferris et al., 2013) and partly data-driven.

The researchers devised a coding scheme based on the operationalization of depth of processing to distinguish between learners' cognitive effort when digesting the WCF they got (intervention groups) and their own self-identified errors (control groups) in terms of language (CG). A non-parametric statistical approach was used to evaluate the data because of our small sample size and non-normal data distribution. The Kruskal–Wallis tests, Mann–Whitney U, Wilcoxon Signed Rank, and Friedman tests were all used to examine the data. It was decided to utilize Kruskal–Wallis tests to examine how many mistakes and types of errors were made, and how many errors were reduced in each group in the study.

Following the confirmation that statistically significant differences existed between the three groups, the Mann-Whitney U tests were employed to ascertain if there were any statistically significant variations between the two designated groups. Friedman tests were utilized when comparing the reduction in errors produced in one group's tests to the other group's tests.

4. Result

The results of this study provide valuable insights into how the feedback influences the writing abilities of university students. Let us examine together the findings of this research to understand the contribution of corrective feedback to the accuracy and fluency in the English writing of university students.

4.1 WCF's effect (direct & indirect) on the overall accuracy of a rewritten text

Table 1

Category	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Successful corrections	47.81 (6.03)	41.37 (3.84)	18.31 (2.64)	43.65	0.00
Unsuccessful correction	7.28 (2.35)	10.17 (1.81)	3.72 (1.00)	38.61	0.00
Uncorrected errors	40.21 (5.88)	40.48 (4.91)	64.99 (4.21)	39.57	0.00
Deleted errors	4.67 (1.58)	7.96 (1.99)	12.96 (3.45)	41.35	0.00

Table 1 presents the error correction rate in rewritten texts and indicates significant differences between the three experimental groups (DG, IG, CG) in the percentage of successful and unsuccessful corrections, as well as the percentage of uncorrected and deleted errors.

Table 2

Comparison of Error Correction Rate in Rewritten Texts across Group: Mann-Whitney

Category	DG vs. IG		DG vs. CG		IG vs. CG	
	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>
Successful corrections	66.50	0.00	0.00	0.00	0.00	0.00
Unsuccessful correction	53.5	0.00	42.50	0.00	0.00	0.00
Uncorrected errors	158.0	0.69	0.00	0.00	0.00	0.00
Deleted errors	40.5	0.00	0.00	0.00	33.00	0.00

Table 2 shows that WCF (DG and IG) gave more successful corrections than CG, and Direct WCF had more successful corrections than Indirect WCF. Although WCF provides more successful corrections, it turns out that WCF also provides more unsuccessful corrections than CG. In addition, WCF had significantly less uncorrected error than CG, but there was no significant difference between different types of WCF (DG and IG). Also, direct WCF has the smallest deleted errors significantly.

4.2 WCF's effect (direct & indirect) on the accuracy, specifically the type of error in the rewritten text.

Table 3

Category	Error Type	M (SD)			Kruskal-Wallis Test	
		DG	IG	CG	H	<i>p</i>
Successful corrections	Grammar	11.68 (1.49)	8.09 (1.35)	5.04 (1.15)	47.47	0.00
	Non-grammar	9.43 (0.94)	8.57 (0.93)	2.56 (0.29)	42.02	0.00

Unsuccessful correction	Grammar	1.08 (0.61)	2.10 (0.57)	1.05 (0.57)	21.59	0.00
	Non-grammar	2.25 (0.83)	2.01 (0.58)	0.50 (0.28)	39.87	0.00
Uncorrected errors	Grammar	9.55 (2.14)	7.40 (1.73)	14.82 (1.67)	41.72	0.00
	Non-grammar	8.61 (2.76)	9.20 (2.51)	12.30 (2.22)	17.52	0.00
Deleted errors	Grammar	1.00 (0.56)	1.07 (0.62)	2.90 (1.68)	17.53	0.00
	Non-grammar	1.05 (0.60)	2.10 (0.69)	2.52 (0.95)	23.07	0.00

The results of the number of error types in rewritten text in Table 3 reveal significant differences between the three experimental groups (DG, IG, CG) in successful and unsuccessful corrections, with the DG group being the highest. There is also a significant difference in the percentage of uncorrected and deleted errors in terms of grammar and non-grammar.

Table 4
Comparison of Number Error Type in Rewritten Text: Mann-Whitney

Category	Error Type	DG vs. IG		DG vs. CG		IG vs. CG	
		<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>
Successful corrections	Grammar	9.50	0.00	0.00	0.00	14.50	0.00
	Non-grammar	91.00	0.01	0.00	0.00	0.00	0.00
Unsuccessful correction	Grammar	43.5	0.00	193.0	0.86	40.50	0.00
	Non-grammar	142.0	0.38	0.00	0.00	0.00	0.00
Uncorrected errors	Grammar	81.5	0.00	5.00	0.00	0.00	0.00
	Non-grammar	152.0	0.56	62.0	0.00	68.5	0.00
Deleted errors	Grammar	157.5	0.68	65.0	0.00	65.5	0.00
	Non-grammar	46.5	0.00	39.0	0.00	150.5	0.28

Table 4 compares the number of error types in rewritten text. It shows that successful corrections of grammar and non-grammar errors WCF were significantly higher than CG. However, DG provides better successful correction than IG, both in terms of grammar and non-grammar. In unsuccessful correction of grammar errors, DG was significantly better than IG but only slightly different from CG. As for non-grammar, WCF was significantly superior to CG. In terms of uncorrected grammar and non-grammar errors, WCF was significantly superior to CG. Moreover, IG has significantly more uncorrected grammar errors than DG. While, in deleted grammar errors, WCF had significantly fewer deleted grammar errors than CG. As for non-grammar, DG had significantly fewer deleted grammar errors than IG and CG.

4.3 WCF's effect (direct & indirect) on the overall accuracy in the post-test and delayed post-test.

Table 5
Percentage of Errors: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pre-test	12.76 (1.49)	12.77 (1.50)	13.26 (1.25)	1.49	0.47
Post-test	11.31 (1.35)	10.36 (1.35)	10.91 (1.52)	3.80	0.15
Delayed post-test	8.44 (0.95)	9.61 (1.61)	9.71 (1.54)	8.32	0.02

When viewed from the type of test, Table 4 reveals that the percentage of errors in the delayed post-test was significantly different between the three experimental groups (DG, IG, CG). Participants receiving direct WCF statistically had a lower percentage of error than those receiving indirect WCF and those not receiving WCF (DG vs. IG: $U = 97.00$, $p = 0.02$; DG vs. CG: $U = 100.0$, $p = 0.01$). On the other hand, based on each treatment group, the results of Friedman's test showed that three groups had a significant difference in the error percentage in the pre-test, post-test, and delayed post-test: DG, $X^2_F = 35.71$, $p = 0.00$; IG, $X^2_F = 14.73$, $p = 0.00$; CG, $X^2_F = 26.91$, $p = 0.00$) based on Figure 1.

Figure 1
Average Percentage of Error across Time

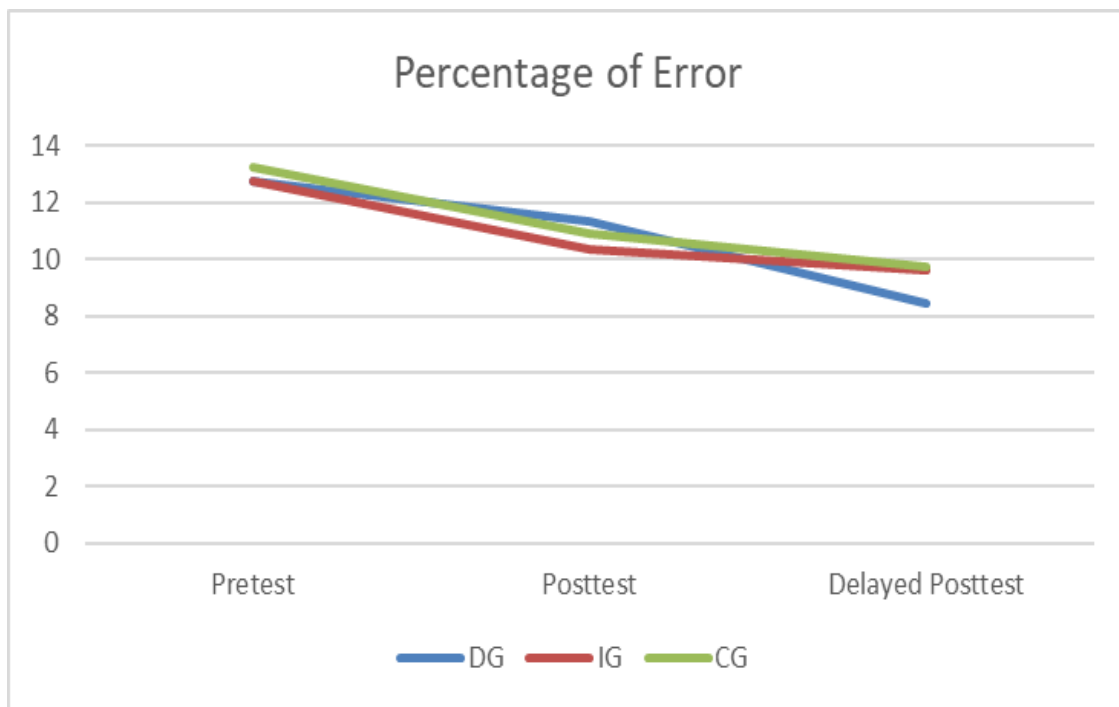


Table 6
Reduction of Percentage of Error Across Tests within Groups: Wilcoxon

Pair	DG		IG		CG	
	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pre-test – Post-test	-3.65	0.00	-3.20	0.00	-3.55	0.00
Pre-test – Delayed Post-test	-3.83	0.00	-3.48	0.00	-4.01	0.00

The results in Table 6 show a significant increase in the participants' accuracy over time, from pre-test to post-test and from pre-test to delayed post-test ($p < 0.05$). An increase in accuracy occurred in participants who obtained WCF (DG and IG) and those who did not (CG). The highest increase in accuracy occurred in the group of participants who received the Direct WCF. This shows that administering WCF, especially direct WCF, can improve participant accuracy over time (long term).

4.4 WCF's effect (direct & indirect) on the overall fluency of participants in the pre-test, post-test, and delayed post-test.

a. Overall words

Table 7 illustrates the overall words based on the type of test. It indicates that the number of words in the post-test and delayed post-test was significantly different between the three experimental groups (DG, IG, CG). In the post-test, participants receiving indirect WCF had significantly greater word count than those receiving direct WCF and those not receiving WCF (DG vs. IG: $U = 84.0, p = 0.01$; IG vs. CG: $U = 92.5, p = 0.01$). In the delayed post-test, the participants with indirect WCF had the largest number of words. While, participants obtaining direct WCF had significantly lower word counts than those without WCF (DG vs. IG: $U = 84.0, p = 0.01$; IG vs. CG: $U = 92.5, p = 0.01$).

Table 7
Overall Words: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pre-test	118.2 (63.02)	120.6 (56.88)	119.8 (39.43)	0.06	0.97
Post-test	90.0 (38.38)	125.1 (25.06)	99.0 (29.95)	9.78	0.01
Delayed post-test	143.6 (54.37)	204.8 (39.46)	181.7 (30.37)	13.98	0.00

Figure 2 also depicts the Friedman test results, showing that the three groups have significantly different overall words, both decreasing and increasing in the pre-test, post-test, and delayed post-test in each treatment group: DG, $X^2_F = 9.58, p = 0.01$; IG, $X^2_F = 18.78, p = 0.00$; CG, $X^2_F = 32.00, p = 0.00$).

Figure 2
Overall Words across Time

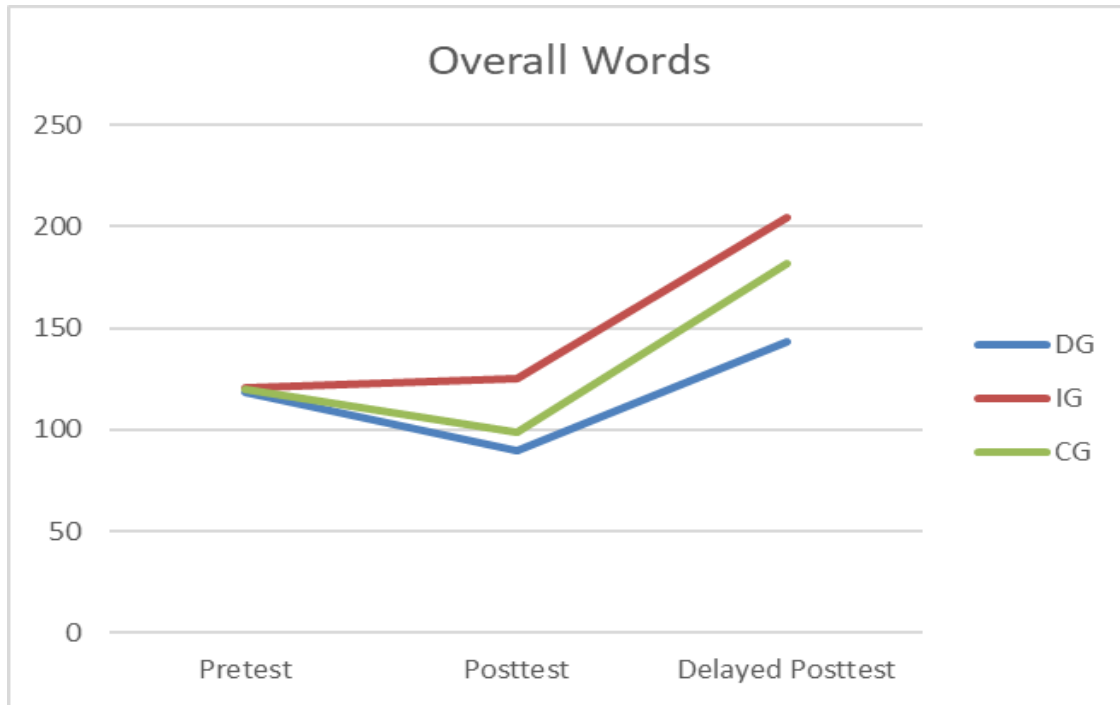


Table 8
Improvement of Overall Words Across Time within Groups: Wilcoxon

Pair	DG		IG		CG	
	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pre-test – Post-test	-2.36	0.02	-0.28	0.77	-1.99	0.04
Pre-test – Delayed Post-test	-1.61	0.11	-3.46	0.00	-3.98	0.00

Table 8 showed that the overall words from pre-test to post-test in participants receiving Direct WCF and those not receiving WCF significantly decreased ($p < 0.05$). Meanwhile, the overall words of participants receiving Indirect WCF increased but not significantly. There was a significant increase in overall word from pre-test to delayed post-test in participants who received Indirect WCF and those who did not (CG). This shows that giving Indirect WCF can increase the number of words that participants can compose over time (long term).

b. T-Units

Based on the type of test, the t-units in the delayed post-test showed significant differences between the three experimental groups (DG, IG, CG), as seen in Table 9. Participants who obtained WCF statistically had lower t-units than those who did not (DG vs. IG: $U = 143.5, p = 0.40$; DG vs. CG: $U = 112.0, p = 0.02$; IG vs. CG: $U = 75.0, p = 0.00$).

Table 9
T-Units: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pre-test	8.53 (3.63)	9.61 (3.52)	9.38 (3.52)	1.01	0.61
Post-test	9.05 (3.06)	8.28 (2.72)	11.3 (8.72)	2.39	0.30
Delayed post-test	11.2 (3.75)	10.28 (3.72)	14.0 (1.82)	11.45	0.00

The Friedman test results show that participants who received direct WCF and those who did not (CG) had significantly different t-units, both decreasing and increasing, on the pre-test, post-test, and delayed post-test: DG, $X^2_F = 8.24, p = 0.02$; IG, $X^2_F = 1.94, p = 0.38$; CG, $X^2_F = 26.88, p = 0.00$, as illustrated in Figure 3.

Figure 3
T-Units across Time

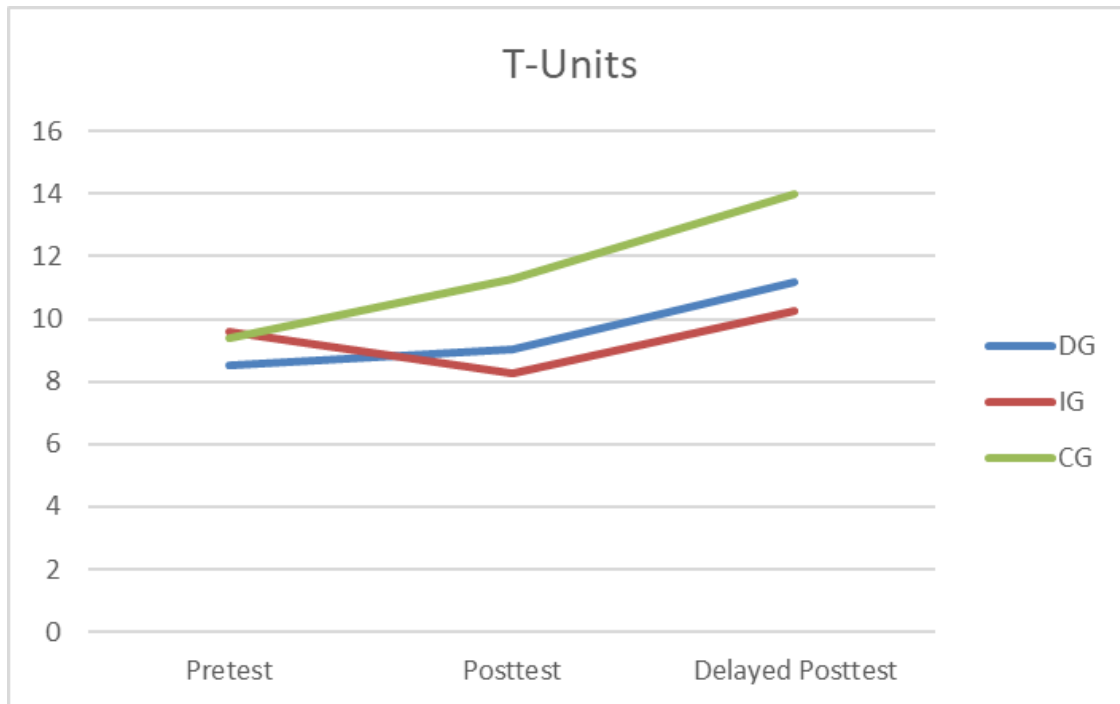


Table 10
Improvement of T-Units Across Time within Groups: Wilcoxon

Pair	DG		IG		CG	
	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pre-test – Post-test	-0.51	0.61	-1.10	0.27	-1.05	0.29
Pre-test – Delayed Post-test	-2.49	0.01	-0.59	0.55	-3.93	0.00

Table 10 shows that the t-units from the pre-test to post-test of the participants receiving Direct WCF and those not receiving WCF increased but not significantly. Meanwhile, it was decreased for the participants who received Indirect WCF. There was a significant increase in t-units between the pre-test and delayed post-test in participants who obtained Direct WCF and those who did not (CG). The increase in t-units in participants who did not receive WCF was greater than that in participants who received Direct WCF. This shows that implementing Direct WCF and without WCF can increase participants' t-units over time (long term).

c. Sentence Counts

When viewed from the type of test, the sentence counts in the pre-test, post-test, and delayed post-test showed significant differences between the three experimental groups (DG, IG, CG), as presented in Table 11. In the pre-test, participants receiving direct WCF statistically had lower sentence counts than those receiving indirect WCF and not receiving WCF (DG vs. IG: $U = 0.00, p = 0.0$; DG vs. CG: $U = 81.5, p = 0.00$). In the post-test, participants receiving direct WCF statistically had lower sentence counts than those receiving indirect WCF and not receiving WCF (DG vs. IG: $U = 0.00, p = 0.0$; DG vs. CG: $U = 0.00, p = 0.00$). In the delayed post-test, participants with WCF had lower sentence counts than those without WCF (DG vs. CG: $U = 00.00, p = 0.0$; IG vs. CG: $U = 102.50, p = 0.02$).

Table 11
Sentence Counts: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pre-test	9.51 (1.90)	16.01 (1.67)	14.30 (4.34)	24.14	0.00
Post-test	5.50 (0.56)	10.81 (4.03)	13.41 (0.81)	37.77	0.00
Delayed post-test	10.28 (2.61)	9.52 (2.78)	7.94 (1.89)	12.73	0.00

Concerning each treatment group, the Friedman test results show that the three groups have significantly different sentence counts, both decreasing and increasing, on the pre-test, post-test, and delayed post-test: DG, $X^2_F = 23.47, p = 0.00$; IG, $X^2_F = 28.78, p = 0.00$; CG, $X^2_F = 26.48, p = 0.00$), as illustrated in Figure 4.

Figure 4
Sentence Counts Across Time

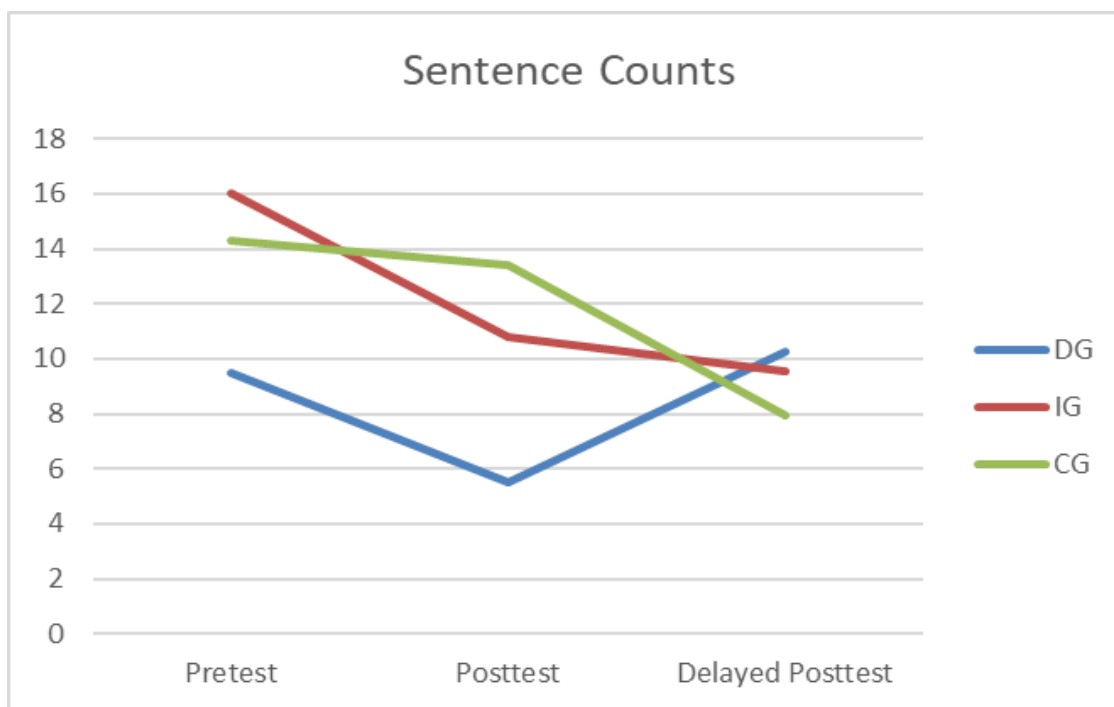


Table 12
Improvement of Sentence Counts Across Time within Groups: Wilcoxon

Pair	DG		IG		CG	
	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pre-test – Post-test	-3.82	0.00	-3.72	0.00	-0.95	0.34
Pre-test – Delayed Post-test	-0.95	0.34	-3.72	0.00	-3.77	0.00

Table 12 presents the improvement of sentence counts. It shows that the sentence counts between the pre-test and post-test in participants obtaining WCF significantly decreased. In addition, there was a significant decrease in sentence counts from pre-test to delayed post-test in participants receiving indirect WCF and those who did not receive WCF (CG). This shows that either with WCF or without WCF, the sentence counts decrease over time (long term).

Among the three fluency indicators: overall words, t-units, and sentence count, only overall words and t-units showed increased participant fluency after obtaining WCF. The provision of indirect WCF can increase the fluency of participants in terms of overall words, while the provision of direct WCF can increase the fluency of participants in terms of t-units in the long term.

5. Discussion

The first research question investigated the WCF's effect (direct and indirect) on the overall accuracy of the rewritten text. The results revealed that the proportion of successful and unsuccessful corrections, as well as the percentage of uncorrected and deleted errors, substantially varied across three experimental groups (DG, IG, CG). WCF (DG and IG) had a greater proportion of successful corrections than CG, and direct WCF had a higher percentage of effective corrections than indirect WCF.

WCF has a higher rate of successful corrections than CG; it also has a higher rate of unsuccessful

corrections. There was a substantial difference between WCF and CG in terms of uncorrected error but no significant difference between the different forms of WCF (DG and IG). Furthermore, direct WCF has the smallest deleted errors. It was observed that the successful corrections of updated texts in an EFL context were not a predictor of L2 development (i.e., fewer errors in new texts). However, successful corrections of revised texts in an EFL setting were predictors (Truscott & Hsu, 2008). Moreover, Van Beuningen et al. (2012) showed that providing unfocused feedback increased accuracy in Writing, not only while revising but also when developing new writing pieces.

The second research question was about the WCF's effect (both direct and indirect) on the accuracy, specifically, the sort of mistake introduced into the rewritten text. The findings revealed statistically significant differences between the three experimental groups (DG, IG, CG) in terms of successful and failed repairs, as well as the proportion of uncorrected and deleted errors, both in grammar and non-grammar. Furthermore, when it came to successful fixes of grammar and non-grammar problems, WCF outperformed CG by a wide margin. On the other hand, DG delivers more successful corrections than IG in terms of grammar and non-grammar correction.

In unsuccessful corrections of grammar errors, DG was significantly better than IG but only slightly different from CG. As for non-grammar, WCF was significantly superior to CG. In terms of uncorrected grammar and non-grammar errors, WCF was significantly superior to CG. Furthermore, IG has a higher percentage of uncorrected grammatical errors than DG. On the other hand, WCF had significantly more deleted grammatical errors than CG in this category. In terms of non-grammatical errors, DG had significantly fewer than IG and CG. The following four WCF conditions were investigated: corrective, underlined, and discussion (underlining errors and providing error codes), description (provided error codes without notifying learners where the errors occurred), and simply highlight (underlining errors without delivering error codes) (Chandler, 2003).

Specifically, the data demonstrated that providing direct and indirect feedback was more efficient in reducing learner errors than just mentioning the categories of errors. The most effective of the four feedback forms for producing precise changes were direct correction, which was the most common (i.e., correct uptake). Similarly, Van Beuningen et al. (2012) discovered that direct feedback had a stronger impact on both short-term and long-term improvements in correctness in rewritten texts.

The third research question addressed the WCF's effect (direct and indirect) on overall accuracy in the post-test and delayed post-test. The results indicated that the percentage of errors was significantly different between the three experimental groups (DG, IG, CG) in the delayed post-test. Participants experiencing direct WCF had a lower rate of error than those receiving indirect WCF or not given WCF. Moreover, there was a significant increase in the participants' accuracy over time, from pre-test to post-test and from pre-test to delayed post-test. The participants receiving WCF (DG and IG) and those who did not both improved their accuracy (CG). There have been studies that show that teacher error feedback is no more effective than content-related comments or no feedback in developing accuracy in L2 student writing (e.g., Kepner (1991); Polio et al., (1998); and Semke (1984), but these studies need to be looked into further. According to Kepner (1991), college students who got surface-level error correction produced fewer errors in their journals than those who got message-related remarks. However, the students were not required to do anything with the teacher's corrections. The lack of effect of error correction on accuracy and negative effect on fluency found by Semke (1984) may not be fully related to the different treatment approaches but rather to disparities in the amount of writing practice.

The last research question addressed the WCF's effect (direct and indirect) on the overall fluency in the pre-test, post-test, and delayed post-test. According to the results, the total number of words in the post-test and the delayed post-test demonstrated a statistically significant difference between the three experimental groups (DG, IG, CG). Furthermore, the Friedman test findings from each treatment group demonstrate that they had substantially different total words, decreasing and increasing in the pre-test, post-test, and delayed post-test compared to the other groups. This shows that giving Indirect WCF can increase the number of words composed by participants over time (long term). While in the t-units, it can be seen that the delayed post-test showed significant differences between the three experimental groups (DG, IG, CG).

There was a significant increase in t-units from pre-test to delayed post-test in participants who received Direct WCF and those who did not (CG). This shows that giving Direct WCF and without WCF can increase participants' t-units over time (long term). In addition, there was a significant decrease in sentence counts from pre-test to delayed post-test in participants receiving indirect WCF and those who did not (CG). This shows WCF or not; the sentence counts always decrease over time (long term).

6. Conclusion

Based on the findings of this research, several conclusions can be drawn. Written Corrective Feedback (WCF), whether in direct or indirect form, positively impacts the overall accuracy of the rewritten text. The proportion of successful corrections is higher in the experimental groups (DG and IG) compared to the control group (CG), with direct WCF showing a more effective correction percentage than indirect WCF. Significant differences exist in both successful and unsuccessful corrections between the experimental groups (DG and IG) and the control group (CG), in both grammar and non-grammar categories. Particularly, direct WCF demonstrates superior performance in correcting grammar and non-grammar errors compared to the control group and indirect WCF.

There is a significant difference in error percentages between the experimental groups (DG and IG) and the control group (CG) in the delayed post-test. Receiving direct WCF contributes to a lower error rate compared to indirect WCF or no WCF. The total number of words in the post-test and delayed post-test shows a significant difference between the experimental groups (DG and IG) and the control group (CG). Indirect WCF appears to increase the number of words produced by participants over time (long term), while both direct WCF and no WCF increase the participants' t-units over time.

Previous studies suggest that teacher error feedback is no more effective than content-related comments or no feedback in developing accuracy in second language (L2) student writing. Further research is crucial to understanding the effects of feedback on accuracy and fluency in writing, involving a balanced amount of writing exercises. Overall, the findings of this research support the importance of both direct and indirect feedback in improving the accuracy and fluency of student writing in the context of a second language (L2). Direct WCF, in particular, significantly contributes to error correction and the long-term development of writing skills.

References

- Ahmadian, M., & Tajabadi, A. (2014). A Sociocultural Perspective on Corrective Feedback in L2: The Effect of Negotiated versus Nonnegotiated Feedback on the Accuracy Improvement in Writing. *The Iranian EFL Journal, December*(November 2017), 6–36.
- Benson, S., & DeKeyser, R. (2019). Effects of written corrective feedback and language aptitude on verb tense accuracy. *Language Teaching Research, 23*(6), 702–726. <https://doi.org/10.1177/1362168818770921>
- Biber, D., Nekrasova, T., & Horn, B. (2011). the Effectiveness of Feedback for L1-English and L2-Writing Development: a Meta-Analysis. *ETS Research Report Series, 2011*(1), i – 99. <https://doi.org/10.1002/j.2333-8504.2011.tb02241.x>
- Bitchenor, J. (2012). A reflection on “the language learning potential” of written CF. *Journal of Second Language Writing, 21*(4), 348–363. <https://doi.org/10.1016/j.jslw.2012.09.006>
- Bitchenor, J., & Ferris, D. R. (2012). Written corrective feedback in second language acquisition and Writing. *Written Corrective Feedback in Second Language Acquisition and Writing, 1*–220. <https://doi.org/10.4324/9780203832400>
- Chandler, J. (2003). The efficacy of various kinds of error feedback for improvement in the accuracy and fluency of L2 student writing. *Journal of Second Language Writing, 12*(3), 267–296. [https://doi.org/10.1016/S1060-3743\(03\)00038-9](https://doi.org/10.1016/S1060-3743(03)00038-9)
- Ellis, R., Sheen, Y., Murakami, M., & Takashima, H. (2008). The effects of focused and unfocused written corrective feedback in an English as a foreign language context. *System, 36*(3), 353–371. <https://doi.org/10.1016/j.system.2008.02.001>
- Ferris, D. R. (1999). The case for “The Case Against Grammar Correction in L2 Writing Classes”: A response to Truscott (1996). *Journal of Second Language Writing, 8*(2), 111–122. [https://doi.org/10.1016/S1060-3743\(99\)80124-6](https://doi.org/10.1016/S1060-3743(99)80124-6)
- Ferris, D. R. (2010). Second language writing research and written corrective feedback in SLA: Intersections and practical applications. *Studies in Second Language Acquisition, 32*(2), 181–201. <https://doi.org/10.1017/S0272263109990490>
- Ferris, D. R., Liu, H., Sinha, A., & Senna, M. (2013). Written corrective feedback for individual L2 writers. *Journal of Second Language Writing, 22*(3), 307–329. <https://doi.org/10.1016/j.jslw.2012.09.009>
- Ferris, D. R. & Roberts, B. (2001). Error feedback in L2 writing classes How explicit does it need to be? *Journal of*

- Second Language Writing*, 10(3), 161–184. [https://doi.org/10.1016/S1060-3743\(01\)00039-X](https://doi.org/10.1016/S1060-3743(01)00039-X)
- Hyland, K. & Hyland, F. (2006). Feedback on second language students' Writing. *Language Teaching*, 39(2), 83–101. <https://doi.org/10.1017/S0261444806003399>
- Kepner, C. G. (1991). An Experiment in the Relationship of Types of Written Feedback to the Development of Second-Language Writing Skills. *The Modern Language Journal*, 75(3), 305–313. <https://doi.org/10.1111/j.1540-4781.1991.tb05359.x>
- Kim, Y. J., Choi, B., Yun, H., Kim, B., & Choi, S. (2020). Task repetition, synchronous written corrective feedback and the learning of Korean grammar: A classroom-based study. *Language Teaching Research*. <https://doi.org/10.1177/1362168820912354>
- Lalande, J. F. (1982). Reducing Composition Errors: An Experiment. *The Modern Language Journal*, 66(2), 140–149. <https://doi.org/10.1111/j.1540-4781.1982.tb06973.x>
- Langum, V., & Sullivan, K. P. H. (2017). Writing academic english as a doctoral student in sweden: narrative perspectives. *Journal of Second Language Writing*, 35, 20–25. <https://doi.org/10.1016/j.jslw.2016.12.004>
- Leki, I. (1991). The preferences of ESL students for error correction in college-level writing classes. *Foreign Language Annals*, 24, 204–218.
- Manchón, R. M. (2011). Writing in foreign language contexts: Learning, teaching, and research. In *Writing in Foreign Language Contexts: Learning, Teaching, and Research*.
- Nusrat, A., Ashraf, F., & Nancy-Combes, M. F. (2019). Effect of direct and indirect teacher feedback on accuracy of english Writing: A quasi-experimental study among Pakistani undergraduate students. *3L: Language, Linguistics, Literature*, 25(4), 84–98. <https://doi.org/10.17576/3L-2019-2504-06>
- Polio, C., Fleck, C., & Leder, N. (1998). “If I Only Had More Time:” ESL Learners’ Changes in Linguistic Accuracy on Essay Revisions. *Journal of Second Language Writing*, 7(1), 43–68. [https://doi.org/10.1016/S1060-3743\(98\)90005-4](https://doi.org/10.1016/S1060-3743(98)90005-4)
- Polio, C., & Williams, J. (2009). Teaching and Testing Writing. In *The Handbook of Language Teaching*. <https://doi.org/10.1002/9781444315783.ch26>
- Rahimi, M. (2019). A comparative study of the impact of focused vs. comprehensive corrective feedback and revision on ESL learners’ writing accuracy and quality. *Language Teaching Research*, 25(5), 687–710. <https://doi.org/10.1177/1362168819879182>
- Semke, H. D. (1984). Effects of the Red Pen. *Foreign Language Annals*, 17(3), 195–202. <https://doi.org/10.1111/j.1944-9720.1984.tb01727.x>
- Simard, D., Guénette, D., & Bergeron, A. (2015). L2 learners’ interpretation and understanding of written corrective feedback: insights from their metalinguistic reflections. *Language Awareness*, 24(3), 233–254. <https://doi.org/10.1080/09658416.2015.1076432>
- Suzuki, W. (2012). Written Languageing, Direct Correction, and Second Language Writing Revision. *Language Learning*, 62(4), 1110–1133. <https://doi.org/10.1111/j.1467-9922.2012.00720.x>
- Truscott, J. (1996). Truscott 1996 Case against grammar correction. *Language Learning*, 46(2), 327–369.
- Truscott, J. (1999). The case for “The Case Against Grammar Correction in L2 Writing Classes”: A response to Ferris. *Journal of Second Language Writing*, 8(2), 111–122. [https://doi.org/10.1016/S1060-3743\(99\)80124-6](https://doi.org/10.1016/S1060-3743(99)80124-6)
- Truscott, J. (2007). The effect of error correction on learners’ ability to write accurately. *Journal of Second Language Writing*, 16(4), 255–272. <https://doi.org/10.1016/j.jslw.2007.06.003>
- Truscott, J., & Hsu, A. Y. ping. (2008). Error correction, revision, and learning. *Journal of Second Language Writing*, 17(4), 292–305. <https://doi.org/10.1016/j.jslw.2008.05.003>
- Van Beuningen, C. G. (2011). The effectiveness of comprehensive corrective feedback in second language writing. *Accelerating the World’s Research*.
- Van Beuningen, C. G., De Jong, N. H., & Kuiken, F. (2012). Evidence on the Effectiveness of Comprehensive Error Correction in Second Language Writing. *Language Learning*, 62(1), 1–41. <https://doi.org/10.1111/j.1467-9922.2011.00674.x>

Appendix A: Number of Error Type in Rewritten Text

Category	Error Types
Successful Corrections	Grammar Nongrammar
Unsuccessful Corrections	Grammar Nongrammar
Uncorrected Errors	Grammar Nongrammar
Deleted Errors	Grammar Nongrammar

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Authors contributions

M. plays a pivotal role in the design and execution of the research, as well as data analysis, ensuring the reliability and validity of the findings. S.E. provides critical insights in the problem formulation stage and the design of the research methodology. U.R. is actively involved in data collection and statistical analysis. On the other hand, B.H.W. contributes theoretical insights and in-depth literature knowledge, providing substantial support in structuring and writing the article.

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Competing interest

The author affirms that there are no apparent conflicts of interest, either financial or personal, that could be perceived as influencing the findings presented in this paper.



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Additionally, please ensure that you complete the "add-info" file as requested. We need this information to be included in the article during the typesetting process. Your cooperation in completing this document would be greatly appreciated.

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The Effect of Direct and Indirect Written Corrective Feedback on Accuracy and Fluency of University Students' English Writing

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Abstract

This research aimed to determine the effect of WCF (Written Corrective Feedback), direct and indirect, on overall accuracy, error types, and overall accuracy and fluency in pre-test, post-test, and delayed post-test in rewritten text. The research questions examined the potential links between the direct & indirect WCF, grammar & non-grammar errors, and standpoint of feedback for accuracy and fluency. A total of 100 English as a Foreign Language (EFL) students from the University of Pahlawan Tuanku Tambusai in Indonesia were involved in the research. The findings revealed significant variations among the three experimental groups in the proportions of both effectively and unsuccessfully rectified errors, as well as the proportions of uncorrected and deleted errors in both grammar and non-grammar categories. The cohort that received the Direct WCF had the most significant enhancement in accuracy. This study showed that offering direct WCF (written corrective feedback) can enhance participants' accuracy gradually over an extended period of time (long term). Indirect written corrective feedback (WCF) can enhance participants' fluency in terms of overall word count, while direct WCF can improve participants' fluency in terms of t-units over a longer period of time.

Keywords: written corrective feedback, feedback accuracy, feedback fluency, errors type, English writing

1. Introduction

Writing in English is challenging for students learning English as a second or foreign language (L2/FL) as it requires knowledge of new writing habits and English grammar in an English-speaking culture (Hyland & Hyland, 2006). Academic Writing is an emotionally charged process, particularly for second language learners who must contend with high linguistic requirements (Langum & Sullivan, 2017). These challenges make writing one of the most challenging activities and increase students' reliance on teachers for corrections and teaching. Hence, many EFL writing teachers and researchers are concentrating their efforts on assisting L2/FL students in improving their Writing in accordance with their learning needs and course objectives (Polio & Williams, 2009).

Pointing out their errors in the target language is one of the most common strategies for helping these students with their Writing. Written Corrective Feedback (WCF) is the general term for all this teaching approach. WCF is a typical approach used by second language (L2) teachers to help their pupils improve their writing accuracy. As Truscott (1996) mentioned, WCF effectively improves L2 learners' writing skills and might be part of a learning process. Responses to linguistic errors in students' written work are referred to as WCF. As a critical aspect of L2 writing training, WCF has sparked much debate in the literature (Ferris, 2010). In addition, WCF is regarded as a critical condition for students' interlanguage development because it helps them "identify the difference between their interlanguage output and the target language input" and reorganize their linguistic brain processes. During the WCF study, Van Beuningen et al. (2012) stated that WCF was only presented on one or a few occasions, and depending on the scope of the input and the instance of targeted WCF, the same target error types and text type were used throughout the whole process of target WCF (Rahimi, 2019).

WCF improves learners' cognitive growth by encouraging them to communicate with others in their learning contexts. Aside from providing an overview of WCF studies published over the past four decades with an emphasis on feedback scope, this review study intends to identify and discuss unresolved difficulties related to feedback scope and make recommendations for future studies. The present review, focusing explicitly on the scope of feedback, will provide useful information to earlier syntheses about the efficacy of WCF based on quantitative research, which will benefit from the findings of this review (Truscott, 2007). As a form of help inside a student's constructivist approach, WCF may require the student to go to the next level of her cognitive development. As a result of the provision of and receipt of WCF, learners and teachers participate in social activities as well as cooperatively explore the meaning and function of language. Moreover, WCF is considered collaborative participation in educational efforts (Ahmadian & Tajabadi, 2014).

Instructors have been observed to deliver several types of WCF in feedback to their student's written work (Leki, 1991), with past studies identifying seven major WCF techniques. These engagement methods include direct, indirect, metalinguistic, focused (selected), unfocused (comprehensive), and WCF on local and global issues (Ferris & Roberts, 2001).

Attempted to study the effects of WCF from a theoretical approach, specifically in terms of the twofold contrast between accuracy and acquisition feedback (Manchón, 2011). Both theoretical and pedagogical issues influenced the direction of the investigation. Nonetheless, this research aimed to assess WCF's effect in relation to the distinction between feedback provided for accuracy and feedback aimed at acquisition to gain a better understanding of how WCF functions. In the feedback for accuracy, students participate in processing feedback, error detection, self-reflection on errors, and new output. On the other hand, feedback for acquisition is intended to promote long-term language learning by engaging students in processing feedback, error detection, self-reflection on errors, and new output.

The investigators employed the distinction in feedback pertaining to accuracy and fluency as a heuristic approach to investigate potential short-term and long-term learning advantages of Written Corrective Feedback (WCF). This approach is aligned with Norris and Ortega's differentiation between fluency and accuracy. In the following sections, we will discuss a few in-depth study strands relevant to our research, focusing on the targeted aims and the methods used.

2. Literature Review

2.1 Accuracy and Fluency Feedback

The objectives of the study are linked to the error correction debate, which is most frequently associated with Truscott (1999). Once it comes to immediate revisions, there is general agreement that WCF enhances grammatical accuracy (although there is much variation in the variables that can influence its effects). However, the empirical evidence for longer-term language-learning implications is mixed. Furthermore, Truscott & Hsu (2008) discovered that the effective reduction of errors in revised texts within an English as a Foreign Language (EFL) context did not serve as an indicator of second language (L2) development (i.e., decreased new texts errors), whereas (Van Beuningen, De Jong, & Kuiken 2012) discovered that providing unfocused feedback was identified as enhancing accuracy in a second language (L2) context, not only in the process of editing but also in subsequent pieces of writing.

Research undertaken by Simard et al. (2015) demonstrated that although the participants understood the WCF they were given, certain corrections nevertheless resulted in incorrect guesses about the goal of the correction. Additionally, there appear to be variances in the verbalizations of the participants based on the feedback they received. Biber, Nekrasova, and Horn (2011) researched to determine the impact of various WCF forms on the quality of students' Writing. The findings comprised both L1 and L2 WCF trials, which revealed that WCF had a small significant impact on writing quality, depending on the level of difficulty of the writing task.

Students studying English as a second language (ESL) were investigated by Nusrat, Ashraf, and Narcy-Combes (2019). The impact of instructor feedback on the written English accuracy of ESL students was investigated in this research. The findings imply that incorporating oral metalinguistic teacher feedback into the context of Pakistani language acquisition might help students achieve more success in their efforts to learn the English language more quickly and efficiently. Benson and DeKeyser (2019) investigated the influence of direct or metalinguistic written feedback on simple past tense and present perfect tense mistakes in the past and present perfect tense. Both experimental groups outperformed the control group, with direct feedback being more durable than metalinguistic input in one structure, the simple past tense.

In the following up research, Rahimi (2019) assessed the impact of focused versus comprehensive WCF and revision on improving writing accuracy in ESL students. The results revealed that the focused groups outperformed the comprehensive groups in minimizing their word errors at T2. However, there was no statistically significant difference between the two groups regarding revision. Furthermore, Kim et al. (2020) investigated the impact of direct and indirect WCF on the learning among high beginning-level Korean students when they collaborate on collaborative writing assignments. Direct WCF proved to be more helpful in supporting students in creating accurate Writing. However, both types of feedback proved to be effective in fostering the learning of new linguistic elements through collaborative Writing, as evidenced by the findings.

2.2 WCF and Types of Errors

This study looked at which sort of WCF, direct or indirect, resulted in greater error reduction across broad error categories (for example, grammar and non-grammar errors) and specific error types. A broad coding system (Van Beuningen et al., 2012) was used to distinguish between grammar & non-grammar errors, and a data-driven narrow coding approach was utilized (Ferris et al., 2013). Furthermore, the researchers discriminated between WCF mistakes that were effectively fixed and WCF errors that were not: uncorrected errors, successful corrections, unsuccessful corrections, and deleted errors (Van Beuningen, De Jong & Kuiken 2012).

Direct (oral) and indirect (written) feedback have been employed in error feedback studies. Furthermore, most WCF research (Lalande, 1982) distinguished between direct and indirect corrective feedback, the two frequent types of written corrective feedback. Direct WCF involves the teacher providing the correct form to the students, which is preferable for students with a low level of competence who are unable to self-correct and are unaware of what the correct form is. Ferris & Hedgcock (2014) argued that direct feedback helps to avoid confusion, reduces learners' cognitive burden, and allows them to test their hypotheses more directly.

Based on the directed nature of direct feedback, it can point to specific errors made by the learners, such as errors connected to spelling errors or any form of vocabulary or morpheme modifications. Furthermore, it can assist the student in producing the correct phonetics in a

margin or frame misaligned (Ellis et al., 2008). However, indirect feedback is more effective at facilitating internalization of the form and deepening metalinguistic knowledge processing than direct feedback (Bitchener, 2012). Additionally, indirect feedback forces students to correct flaws identified by their teachers, who do not provide the appropriate form of feedback to students (Ferris & Roberts, 2001).

3. Methodology

3.1 Research Questions

The following research questions guided this research:

1. How does WCF (direct and indirect) affect the overall accuracy of a rewritten text?
2. How does WCF (direct and indirect) affect the accuracy, specifically the type of error in the rewritten text?
3. How does WCF (direct and indirect) affect the overall accuracy in the post-test and the delayed post-test?
4. How does WCF (direct and indirect) affect the overall fluency of participants in the pre-test, post-test, and delayed post-test?

3.2 Materials and Methods

As mentioned by Bitchener & Ferris (2012), four or more tasks should be included in the design of WCF research: a pre-test, an update of the pre-test, and a delayed post-test. Participants revised a previously written text as part of this research after they received one of two forms of WCF (direct or indirect) in contrast to a control group receiving no WCF. In addition, each participant created two more texts during the research at different times after a week.

Bitchener & Ferris (2012) solved the focused–unfocused issue as well as challenges such as the interplay between error categories and kinds of WCF (direct and indirect). In this research, the researchers investigated which form of WCF (direct or indirect) produced higher error reduction across broad error categories; grammar & non-grammar errors. In this research, the researchers distinguished between effectively successful corrections, uncorrected errors, unsuccessfully corrections, and deleted errors (Van Beuningen, 2011).

3.3 Participants and Setting

The participants were 100 EFL students from the University of Pahlawan Tuanku Tambusai, Indonesia, enrolled in the course as part of their English Studies degree. Before studying at the university, they had been learning English for about 12 years, and their proficiency matched the level of a B1 Threshold-Independent User, the highest level of proficiency. The selection of this level for the study was made in order to facilitate learners engagement with and integration of the It feedback provided during the language learning session.

3.4 Instrument

The instruments used in this study are categorized as test instruments, as they support the collection of data measuring students' writing skills at various stages (pre-test, post-test, and delayed post-test). The pre-test assesses participants' initial writing abilities, covering parameters such as structure, grammar, vocabulary, and content. Subsequently, the languaging session provides an opportunity for participants to identify and comprehend errors in their own texts, requiring active engagement in the process of error identification and correction. Furthermore, it assesses participants' ability to apply feedback and reflections from the languaging session to the rewriting process, focusing on error correction and the enhancement of writing quality. Finally, the post-test and delayed post-test stages are conducted to measure participants' writing abilities after receiving feedback and engaging in the rewriting session. This includes assessments of progress in structure, grammar, vocabulary, and content.

3.5 Design and Data Collection Procedures

One intrasubject component with four possible values (pre-test, rewrite, post-test, and delayed post-test) and one intrasubject factor WCF with three possible values (unfocused direct WCF, unfocused indirect WCF, and no feedback) were employed in the design and data collection. Hence, there existed two experimental groups and a control group (CG). The experimental groups were exposed to either direct written corrective feedback (DG - direct group) or indirect written corrective feedback (IG - indirect group), whereas the control group (CG) did not receive any feedback before revising their articles.

Overall, five weeks were spent collecting information in four stages. During that period, participants wrote their first text (pre-test), received WCF (experimental groups) or no feedback (control groups), and discussed the errors present in their original texts, whether or not WCF was available for the intervention and control groups. Subsequently, they revised their initial text through the process of rewriting and ultimately composed two extra texts on distinct subjects (post-test and delayed post-test). They produced several writing contexts before making adjustments to their texts and created new ones to allow for self-reflection processes in reaction to the criticism they received.

This data collection method may have resulted in an unexpected practice effect, which the researchers were informed of. However, they had no other choice for gathering data to analyze the effects of feedback on new writing pieces. They were concerned about the possible combined influence of WCF and languaging in the data. Although no control group did not engage in languaging but get WCF, the researcher was able to dissociate the possible combined impact of WCF and languaging since there was a control group that did not engage in languaging about their errors but did receive WCF.

During the language sessions, each participant was allocated a period of 50 minutes to assess their errors and receive feedback (in the feedback groups) or to independently identify their errors and engage in reflection (in the CG - control group). According to Suzuki (2012), the following instructions were given to the participants. All three groups (DG, IG, and CG) traveled through a languaging session,

this involved transcribing each error identified in the pre-test onto a sheet of paper and offering a correction (already supplied in the feedback for the DG), an ML code (already provided in the feedback for the IG), and an ML explanation (not provided in the feedback for either of the two feedback groups).

During the rewriting session, the participants were required to find errors they recognized from the languaging session in their previous uncorrected essays to recreate their writings more accurately in the rewriting session. After revising their texts for a week, each participant ended up with a new piece of Writing. Following the post-test, all participants were required to write a new piece of writing.

3.6 Procedures for Data Coding and Analysis

Despite the highly precise coding schemes used, two reviewers (knowledgeable EFL instructors and researchers) effectively coded all errors for all coding schemes to maintain a high level of reliability (100 percent), despite appearances in applied linguistics. When raters argued, the errors were reviewed until everyone agreed. Moreover, a broad coding system on Van Beuningen et al. (2012) was used to distinguish between grammar and non-grammar errors, and a narrow coding system (Ferris et al., 2013) and partly data-driven.

The researchers devised a coding scheme based on the operationalization of depth of processing to distinguish between learners' cognitive effort when digesting the WCF they got (intervention groups) and their own self-identified errors (control groups) in terms of language (CG). A non-parametric statistical approach was used to evaluate the data because of our small sample size and non-normal data distribution. The Kruskal–Wallis tests, Mann–Whitney U, Wilcoxon Signed Rank, and Friedman tests were all used to examine the data. It was decided to utilize Kruskal–Wallis tests to examine how many mistakes and types of errors were made, and how many errors were reduced in each group in the study.

Following the confirmation that statistically significant differences existed between the three groups, the Mann-Whitney U tests were employed to ascertain if there were any statistically significant variations between the two designated groups. Friedman tests were utilized when comparing the reduction in errors produced in one group's tests to the other group's tests.

4. Result

The results of this study provide valuable insights into how the feedback influences the writing abilities of university students. Let us examine together the findings of this research to understand the contribution of corrective feedback to the accuracy and fluency in the English writing of university students.

4.1 WCF's Effect (Direct & Indirect) on the Overall Accuracy of a Rewritten Text

Table 1. Error Correction Rate in Rewritten Texts: Descriptive Statistics and Kruskal-Wallis

Category	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	p
Successful corrections	47.81 (6.03)	41.37 (3.84)	18.31 (2.64)	43.65	0.00
Unsuccessful correction	7.28 (2.35)	10.17 (1.81)	3.72 (1.00)	38.61	0.00
Uncorrected errors	40.21 (5.88)	40.48 (4.91)	64.99 (4.21)	39.57	0.00
Deleted errors	4.67 (1.58)	7.96 (1.99)	12.96 (3.45)	41.35	0.00

Table 1 presents the error correction rate in rewritten texts and indicates significant differences between the three experimental groups (DG, IG, CG) in the percentage of successful and unsuccessful corrections, as well as the percentage of uncorrected and deleted errors.

Table 2. Comparison of Error Correction Rate in Rewritten Texts across Group: Mann-Whitney

Category	DG vs. IG		DG vs. CG		IG vs. CG	
	U	p	U	p	U	p
Successful corrections	66.50	0.00	0.00	0.00	0.00	0.00
Unsuccessful correction	53.5	0.00	42.50	0.00	0.00	0.00
Uncorrected errors	158.0	0.69	0.00	0.00	0.00	0.00
Deleted errors	40.5	0.00	0.00	0.00	33.00	0.00

Table 2 shows that WCF (DG and IG) gave more successful corrections than CG, and Direct WCF had more successful corrections than Indirect WCF. Although WCF provides more successful corrections, it turns out that WCF also provides more unsuccessful corrections than CG. In addition, WCF had significantly less uncorrected error than CG, but there was no significant difference between different types of WCF (DG and IG). Also, direct WCF has the smallest deleted errors significantly.

4.2 WCF's Effect (Direct & Indirect) on the Accuracy, Specifically the Type of Error in the Rewritten Text

Table 3. Number of Error Type in Rewritten Text: Descriptive Statistics and Kruskal-Wallis

Category	Error Type	M (SD)			Kruskal-Wallis Test	
		DG	IG	CG	H	p
Successful corrections	Grammar	11.68 (1.49)	8.09 (1.35)	5.04 (1.15)	47.47	0.00
	Non-grammar	9.43 (0.94)	8.57 (0.93)	2.56 (0.29)	42.02	0.00
Unsuccessful correction	Grammar	1.08 (0.61)	2.10 (0.57)	1.05 (0.57)	21.59	0.00
	Non-grammar	2.25 (0.83)	2.01 (0.58)	0.50 (0.28)	39.87	0.00
Uncorrected errors	Grammar	9.55 (2.14)	7.40 (1.73)	14.82 (1.67)	41.72	0.00
	Non-grammar	8.61 (2.76)	9.20 (2.51)	12.30 (2.22)	17.52	0.00

Deleted errors	Grammar	1.00 (0.56)	1.07 (0.62)	2.90 (1.68)	17.53	0.00
	Non-grammar	1.05 (0.60)	2.10 (0.69)	2.52 (0.95)	23.07	0.00

The results of the number of error types in rewritten text in Table 3 reveal significant differences between the three experimental groups (DG, IG, CG) in successful and unsuccessful corrections, with the DG group being the highest. There is also a significant difference in the percentage of uncorrected and deleted errors in terms of grammar and non-grammar.

Table 4. Comparison of Number Error Type in Rewritten Text: Mann-Whitney

Category	Error Type	DG vs. IG		DG vs. CG		IG vs. CG	
		<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>
Successful corrections	Grammar	9.50	0.00	0.00	0.00	14.50	0.00
	Non-grammar	91.00	0.01	0.00	0.00	0.00	0.00
Unsuccessful correction	Grammar	43.5	0.00	193.0	0.86	40.50	0.00
	Non-grammar	142.0	0.38	0.00	0.00	0.00	0.00
Uncorrected errors	Grammar	81.5	0.00	5.00	0.00	0.00	0.00
	Non-grammar	152.0	0.56	62.0	0.00	68.5	0.00
Deleted errors	Grammar	157.5	0.68	65.0	0.00	65.5	0.00
	Non-grammar	46.5	0.00	39.0	0.00	150.5	0.28

Table 4 compares the number of error types in rewritten text. It shows that successful corrections of grammar and non-grammar errors WCF were significantly higher than CG. However, DG provides better successful correction than IG, both in terms of grammar and non-grammar. In unsuccessful correction of grammar errors, DG was significantly better than IG but only slightly different from CG. As for non-grammar, WCF was significantly superior to CG. In terms of uncorrected grammar and non-grammar errors, WCF was significantly superior to CG. Moreover, IG has significantly more uncorrected grammar errors than DG. While, in deleted grammar errors, WCF had significantly fewer deleted grammar errors than CG. As for non-grammar, DG had significantly fewer deleted grammar errors than IG and CG.

4.3 WCF's Effect (Direct & Indirect) on the Overall Accuracy in the Post-Test and Delayed Post-Test

Table 5. Percentage of Errors: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pre-test	12.76 (1.49)	12.77 (1.50)	13.26 (1.25)	1.49	0.47
Post-test	11.31 (1.35)	10.36 (1.35)	10.91 (1.52)	3.80	0.15
Delayed post-test	8.44 (0.95)	9.61 (1.61)	9.71 (1.54)	8.32	0.02

When viewed from the type of test, Table 4 reveals that the percentage of errors in the delayed post-test was significantly different between the three experimental groups (DG, IG, CG). Participants receiving direct WCF statistically had a lower percentage of error than those receiving indirect WCF and those not receiving WCF (DG vs. IG: $U = 97.00, p = 0.02$; DG vs. CG: $U = 100.0, p = 0.01$). On the other hand, based on each treatment group, the results of Friedman's test showed that three groups had a significant difference in the error percentage in the pre-test, post-test, and delayed post-test: DG, $X^2_F = 35.71, p = 0.00$; IG, $X^2_F = 14.73, p = 0.00$; CG, $X^2_F = 26.91, p = 0.00$ based on Figure 1.

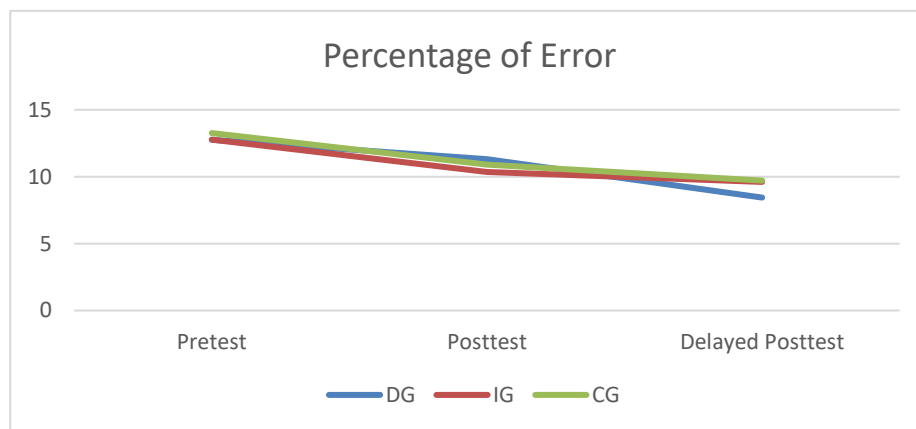


Figure 1. Average Percentage of Error across Time

Table 6. Reduction of Percentage of Error Across Tests within Groups: Wilcoxon

Pair	DG		IG		CG	
	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pre-test – Post-test	-3.65	0.00	-3.20	0.00	-3.55	0.00
Pre-test – Delayed Post-test	-3.83	0.00	-3.48	0.00	-4.01	0.00

The results in Table 6 show a significant increase in the participants' accuracy over time, from pre-test to post-test and from pre-test to

delayed post-test ($p < 0.05$). An increase in accuracy occurred in participants who obtained WCF (DG and IG) and those who did not (CG). The highest increase in accuracy occurred in the group of participants who received the Direct WCF. This shows that administering WCF, especially direct WCF, can improve participant accuracy over time (long term).

4.4 WCF's Effect (Direct & Indirect) on the Overall Fluency of Participants in the Pre-Test, Post-Test, and Delayed Post-Test

a. Overall words

Table 7 illustrates the overall words based on the type of test. It indicates that the number of words in the post-test and delayed post-test was significantly different between the three experimental groups (DG, IG, CG). In the post-test, participants receiving indirect WCF had significantly greater word count than those receiving direct WCF and those not receiving WCF (DG vs. IG: $U = 84.0, p = 0.01$; IG vs. CG: $U = 92.5, p = 0.01$). In the delayed post-test, the participants with indirect WCF had the largest number of words. While, participants obtaining direct WCF had significantly lower word counts than those without WCF (DG vs. IG: $U = 84.0, p = 0.01$; IG vs. CG: $U = 92.5, p = 0.01$).

Table 7. Overall Words: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	p
Pre-test	118.2 (63.02)	120.6 (56.88)	119.8 (39.43)	0.06	0.97
Post-test	90.0 (38.38)	125.1 (25.06)	99.0 (29.95)	9.78	0.01
Delayed post-test	143.6 (54.37)	204.8 (39.46)	181.7 (30.37)	13.98	0.00

Figure 2 also depicts the Friedman test results, showing that the three groups have significantly different overall words, both decreasing and increasing in the pre-test, post-test, and delayed post-test in each treatment group: DG, $X^2_F = 9.58, p = 0.01$; IG, $X^2_F = 18.78, p = 0.00$; CG, $X^2_F = 32.00, p = 0.00$.

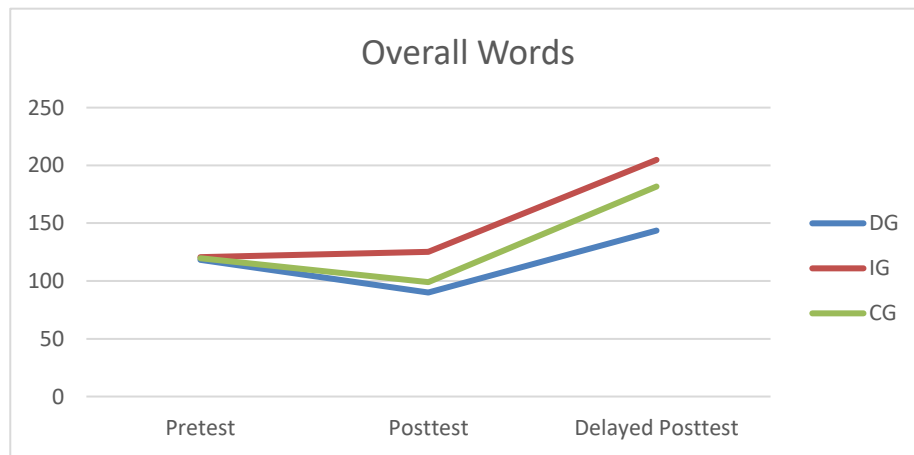


Figure 2. Overall Words across Time

Table 8. Improvement of Overall Words Across Time within Groups: Wilcoxon

hhh	DG		IG		CG	
	Z	p	Z	p	Z	p
Pre-test – Post-test	-2.36	0.02	-0.28	0.77	-1.99	0.04
Pre-test – Delayed Post-test	-1.61	0.11	-3.46	0.00	-3.98	0.00

Table 8 showed that the overall words from pre-test to post-test in participants receiving Direct WCF and those not receiving WCF significantly decreased ($p < 0.05$). Meanwhile, the overall words of participants receiving Indirect WCF increased but not significantly. There was a significant increase in overall word from pre-test to delayed post-test in participants who received Indirect WCF and those who did not (CG). This shows that giving Indirect WCF can increase the number of words that participants can compose over time (long term).

b. T-Units

Based on the type of test, the t-units in the delayed post-test showed significant differences between the three experimental groups (DG, IG, CG), as seen in Table 9. Participants who obtained WCF statistically had lower t-units than those who did not (DG vs. IG: $U = 143.5, p = 0.40$; DG vs. CG: $U = 112.0, p = 0.02$; IG vs. CG: $U = 75.0, p = 0.00$).

Table 9. T-Units: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	p
Pre-test	8.53 (3.63)	9.61 (3.52)	9.38 (3.52)	1.01	0.61
Post-test	9.05 (3.06)	8.28 (2.72)	11.3 (8.72)	2.39	0.30
Delayed post-test	11.2 (3.75)	10.28 (3.72)	14.0 (1.82)	11.45	0.00

The Friedman test results show that participants who received direct WCF and those who did not (CG) had significantly different t-units, both decreasing and increasing, on the pre-test, post-test, and delayed post-test: DG, $X^2_F = 8.24, p = 0.02$; IG, $X^2_F = 1.94, p = 0.38$; CG, $X^2_F = 26.88, p = 0.00$, as illustrated in Figure 3.

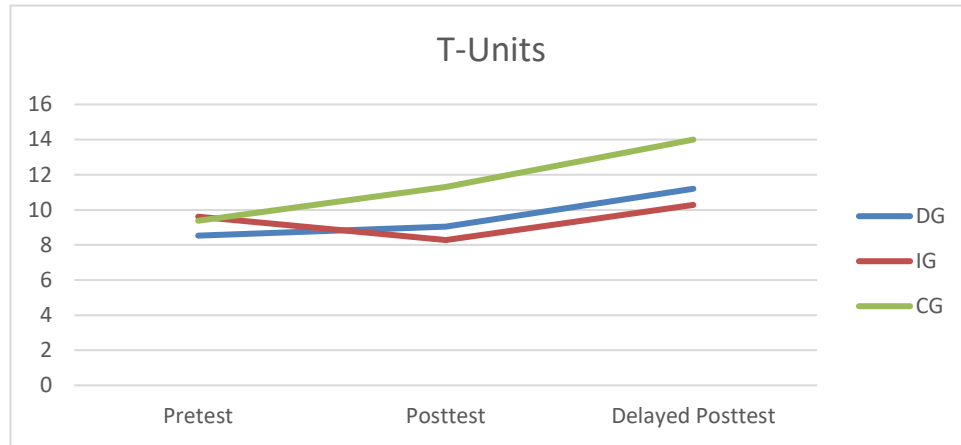


Figure 3. T-Units across Time

Table 10. Improvement of T-Units Across Time within Groups: Wilcoxon

Pair	DG		IG		CG	
	Z	p	Z	p	Z	p
Pre-test – Post-test	-0.51	0.61	-1.10	0.27	-1.05	0.29
Pre-test – Delayed Post-test	-2.49	0.01	-0.59	0.55	-3.93	0.00

Table 10 shows that the t-units from the pre-test to post-test of the participants receiving Direct WCF and those not receiving WCF increased but not significantly. Meanwhile, it was decreased for the participants who received Indirect WCF. There was a significant increase in t-units between the pre-test and delayed post-test in participants who obtained Direct WCF and those who did not (CG). The increase in t-units in participants who did not receive WCF was greater than that in participants who received Direct WCF. This shows that implementing Direct WCF and without WCF can increase participants' t-units over time (long term).

c. Sentence Counts

When viewed from the type of test, the sentence counts in the pre-test, post-test, and delayed post-test showed significant differences between the three experimental groups (DG, IG, CG), as presented in Table 11. In the pre-test, participants receiving direct WCF statistically had lower sentence counts than those receiving indirect WCF and not receiving WCF (DG vs. IG: $U = 0.00, p = 0.0$; DG vs. CG: $U = 81.5, p = 0.00$). In the post-test, participants receiving direct WCF statistically had lower sentence counts than those receiving indirect WCF and not receiving WCF (DG vs. IG: $U = 0.00, p = 0.0$; DG vs. CG: $U = 0.00, p = 0.00$). In the delayed post-test, participants with WCF had lower sentence counts than those without WCF (DG vs. CG: $U = 00.00, p = 0.0$; IG vs. CG: $U = 102.50, p = 0.02$).

Table 11. Sentence Counts: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	p
Pre-test	9.51 (1.90)	16.01 (1.67)	14.30 (4.34)	24.14	0.00
Post-test	5.50 (0.56)	10.81 (4.03)	13.41 (0.81)	37.77	0.00
Delayed post-test	10.28 (2.61)	9.52 (2.78)	7.94 (1.89)	12.73	0.00

Concerning each treatment group, the Friedman test results show that the three groups have significantly different sentence counts, both decreasing and increasing, on the pre-test, post-test, and delayed post-test: DG, $X^2_F = 23.47, p = 0.00$; IG, $X^2_F = 28.78, p = 0.00$; CG, $X^2_F = 26.48, p = 0.00$, as illustrated in Figure 4.

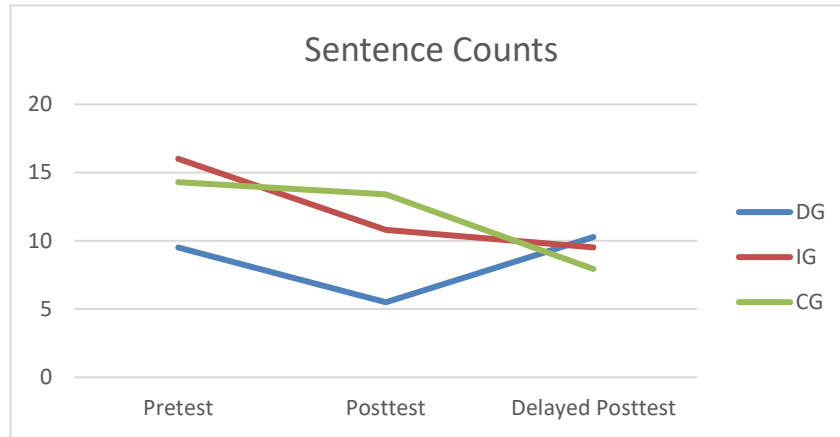


Figure 4. Sentence Counts Across Time

Table 12. Improvement of Sentence Counts Across Time within Groups: Wilcoxon

Pair	DG		IG		CG	
	Z	p	Z	p	Z	p
Pre-test – Post-test	-3.82	0.00	-3.72	0.00	-0.95	0.34
Pre-test – Delayed Post-test	-0.95	0.34	-3.72	0.00	-3.77	0.00

Table 12 presents the improvement of sentence counts. It shows that the sentence counts between the pre-test and post-test in participants obtaining WCF significantly decreased. In addition, there was a significant decrease in sentence counts from pre-test to delayed post-test in participants receiving indirect WCF and those who did not receive WCF (CG). This shows that either with WCF or without WCF, the sentence counts decrease over time (long term).

Among the three fluency indicators: overall words, t-units, and sentence count, only overall words and t-units showed increased participant fluency after obtaining WCF. The provision of indirect WCF can increase the fluency of participants in terms of overall words, while the provision of direct WCF can increase the fluency of participants in terms of t-units in the long term.

5. Discussion

The first research question investigated the WCF’s effect (direct and indirect) on the overall accuracy of the rewritten text. The results revealed that the proportion of successful and unsuccessful corrections, as well as the percentage of uncorrected and deleted errors, substantially varied across three experimental groups (DG, IG, CG). WCF (DG and IG) had a greater proportion of successful corrections than CG, and direct WCF had a higher percentage of effective corrections than indirect WCF.

WCF has a higher rate of successful corrections than CG; it also has a higher rate of unsuccessful corrections. There was a substantial difference between WCF and CG in terms of uncorrected error but no significant difference between the different forms of WCF (DG and IG). Furthermore, direct WCF has the smallest deleted errors. It was observed that the successful corrections of updated texts in an EFL context were not a predictor of L2 development (i.e., fewer errors in new texts). However, successful corrections of revised texts in an EFL setting were predictors (Truscott & Hsu, 2008). Moreover, Van Beuningen et al. (2012) showed that providing unfocused feedback increased accuracy in Writing, not only while revising but also when developing new writing pieces.

The second research question was about the WFC’s effect (both direct and indirect) on the accuracy, specifically, the sort of mistake introduced into the rewritten text. The findings revealed statistically significant differences between the three experimental groups (DG, IG, CG) in terms of successful and failed repairs, as well as the proportion of uncorrected and deleted errors, both in grammar and non-grammar. Furthermore, when it came to successful fixes of grammar and non-grammar problems, WCF outperformed CG by a wide margin. On the other hand, DG delivers more successful corrections than IG in terms of grammar and non-grammar correction.

In unsuccessful corrections of grammar errors, DG was significantly better than IG but only slightly different from CG. As for non-grammar, WCF was significantly superior to CG. In terms of uncorrected grammar and non-grammar errors, WCF was significantly superior to CG. Furthermore, IG has a higher percentage of uncorrected grammatical errors than DG. On the other hand, WCF had significantly more deleted grammatical errors than CG in this category. In terms of non-grammatical errors, DG had significantly fewer than IG and CG. The following four WCF conditions were investigated: corrective, underlined, and discussion (underlining errors and providing error codes), description (provided error codes without notifying learners where the errors occurred), and simply highlight (underlining errors without delivering error codes) (Chandler, 2003).

Specifically, the data demonstrated that providing direct and indirect feedback was more efficient in reducing learner errors than just mentioning the categories of errors. The most effective of the four feedback forms for producing precise changes were direct correction, which was the most common (i.e., correct uptake). Similarly, Van Beuningen et al. (2012) discovered that direct feedback had a stronger impact on both short-term and long-term improvements in correctness in rewritten texts.

The third research question addressed the WCF's effect (direct and indirect) on overall accuracy in the post-test and delayed post-test. The results indicated that the percentage of errors was significantly different between the three experimental groups (DG, IG, CG) in the delayed post-test. Participants experiencing direct WCF had a lower rate of error than those receiving indirect WCF or not given WCF. Moreover, there was a significant increase in the participants' accuracy over time, from pre-test to post-test and from pre-test to delayed post-test. The participants receiving WCF (DG and IG) and those who did not both improved their accuracy (CG). There have been studies that show that teacher error feedback is no more effective than content-related comments or no feedback in developing accuracy in L2 student writing (e.g., Kepner (1991); Polio et al., (1998); and Semke (1984), but these studies need to be looked into further. According to Kepner (1991), college students who got surface-level error correction produced fewer errors in their journals than those who got message-related remarks. However, the students were not required to do anything with the teacher's corrections. The lack of effect of error correction on accuracy and negative effect on fluency found by Semke (1984) may not be fully related to the different treatment approaches but rather to disparities in the amount of writing practice.

The last research question addressed the WCF's effect (direct and indirect) on the overall fluency in the pre-test, post-test, and delayed post-test. According to the results, the total number of words in the post-test and the delayed post-test demonstrated a statistically significant difference between the three experimental groups (DG, IG, CG). Furthermore, the Friedman test findings from each treatment group demonstrate that they had substantially different total words, decreasing and increasing in the pre-test, post-test, and delayed post-test compared to the other groups. This shows that giving Indirect WCF can increase the number of words composed by participants over time (long term). While in the t-units, it can be seen that the delayed post-test showed significant differences between the three experimental groups (DG, IG, CG).

There was a significant increase in t-units from pre-test to delayed post-test in participants who received Direct WCF and those who did not (CG). This shows that giving Direct WCF and without WCF can increase participants' t-units over time (long term). In addition, there was a significant decrease in sentence counts from pre-test to delayed post-test in participants receiving indirect WCF and those who did not (CG). This shows WCF or not; the sentence counts always decrease over time (long term).

6. Conclusion

Based on the findings of this research, several conclusions can be drawn. Written Corrective Feedback (WCF), whether in direct or indirect form, positively impacts the overall accuracy of the rewritten text. The proportion of successful corrections is higher in the experimental groups (DG and IG) compared to the control group (CG), with direct WCF showing a more effective correction percentage than indirect WCF. Significant differences exist in both successful and unsuccessful corrections between the experimental groups (DG and IG) and the control group (CG), in both grammar and non-grammar categories. Particularly, direct WCF demonstrates superior performance in correcting grammar and non-grammar errors compared to the control group and indirect WCF.

There is a significant difference in error percentages between the experimental groups (DG and IG) and the control group (CG) in the delayed post-test. Receiving direct WCF contributes to a lower error rate compared to indirect WCF or no WCF. The total number of words in the post-test and delayed post-test shows a significant difference between the experimental groups (DG and IG) and the control group (CG). Indirect WCF appears to increase the number of words produced by participants over time (long term), while both direct WCF and no WCF increase the participants' t-units over time.

Previous studies suggest that teacher error feedback is no more effective than content-related comments or no feedback in developing accuracy in second language (L2) student writing. Further research is crucial to understanding the effects of feedback on accuracy and fluency in writing, involving a balanced amount of writing exercises. Overall, the findings of this research support the importance of both direct and indirect feedback in improving the accuracy and fluency of student writing in the context of a second language (L2). Direct WCF, in particular, significantly contributes to error correction and the long-term development of writing skills.

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Authors contributions

M. plays a pivotal role in the design and execution of the research, as well as data analysis, ensuring the reliability and validity of the findings. S.E. provides critical insights in the problem formulation stage and the design of the research methodology. U.R. is actively involved in data collection and statistical analysis. On the other hand, B.H.W. contributes theoretical insights and in-depth literature knowledge, providing substantial support in structuring and writing the article.

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Competing interest

The author affirms that there are no apparent conflicts of interest, either financial or personal, that could be perceived as influencing the findings presented in this paper.

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Obtained.

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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References

- Ahmadian, M., & Tajabadi, A. (2014). A Sociocultural Perspective on Corrective Feedback in L2: The Effect of Negotiated versus Nonnegotiated Feedback on the Accuracy Improvement in Writing. *The Iranian EFL Journal*, December(November 2017), 6-36.
- Benson, S., & DeKeyser, R. (2019). Effects of written corrective feedback and language aptitude on verb tense accuracy. *Language Teaching Research*, 23(6), 702-726. <https://doi.org/10.1177/1362168818770921>
- Biber, D., Nekrasova, T., & Horn, B. (2011). the Effectiveness of Feedback for L1-English and L2-Writing Development: a Meta-Analysis. *ETS Research Report Series*, 2011(1), i-99. <https://doi.org/10.1002/j.2333-8504.2011.tb02241.x>
- Bitchener, J. (2012). A reflection on “the language learning potential” of written CF. *Journal of Second Language Writing*, 21(4), 348-363. <https://doi.org/10.1016/j.jslw.2012.09.006>
- Bitchener, J., & Ferris, D. R. (2012). Written corrective feedback in second language acquisition and Writing. *Written Corrective Feedback in Second Language Acquisition and Writing*, 1-220. <https://doi.org/10.4324/9780203832400>
- Chandler, J. (2003). The efficacy of various kinds of error feedback for improvement in the accuracy and fluency of L2 student writing. *Journal of Second Language Writing*, 12(3), 267-296. [https://doi.org/10.1016/S1060-3743\(03\)00038-9](https://doi.org/10.1016/S1060-3743(03)00038-9)
- Ellis, R., Sheen, Y., Murakami, M., & Takashima, H. (2008). The effects of focused and unfocused written corrective feedback in an English as a foreign language context. *System*, 36(3), 353-371. <https://doi.org/10.1016/j.system.2008.02.001>
- Ferris, D. R. (1999). The case for “The Case Against Grammar Correction in L2 Writing Classes”: A response to Truscott (1996). *Journal of Second Language Writing*, 8(2), 111-122. [https://doi.org/10.1016/S1060-3743\(99\)80124-6](https://doi.org/10.1016/S1060-3743(99)80124-6)
- Ferris, D. R. (2010). Second language writing research and written corrective feedback in SLA: Intersections and practical applications. *Studies in Second Language Acquisition*, 32(2), 181-201. <https://doi.org/10.1017/S0272263109990490>
- Ferris, D. R., Liu, H., Sinha, A., & Senna, M. (2013). Written corrective feedback for individual L2 writers. *Journal of Second Language Writing*, 22(3), 307-329. <https://doi.org/10.1016/j.jslw.2012.09.009>
- Ferris, D. R. & Roberts, B. (2001). Error feedback in L2 writing classes How explicit does it need to be? *Journal of Second Language Writing*, 10(3), 161-184. [https://doi.org/10.1016/S1060-3743\(01\)00039-X](https://doi.org/10.1016/S1060-3743(01)00039-X)
- Hyland, K. & Hyland, F. (2006). Feedback on second language students' Writing. *Language Teaching*, 39(2), 83-101. <https://doi.org/10.1017/S0261444806003399>
- Kepner, C. G. (1991). An Experiment in the Relationship of Types of Written Feedback to the Development of Second-Language Writing Skills. *The Modern Language Journal*, 75(3), 305-313. <https://doi.org/10.1111/j.1540-4781.1991.tb05359.x>
- Kim, Y. J., Choi, B., Yun, H., Kim, B., & Choi, S. (2020). Task repetition, synchronous written corrective feedback and the learning of Korean grammar: A classroom-based study. *Language Teaching Research*. <https://doi.org/10.1177/1362168820912354>
- Lalande, J. F. (1982). Reducing Composition Errors: An Experiment. *The Modern Language Journal*, 66(2), 140-149. <https://doi.org/10.1111/j.1540-4781.1982.tb06973.x>

- Langum, V., & Sullivan, K. P. H. (2017). Writing academic english as a doctoral student in sweden: narrative perspectives. *Journal of Second Language Writing*, 35, 20-25. <https://doi.org/10.1016/j.jslw.2016.12.004>
- Leki, I. (1991). The preferences of ESL students for error correction in college-level writing classes. *Foreign Language Annals*, 24, 204-218. <https://doi.org/10.1111/j.1944-9720.1991.tb00464.x>
- Manchón, R. M. (2011). Writing in foreign language contexts: Learning, teaching, and research. In *Writing in Foreign Language Contexts: Learning, Teaching, and Research*.
- Nusrat, A., Ashraf, F., & Narcy-Combes, M. F. (2019). Effect of direct and indirect teacher feedback on accuracy of english Writing: A quasi-experimental study among Pakistani undergraduate students. *3L: Language, Linguistics, Literature*, 25(4), 84-98. <https://doi.org/10.17576/3L-2019-2504-06>
- Polio, C., Fleck, C., & Leder, N. (1998). "If I Only Had More Time:" ESL Learners' Changes in Linguistic Accuracy on Essay Revisions. *Journal of Second Language Writing*, 7(1), 43-68. [https://doi.org/10.1016/S1060-3743\(98\)90005-4](https://doi.org/10.1016/S1060-3743(98)90005-4)
- Polio, C., & Williams, J. (2009). Teaching and Testing Writing. In *The Handbook of Language Teaching*. <https://doi.org/10.1002/9781444315783.ch26>
- Rahimi, M. (2019). A comparative study of the impact of focused vs. comprehensive corrective feedback and revision on ESL learners' writing accuracy and quality. *Language Teaching Research*, 25(5), 687-710. <https://doi.org/10.1177/1362168819879182>
- Semke, H. D. (1984). Effects of the Red Pen. *Foreign Language Annals*, 17(3), 195-202. <https://doi.org/10.1111/j.1944-9720.1984.tb01727.x>
- Simard, D., Guénette, D., & Bergeron, A. (2015). L2 learners' interpretation and understanding of written corrective feedback: insights from their metalinguistic reflections. *Language Awareness*, 24(3), 233-254. <https://doi.org/10.1080/09658416.2015.1076432>
- Suzuki, W. (2012). Written Languageing, Direct Correction, and Second Language Writing Revision. *Language Learning*, 62(4), 1110-1133. <https://doi.org/10.1111/j.1467-9922.2012.00720.x>
- Truscott, J. (1996). Truscott 1996 Case against grammar correction. *Language Learning*, 46(2), 327-369. <https://doi.org/10.1111/j.1467-1770.1996.tb01238.x>
- Truscott, J. (1999). The case for "The Case Against Grammar Correction in L2 Writing Classes": A response to Ferris. *Journal of Second Language Writing*, 8(2), 111-122. [https://doi.org/10.1016/S1060-3743\(99\)80124-6](https://doi.org/10.1016/S1060-3743(99)80124-6)
- Truscott, J. (2007). The effect of error correction on learners' ability to write accurately. *Journal of Second Language Writing*, 16(4), 255-272. <https://doi.org/10.1016/j.jslw.2007.06.003>
- Truscott, J., & Hsu, A. Y. ping. (2008). Error correction, revision, and learning. *Journal of Second Language Writing*, 17(4), 292-305. <https://doi.org/10.1016/j.jslw.2008.05.003>
- Van Beuningen, C. G. (2011). The effectiveness of comprehensive corrective feedback in second language writing. *Accelerating the World's Research*.
- Van Beuningen, C. G., De Jong, N. H., & Kuiken, F. (2012). Evidence on the Effectiveness of Comprehensive Error Correction in Second Language Writing. *Language Learning*, 62(1), 1-41. <https://doi.org/10.1111/j.1467-9922.2011.00674.x>

Appendix A: Number of Error Type in Rewritten Text

Category	Error Types
Successful Corrections	Grammar Nongrammar
Unsuccessful Corrections	Grammar Nongrammar
Uncorrected Errors	Grammar Nongrammar
Deleted Errors	Grammar Nongrammar

The Effect of Direct and Indirect Written Corrective Feedback on Accuracy and Fluency of University Students' English Writing

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Abstract

This research aimed to determine the effect of WCF (Written Corrective Feedback), direct and indirect, on overall accuracy, error types, and overall accuracy and fluency in pre-test, post-test, and delayed post-test in rewritten text. The research questions examined the potential links between the direct & indirect WCF, grammar & non-grammar errors, and standpoint of feedback for accuracy and fluency. A total of 100 English as a Foreign Language (EFL) students from the University of Pahlawan Tuanku Tambusai in Indonesia were involved in the research. The findings revealed significant variations among the three experimental groups in the proportions of both effectively and unsuccessfully rectified errors, as well as the proportions of uncorrected and deleted errors in both grammar and non-grammar categories. The cohort that received the Direct WCF had the most significant enhancement in accuracy. This study showed that offering direct WCF (written corrective feedback) can enhance participants' accuracy gradually over an extended period of time (long term). Indirect written corrective feedback (WCF) can enhance participants' fluency in terms of overall word count, while direct WCF can improve participants' fluency in terms of t-units over a longer period of time.

Keywords: written corrective feedback, feedback accuracy, feedback fluency, errors type, English writing

1. Introduction

Writing in English is challenging for students learning English as a second or foreign language (L2/FL) as it requires knowledge of new writing habits and English grammar in an English-speaking culture (Hyland & Hyland, 2006). Academic Writing is an emotionally charged process, particularly for second language learners who must contend with high linguistic requirements (Langum & Sullivan, 2017). These challenges make writing one of the most challenging activities and increase students' reliance on teachers for corrections and teaching. Hence, many EFL writing teachers and researchers are concentrating their efforts on assisting L2/FL students in improving their Writing in accordance with their learning needs and course objectives (Polio & Williams, 2009).

Pointing out their errors in the target language is one of the most common strategies for helping these students with their Writing. Written Corrective Feedback (WCF) is the general term for all this teaching approach. WCF is a typical approach used by second language (L2) teachers to help their pupils improve their writing accuracy. As Truscott (1996) mentioned, WCF effectively improves L2 learners' writing skills and might be part of a learning process. Responses to linguistic errors in students' written work are referred to as WCF. As a critical aspect of L2 writing training, WCF has sparked much debate in the literature (Ferris, 2010). In addition, WCF is regarded as a critical condition for students' interlanguage development because it helps them "identify the difference between their interlanguage output and the target language input" and reorganize their linguistic brain processes. During the WCF study, Van Beuningen et al. (2012) stated that WCF was only presented on one or a few occasions, and depending on the scope of the input and the instance of targeted WCF, the same target error types and text type were used throughout the whole process of target WCF (Rahimi, 2019).

WCF improves learners' cognitive growth by encouraging them to communicate with others in their learning contexts. Aside from providing an overview of WCF studies published over the past four decades with an emphasis on feedback scope, this review study intends to identify and discuss unresolved difficulties related to feedback scope and make recommendations for future studies. The present review, focusing explicitly on the scope of feedback, will provide useful information to earlier syntheses about the efficacy of WCF based on quantitative research, which will benefit from the findings of this review (Truscott, 2007). As a form of help inside a student's constructivist approach, WCF may require the student to go to the next level of her cognitive development. As a result of the provision of and receipt of WCF, learners and teachers participate in social activities as well as cooperatively explore the meaning and function of language. Moreover, WCF is considered collaborative participation in educational efforts (Ahmadian & Tajabadi, 2014). Instructors have been observed to deliver several types of WCF in feedback to their student's written work (Leki, 1991), with past studies

identifying seven major WCF techniques. These engagement methods include direct, indirect, metalinguistic, focused (selected), unfocused (comprehensive), and WCF on local and global issues (Ferris & Roberts, 2001).

Attempted to study the effects of WCF from a theoretical approach, specifically in terms of the twofold contrast between accuracy and acquisition feedback (Manchón, 2011). Both theoretical and pedagogical issues influenced the direction of the investigation. Nonetheless, this research aimed to assess WCF's effect in relation to the distinction between feedback provided for accuracy and feedback aimed at acquisition to gain a better understanding of how WCF functions. In the feedback for accuracy, students participate in processing feedback, error detection, self-reflection on errors, and new output. On the other hand, feedback for acquisition is intended to promote long-term language learning by engaging students in processing feedback, error detection, self-reflection on errors, and new output.

The investigators employed the distinction in feedback pertaining to accuracy and fluency as a heuristic approach to investigate potential short-term and long-term learning advantages of Written Corrective Feedback (WCF). This approach is aligned with Norris and Ortega's differentiation between fluency and accuracy. In the following sections, we will discuss a few in-depth study strands relevant to our research, focusing on the targeted aims and the methods used.

2. Literature Review

2.1 Accuracy and Fluency Feedback

The objectives of the study are linked to the error correction debate, which is most frequently associated with Truscott (1999). Once it comes to immediate revisions, there is general agreement that WCF enhances grammatical accuracy (although there is much variation in the variables that can influence its effects). However, the empirical evidence for longer-term language-learning implications is mixed. Furthermore, Truscott & Hsu (2008) discovered that the effective reduction of errors in revised texts within an English as a Foreign Language (EFL) context did not serve as an indicator of second language (L2) development (i.e., decreased new texts errors), whereas (Van Beuningen, De Jong, & Kuiken 2012) discovered that providing unfocused feedback was identified as enhancing accuracy in a second language (L2) context, not only in the process of editing but also in subsequent pieces of writing.

Research undertaken by Simard et al. (2015) demonstrated that although the participants understood the WCF they were given, certain corrections nevertheless resulted in incorrect guesses about the goal of the correction. Additionally, there appear to be variances in the verbalizations of the participants based on the feedback they received. Biber, Nekrasova, and Horn (2011) researched to determine the impact of various WCF forms on the quality of students' Writing. The findings comprised both L1 and L2 WCF trials, which revealed that WCF had a small significant impact on writing quality, depending on the level of difficulty of the writing task.

Students studying English as a second language (ESL) were investigated by Nusrat, Ashraf, and Narcy-Combes (2019). The impact of instructor feedback on the written English accuracy of ESL students was investigated in this research. The findings imply that incorporating oral metalinguistic teacher feedback into the context of Pakistani language acquisition might help students achieve more success in their efforts to learn the English language more quickly and efficiently. Benson and DeKeyser (2019) investigated the influence of direct or metalinguistic written feedback on simple past tense and present perfect tense mistakes in the past and present perfect tense. Both experimental groups outperformed the control group, with direct feedback being more durable than metalinguistic input in one structure, the simple past tense.

In the following up research, Rahimi (2019) assessed the impact of focused versus comprehensive WCF and revision on improving writing accuracy in ESL students. The results revealed that the focused groups outperformed the comprehensive groups in minimizing their word errors at T2. However, there was no statistically significant difference between the two groups regarding revision. Furthermore, Kim et al. (2020) investigated the impact of direct and indirect WCF on the learning among high beginning-level Korean students when they collaborate on collaborative writing assignments. Direct WCF proved to be more helpful in supporting students in creating accurate Writing. However, both types of feedback proved to be effective in fostering the learning of new linguistic elements through collaborative Writing, as evidenced by the findings.

2.2 WCF and Types of Errors

This study looked at which sort of WCF, direct or indirect, resulted in greater error reduction across broad error categories (for example, grammar and non-grammar errors) and specific error types. A broad coding system (Van Beuningen et al., 2012) was used to distinguish between grammar & non-grammar errors, and a data-driven narrow coding approach was utilized (Ferris et al., 2013). Furthermore, the researchers discriminated between WCF mistakes that were effectively fixed and WCF errors that were not: uncorrected errors, successful corrections, unsuccessful corrections, and deleted errors (Van Beuningen, De Jong & Kuiken 2012).

Direct (oral) and indirect (written) feedback have been employed in error feedback studies. Furthermore, most WCF research (Lalande, 1982) distinguished between direct and indirect corrective feedback, the two frequent types of written corrective feedback. Direct WCF involves the teacher providing the correct form to the students, which is preferable for students with a low level of competence who are unable to self-correct and are unaware of what the correct form is. Ferris & Hedgcock (2014) argued that direct feedback helps to avoid confusion, reduces learners' cognitive burden, and allows them to test their hypotheses more directly.

Based on the directed nature of direct feedback, it can point to specific errors made by the learners, such as errors connected to spelling errors or any form of vocabulary or morpheme modifications. Furthermore, it can assist the student in producing the correct phonetics in a margin or frame misaligned (Ellis et al., 2008). However, indirect feedback is more effective at facilitating internalization of the form and

deepening metalinguistic knowledge processing than direct feedback (Bitchener, 2012). Additionally, indirect feedback forces students to correct flaws identified by their teachers, who do not provide the appropriate form of feedback to students (Ferris & Roberts, 2001).

3. Methodology

3.1 Research Questions

The following research questions guided this research:

1. How does WCF (direct and indirect) affect the overall accuracy of a rewritten text?
2. How does WCF (direct and indirect) affect the accuracy, specifically the type of error in the rewritten text?
3. How does WCF (direct and indirect) affect the overall accuracy in the post-test and the delayed post-test?
4. How does WCF (direct and indirect) affect the overall fluency of participants in the pre-test, post-test, and delayed post-test?

3.2 Materials and Methods

As mentioned by Bitchener & Ferris (2012), four or more tasks should be included in the design of WCF research: a pre-test, an update of the pre-test, and a delayed post-test. Participants revised a previously written text as part of this research after they received one of two forms of WCF (direct or indirect) in contrast to a control group receiving no WCF. In addition, each participant created two more texts during the research at different times after a week.

Bitchener & Ferris (2012) solved the focused–unfocused issue as well as challenges such as the interplay between error categories and kinds of WCF (direct and indirect). In this research, the researchers investigated which form of WCF (direct or indirect) produced higher error reduction across broad error categories; grammar & non-grammar errors. In this research, the researchers distinguished between effectively successful corrections, uncorrected errors, unsuccessfully corrections, and deleted errors (Van Beuningen, 2011).

3.3 Participants and Setting

The participants were 100 EFL students from the University of Pahlawan Tuanku Tambusai, Indonesia, enrolled in the course as part of their English Studies degree. Before studying at the university, they had been learning English for about 12 years, and their proficiency matched the level of a B1 Threshold-Independent User, the highest level of proficiency. The selection of this level for the study was made in order to facilitate learners engagement with and integration of the It feedback provided during the language learning session.

3.4 Instrument

The instruments used in this study are categorized as test instruments, as they support the collection of data measuring students' writing skills at various stages (pre-test, post-test, and delayed post-test). The pre-test assesses participants' initial writing abilities, covering parameters such as structure, grammar, vocabulary, and content. Subsequently, the languaging session provides an opportunity for participants to identify and comprehend errors in their own texts, requiring active engagement in the process of error identification and correction. Furthermore, it assesses participants' ability to apply feedback and reflections from the languaging session to the rewriting process, focusing on error correction and the enhancement of writing quality. Finally, the post-test and delayed post-test stages are conducted to measure participants' writing abilities after receiving feedback and engaging in the rewriting session. This includes assessments of progress in structure, grammar, vocabulary, and content.

3.5 Design and Data Collection Procedures

One intrasubject component with four possible values (pre-test, rewrite, post-test, and delayed post-test) and one intrasubject factor WCF with three possible values (unfocused direct WCF, unfocused indirect WCF, and no feedback) were employed in the design and data collection. Hence, there existed two experimental groups and a control group (CG). The experimental groups were exposed to either direct written corrective feedback (DG - direct group) or indirect written corrective feedback (IG - indirect group), whereas the control group (CG) did not receive any feedback before revising their articles.

Overall, five weeks were spent collecting information in four stages. During that period, participants wrote their first text (pre-test), received WCF (experimental groups) or no feedback (control groups), and discussed the errors present in their original texts, whether or not WCF was available for the intervention and control groups. Subsequently, they revised their initial text through the process of rewriting and ultimately composed two extra texts on distinct subjects (post-test and delayed post-test). They produced several writing contexts before making adjustments to their texts and created new ones to allow for self-reflection processes in reaction to the criticism they received.

This data collection method may have resulted in an unexpected practice effect, which the researchers were informed of. However, they had no other choice for gathering data to analyze the effects of feedback on new writing pieces. They were concerned about the possible combined influence of WCF and languaging in the data. Although no control group did not engage in languaging but get WCF, the researcher was able to dissociate the possible combined impact of WCF and languaging since there was a control group that did not engage in languaging about their errors but did receive WCF.

During the language sessions, each participant was allocated a period of 50 minutes to assess their errors and receive feedback (in the feedback groups) or to independently identify their errors and engage in reflection (in the CG - control group). According to Suzuki (2012), the following instructions were given to the participants. All three groups (DG, IG, and CG) traveled through a languaging session, this involved transcribing each error identified in the pre-test onto a sheet of paper and offering a correction (already supplied in the

feedback for the DG), an ML code (already provided in the feedback for the IG), and an ML explanation (not provided in the feedback for either of the two feedback groups).

During the rewriting session, the participants were required to find errors they recognized from the languaging session in their previous uncorrected essays to recreate their writings more accurately in the rewriting session. After revising their texts for a week, each participant ended up with a new piece of Writing. Following the post-test, all participants were required to write a new piece of writing.

3.6 Procedures for Data Coding and Analysis

Despite the highly precise coding schemes used, two reviewers (knowledgeable EFL instructors and researchers) effectively coded all errors for all coding schemes to maintain a high level of reliability (100 percent), despite appearances in applied linguistics. When raters argued, the errors were reviewed until everyone agreed. Moreover, a broad coding system on Van Beuningen et al. (2012) was used to distinguish between grammar and non-grammar errors, and a narrow coding system (Ferris et al., 2013) and partly data-driven.

The researchers devised a coding scheme based on the operationalization of depth of processing to distinguish between learners' cognitive effort when digesting the WCF they got (intervention groups) and their own self-identified errors (control groups) in terms of language (CG). A non-parametric statistical approach was used to evaluate the data because of our small sample size and non-normal data distribution. The Kruskal–Wallis tests, Mann–Whitney U, Wilcoxon Signed Rank, and Friedman tests were all used to examine the data. It was decided to utilize Kruskal–Wallis tests to examine how many mistakes and types of errors were made, and how many errors were reduced in each group in the study.

Following the confirmation that statistically significant differences existed between the three groups, the Mann-Whitney U tests were employed to ascertain if there were any statistically significant variations between the two designated groups. Friedman tests were utilized when comparing the reduction in errors produced in one group's tests to the other group's tests.

4. Result

The results of this study provide valuable insights into how the feedback influences the writing abilities of university students. Let us examine together the findings of this research to understand the contribution of corrective feedback to the accuracy and fluency in the English writing of university students.

4.1 WCF's Effect (Direct & Indirect) on the Overall Accuracy of a Rewritten Text

Table 1. Error Correction Rate in Rewritten Texts: Descriptive Statistics and Kruskal-Wallis

Category	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	p
Successful corrections	47.81 (6.03)	41.37 (3.84)	18.31 (2.64)	43.65	0.00
Unsuccessful correction	7.28 (2.35)	10.17 (1.81)	3.72 (1.00)	38.61	0.00
Uncorrected errors	40.21 (5.88)	40.48 (4.91)	64.99 (4.21)	39.57	0.00
Deleted errors	4.67 (1.58)	7.96 (1.99)	12.96 (3.45)	41.35	0.00

Table 1 presents the error correction rate in rewritten texts and indicates significant differences between the three experimental groups (DG, IG, CG) in the percentage of successful and unsuccessful corrections, as well as the percentage of uncorrected and deleted errors.

Table 2. Comparison of Error Correction Rate in Rewritten Texts across Group: Mann-Whitney

Category	DG vs. IG		DG vs. CG		IG vs. CG	
	U	p	U	p	U	p
Successful corrections	66.50	0.00	0.00	0.00	0.00	0.00
Unsuccessful correction	53.5	0.00	42.50	0.00	0.00	0.00
Uncorrected errors	158.0	0.69	0.00	0.00	0.00	0.00
Deleted errors	40.5	0.00	0.00	0.00	33.00	0.00

Table 2 shows that WCF (DG and IG) gave more successful corrections than CG, and Direct WCF had more successful corrections than Indirect WCF. Although WCF provides more successful corrections, it turns out that WCF also provides more unsuccessful corrections than CG. In addition, WCF had significantly less uncorrected error than CG, but there was no significant difference between different types of WCF (DG and IG). Also, direct WCF has the smallest deleted errors significantly.

4.2 WCF's Effect (Direct & Indirect) on the Accuracy, Specifically the Type of Error in the Rewritten Text

Table 3. Number of Error Type in Rewritten Text: Descriptive Statistics and Kruskal-Wallis

Category	Error Type	M (SD)			Kruskal-Wallis Test	
		DG	IG	CG	H	p
Successful corrections	Grammar	11.68 (1.49)	8.09 (1.35)	5.04 (1.15)	47.47	0.00
	Non-grammar	9.43 (0.94)	8.57 (0.93)	2.56 (0.29)	42.02	0.00
Unsuccessful correction	Grammar	1.08 (0.61)	2.10 (0.57)	1.05 (0.57)	21.59	0.00
	Non-grammar	2.25 (0.83)	2.01 (0.58)	0.50 (0.28)	39.87	0.00
Uncorrected errors	Grammar	9.55 (2.14)	7.40 (1.73)	14.82 (1.67)	41.72	0.00
	Non-grammar	8.61 (2.76)	9.20 (2.51)	12.30 (2.22)	17.52	0.00
Deleted errors	Grammar	1.00 (0.56)	1.07 (0.62)	2.90 (1.68)	17.53	0.00
	Non-grammar	1.05 (0.60)	2.10 (0.69)	2.52 (0.95)	23.07	0.00

The results of the number of error types in rewritten text in Table 3 reveal significant differences between the three experimental groups (DG, IG, CG) in successful and unsuccessful corrections, with the DG group being the highest. There is also a significant difference in the percentage of uncorrected and deleted errors in terms of grammar and non-grammar.

Table 4. Comparison of Number Error Type in Rewritten Text: Mann-Whitney

Category	Error Type	DG vs. IG		DG vs. CG		IG vs. CG	
		<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>
Successful corrections	Grammar	9.50	0.00	0.00	0.00	14.50	0.00
	Non-grammar	91.00	0.01	0.00	0.00	0.00	0.00
Unsuccessful correction	Grammar	43.5	0.00	193.0	0.86	40.50	0.00
	Non-grammar	142.0	0.38	0.00	0.00	0.00	0.00
Uncorrected errors	Grammar	81.5	0.00	5.00	0.00	0.00	0.00
	Non-grammar	152.0	0.56	62.0	0.00	68.5	0.00
Deleted errors	Grammar	157.5	0.68	65.0	0.00	65.5	0.00
	Non-grammar	46.5	0.00	39.0	0.00	150.5	0.28

Table 4 compares the number of error types in rewritten text. It shows that successful corrections of grammar and non-grammar errors WCF were significantly higher than CG. However, DG provides better successful correction than IG, both in terms of grammar and non-grammar. In unsuccessful correction of grammar errors, DG was significantly better than IG but only slightly different from CG. As for non-grammar, WCF was significantly superior to CG. In terms of uncorrected grammar and non-grammar errors, WCF was significantly superior to CG. Moreover, IG has significantly more uncorrected grammar errors than DG. While, in deleted grammar errors, WCF had significantly fewer deleted grammar errors than CG. As for non-grammar, DG had significantly fewer deleted grammar errors than IG and CG.

4.3 WCF's Effect (Direct & Indirect) on the Overall Accuracy in the Post-Test and Delayed Post-Test

Table 5. Percentage of Errors: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	<i>p</i>
Pre-test	12.76 (1.49)	12.77 (1.50)	13.26 (1.25)	1.49	0.47
Post-test	11.31 (1.35)	10.36 (1.35)	10.91 (1.52)	3.80	0.15
Delayed post-test	8.44 (0.95)	9.61 (1.61)	9.71 (1.54)	8.32	0.02

When viewed from the type of test, Table 4 reveals that the percentage of errors in the delayed post-test was significantly different between the three experimental groups (DG, IG, CG). Participants receiving direct WCF statistically had a lower percentage of error than those receiving indirect WCF and those not receiving WCF (DG vs. IG: $U = 97.00, p = 0.02$; DG vs. CG: $U = 100.0, p = 0.01$). On the other hand, based on each treatment group, the results of Friedman's test showed that three groups had a significant difference in the error percentage in the pre-test, post-test, and delayed post-test: DG, $X^2_F = 35.71, p = 0.00$; IG, $X^2_F = 14.73, p = 0.00$ CG, $X^2_F = 26.91, p = 0.00$) based on Figure 1.

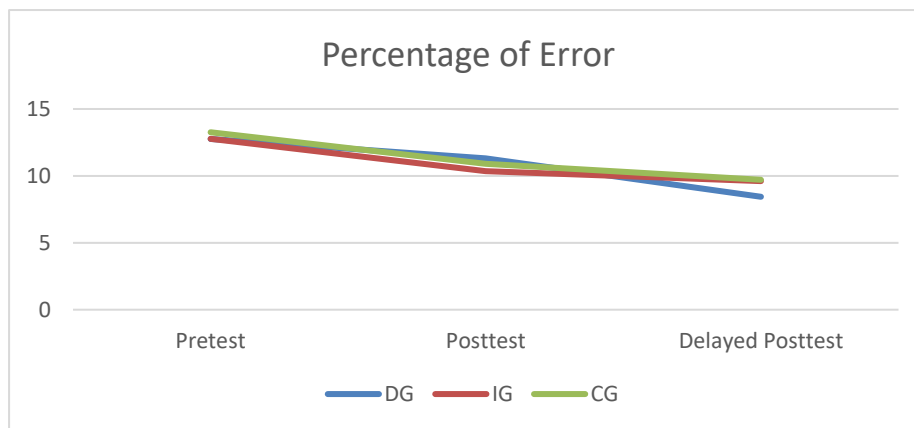


Figure 1. Average Percentage of Error across Time

Table 6. Reduction of Percentage of Error Across Tests within Groups: Wilcoxon

Pair	DG		IG		CG	
	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Pre-test – Post-test	-3.65	0.00	-3.20	0.00	-3.55	0.00
Pre-test – Delayed Post-test	-3.83	0.00	-3.48	0.00	-4.01	0.00

The results in Table 6 show a significant increase in the participants' accuracy over time, from pre-test to post-test and from pre-test to delayed post-test ($p < 0.05$). An increase in accuracy occurred in participants who obtained WCF (DG and IG) and those who did not (CG). The highest increase in accuracy occurred in the group of participants who received the Direct WCF. This shows that administering WCF,

especially direct WCF, can improve participant accuracy over time (long term).

4.4 WCF's Effect (Direct & Indirect) on the Overall Fluency of Participants in the Pre-Test, Post-Test, and Delayed Post-Test

a. Overall words

Table 7 illustrates the overall words based on the type of test. It indicates that the number of words in the post-test and delayed post-test was significantly different between the three experimental groups (DG, IG, CG). In the post-test, participants receiving indirect WCF had significantly greater word count than those receiving direct WCF and those not receiving WCF (DG vs. IG: $U = 84.0, p = 0.01$; IG vs. CG: $U = 92.5, p = 0.01$). In the delayed post-test, the participants with indirect WCF had the largest number of words. While, participants obtaining direct WCF had significantly lower word counts than those without WCF (DG vs. IG: $U = 84.0, p = 0.01$; IG vs. CG: $U = 92.5, p = 0.01$).

Table 7. Overall Words: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	p
Pre-test	118.2 (63.02)	120.6 (56.88)	119.8 (39.43)	0.06	0.97
Post-test	90.0 (38.38)	125.1 (25.06)	99.0 (29.95)	9.78	0.01
Delayed post-test	143.6 (54.37)	204.8 (39.46)	181.7 (30.37)	13.98	0.00

Figure 2 also depicts the Friedman test results, showing that the three groups have significantly different overall words, both decreasing and increasing in the pre-test, post-test, and delayed post-test in each treatment group: DG, $X^2_F = 9.58, p = 0.01$; IG, $X^2_F = 18.78, p = 0.00$ CG, $X^2_F = 32.00, p = 0.00$).

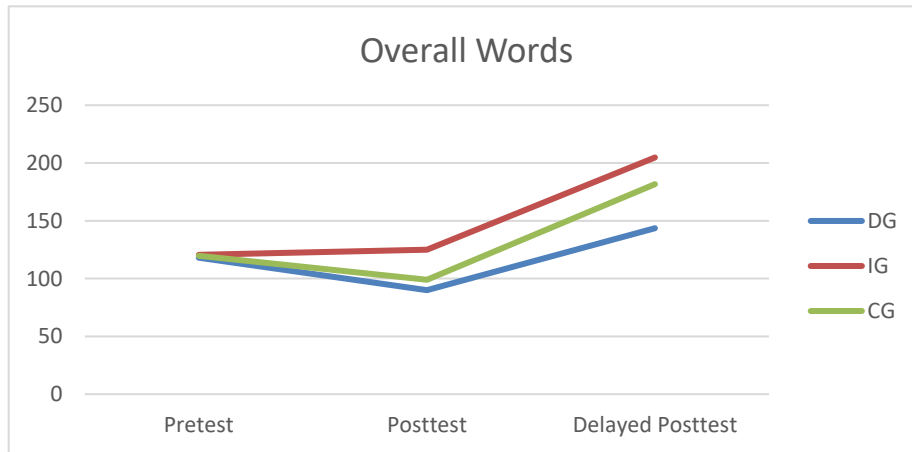


Figure 2. Overall Words across Time

Table 8. Improvement of Overall Words Across Time within Groups: Wilcoxon

hhh	DG		IG		CG	
	Z	p	Z	p	Z	p
Pre-test – Post-test	-2.36	0.02	-0.28	0.77	-1.99	0.04
Pre-test – Delayed Post-test	-1.61	0.11	-3.46	0.00	-3.98	0.00

Table 8 showed that the overall words from pre-test to post-test in participants receiving Direct WCF and those not receiving WCF significantly decreased ($p < 0.05$). Meanwhile, the overall words of participants receiving Indirect WCF increased but not significantly. There was a significant increase in overall word from pre-test to delayed post-test in participants who received Indirect WCF and those who did not (CG). This shows that giving Indirect WCF can increase the number of words that participants can compose over time (long term).

b. T-Units

Based on the type of test, the t-units in the delayed post-test showed significant differences between the three experimental groups (DG, IG, CG), as seen in Table 9. Participants who obtained WCF statistically had lower t-units than those who did not (DG vs. IG: $U = 143.5, p = 0.40$; DG vs. CG: $U = 112.0, p = 0.02$; IG vs. CG: $U = 75.0, p = 0.00$).

Table 9. T-Units: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	p
Pre-test	8.53 (3.63)	9.61 (3.52)	9.38 (3.52)	1.01	0.61
Post-test	9.05 (3.06)	8.28 (2.72)	11.3 (8.72)	2.39	0.30
Delayed post-test	11.2 (3.75)	10.28 (3.72)	14.0 (1.82)	11.45	0.00

The Friedman test results show that participants who received direct WCF and those who did not (CG) had significantly different t-units, both decreasing and increasing, on the pre-test, post-test, and delayed post-test: DG, $X^2_F = 8.24, p = 0.02$; IG, $X^2_F = 1.94, p = 0.38$; CG, $X^2_F = 26.88, p = 0.00$, as illustrated in Figure 3.

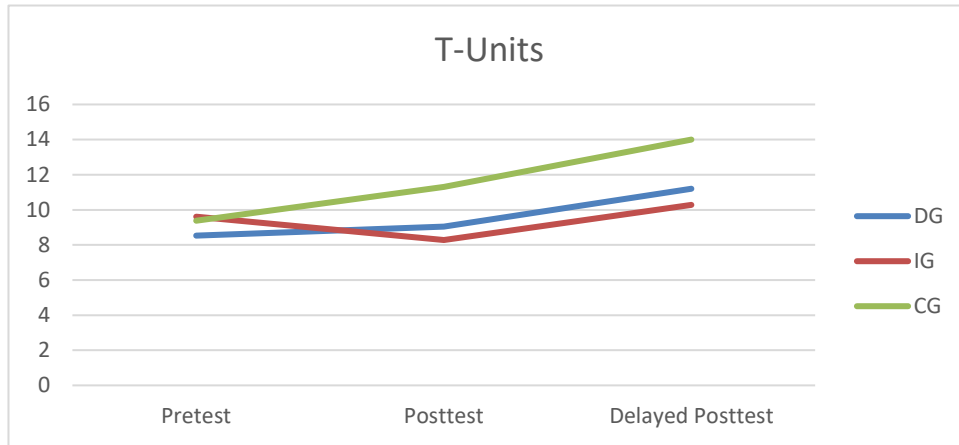


Figure 3. T-Units across Time

Table 10. Improvement of T-Units Across Time within Groups: Wilcoxon

Pair	DG		IG		CG	
	Z	p	Z	p	Z	p
Pre-test – Post-test	-0.51	0.61	-1.10	0.27	-1.05	0.29
Pre-test – Delayed Post-test	-2.49	0.01	-0.59	0.55	-3.93	0.00

Table 10 shows that the t-units from the pre-test to post-test of the participants receiving Direct WCF and those not receiving WCF increased but not significantly. Meanwhile, it was decreased for the participants who received Indirect WCF. There was a significant increase in t-units between the pre-test and delayed post-test in participants who obtained Direct WCF and those who did not (CG). The increase in t-units in participants who did not receive WCF was greater than that in participants who received Direct WCF. This shows that implementing Direct WCF and without WCF can increase participants' t-units over time (long term).

c. Sentence Counts

When viewed from the type of test, the sentence counts in the pre-test, post-test, and delayed post-test showed significant differences between the three experimental groups (DG, IG, CG), as presented in Table 11. In the pre-test, participants receiving direct WCF statistically had lower sentence counts than those receiving indirect WCF and not receiving WCF (DG vs. IG: $U = 0.00, p = 0.0$; DG vs. CG: $U = 81.5, p = 0.00$). In the post-test, participants receiving direct WCF statistically had lower sentence counts than those receiving indirect WCF and not receiving WCF (DG vs. IG: $U = 0.00, p = 0.0$; DG vs. CG: $U = 0.00, p = 0.00$). In the delayed post-test, participants with WCF had lower sentence counts than those without WCF (DG vs. CG: $U = 00.00, p = 0.0$; IG vs. CG: $U = 102.50, p = 0.02$).

Table 11. Sentence Counts: Analysis of Descriptive Statistics and Kruskal-Wallis

Test	M (SD)			Kruskal-Wallis Test	
	DG	IG	CG	H	p
Pre-test	9.51 (1.90)	16.01 (1.67)	14.30 (4.34)	24.14	0.00
Post-test	5.50 (0.56)	10.81 (4.03)	13.41 (0.81)	37.77	0.00
Delayed post-test	10.28 (2.61)	9.52 (2.78)	7.94 (1.89)	12.73	0.00

Concerning each treatment group, the Friedman test results show that the three groups have significantly different sentence counts, both decreasing and increasing, on the pre-test, post-test, and delayed post-test: DG, $X^2_F = 23.47, p = 0.00$; IG, $X^2_F = 28.78, p = 0.00$; CG, $X^2_F = 26.48, p = 0.00$, as illustrated in Figure 4.

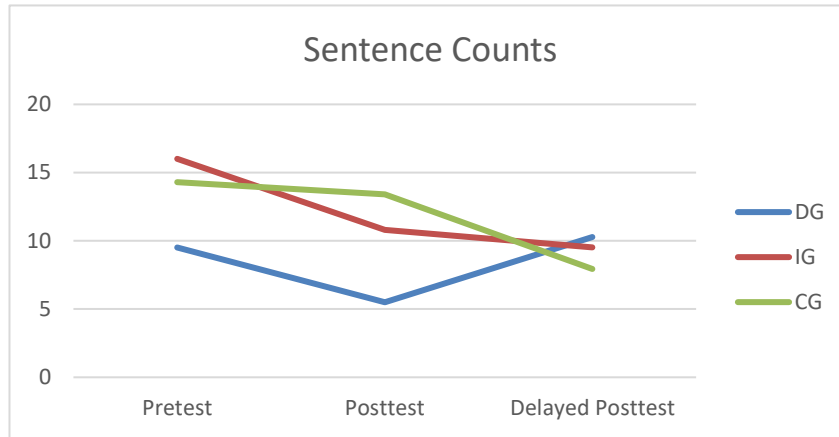


Figure 4. Sentence Counts Across Time

Table 12. Improvement of Sentence Counts Across Time within Groups: Wilcoxon

Pair	DG		IG		CG	
	Z	p	Z	p	Z	p
Pre-test – Post-test	-3.82	0.00	-3.72	0.00	-0.95	0.34
Pre-test – Delayed Post-test	-0.95	0.34	-3.72	0.00	-3.77	0.00

Table 12 presents the improvement of sentence counts. It shows that the sentence counts between the pre-test and post-test in participants obtaining WCF significantly decreased. In addition, there was a significant decrease in sentence counts from pre-test to delayed post-test in participants receiving indirect WCF and those who did not receive WCF (CG). This shows that either with WCF or without WCF, the sentence counts decrease over time (long term).

Among the three fluency indicators: overall words, t-units, and sentence count, only overall words and t-units showed increased participant fluency after obtaining WCF. The provision of indirect WCF can increase the fluency of participants in terms of overall words, while the provision of direct WCF can increase the fluency of participants in terms of t-units in the long term.

5. Discussion

The first research question investigated the WCF's effect (direct and indirect) on the overall accuracy of the rewritten text. The results revealed that the proportion of successful and unsuccessful corrections, as well as the percentage of uncorrected and deleted errors, substantially varied across three experimental groups (DG, IG, CG). WCF (DG and IG) had a greater proportion of successful corrections than CG, and direct WCF had a higher percentage of effective corrections than indirect WCF.

WCF has a higher rate of successful corrections than CG; it also has a higher rate of unsuccessful corrections. There was a substantial difference between WCF and CG in terms of uncorrected error but no significant difference between the different forms of WCF (DG and IG). Furthermore, direct WCF has the smallest deleted errors. It was observed that the successful corrections of updated texts in an EFL context were not a predictor of L2 development (i.e., fewer errors in new texts). However, successful corrections of revised texts in an EFL setting were predictors (Truscott & Hsu, 2008). Moreover, Van Beuningen et al. (2012) showed that providing unfocused feedback increased accuracy in Writing, not only while revising but also when developing new writing pieces.

The second research question was about the WCF's effect (both direct and indirect) on the accuracy, specifically, the sort of mistake introduced into the rewritten text. The findings revealed statistically significant differences between the three experimental groups (DG, IG, CG) in terms of successful and failed repairs, as well as the proportion of uncorrected and deleted errors, both in grammar and non-grammar. Furthermore, when it came to successful fixes of grammar and non-grammar problems, WCF outperformed CG by a wide margin. On the other hand, DG delivers more successful corrections than IG in terms of grammar and non-grammar correction.

In unsuccessful corrections of grammar errors, DG was significantly better than IG but only slightly different from CG. As for non-grammar, WCF was significantly superior to CG. In terms of uncorrected grammar and non-grammar errors, WCF was significantly superior to CG. Furthermore, IG has a higher percentage of uncorrected grammatical errors than DG. On the other hand, WCF had significantly more deleted grammatical errors than CG in this category. In terms of non-grammatical errors, DG had significantly fewer than IG and CG. The following four WCF conditions were investigated: corrective, underlined, and discussion (underlining errors and providing error codes), description (provided error codes without notifying learners where the errors occurred), and simply highlight (underlining errors without delivering error codes) (Chandler, 2003).

Specifically, the data demonstrated that providing direct and indirect feedback was more efficient in reducing learner errors than just mentioning the categories of errors. The most effective of the four feedback forms for producing precise changes were direct correction, which was the most common (i.e., correct uptake). Similarly, Van Beuningen et al. (2012) discovered that direct feedback had a stronger impact on both short-term and long-term improvements in correctness in rewritten texts.

The third research question addressed the WCF's effect (direct and indirect) on overall accuracy in the post-test and delayed post-test. The results indicated that the percentage of errors was significantly different between the three experimental groups (DG, IG, CG) in the delayed post-test. Participants experiencing direct WCF had a lower rate of error than those receiving indirect WCF or not given WCF. Moreover, there was a significant increase in the participants' accuracy over time, from pre-test to post-test and from pre-test to delayed post-test. The participants receiving WCF (DG and IG) and those who did not both improved their accuracy (CG). There have been studies that show that teacher error feedback is no more effective than content-related comments or no feedback in developing accuracy in L2 student writing (e.g., Kepner (1991); Polio et al., (1998); and Semke (1984), but these studies need to be looked into further. According to Kepner (1991), college students who got surface-level error correction produced fewer errors in their journals than those who got message-related remarks. However, the students were not required to do anything with the teacher's corrections. The lack of effect of error correction on accuracy and negative effect on fluency found by Semke (1984) may not be fully related to the different treatment approaches but rather to disparities in the amount of writing practice.

The last research question addressed the WCF's effect (direct and indirect) on the overall fluency in the pre-test, post-test, and delayed post-test. According to the results, the total number of words in the post-test and the delayed post-test demonstrated a statistically significant difference between the three experimental groups (DG, IG, CG). Furthermore, the Friedman test findings from each treatment group demonstrate that they had substantially different total words, decreasing and increasing in the pre-test, post-test, and delayed post-test compared to the other groups. This shows that giving Indirect WCF can increase the number of words composed by participants over time (long term). While in the t-units, it can be seen that the delayed post-test showed significant differences between the three experimental groups (DG, IG, CG).

There was a significant increase in t-units from pre-test to delayed post-test in participants who received Direct WCF and those who did not (CG). This shows that giving Direct WCF and without WCF can increase participants' t-units over time (long term). In addition, there was a significant decrease in sentence counts from pre-test to delayed post-test in participants receiving indirect WCF and those who did not (CG). This shows WCF or not; the sentence counts always decrease over time (long term).

6. Conclusion

Based on the findings of this research, several conclusions can be drawn. Written Corrective Feedback (WCF), whether in direct or indirect form, positively impacts the overall accuracy of the rewritten text. The proportion of successful corrections is higher in the experimental groups (DG and IG) compared to the control group (CG), with direct WCF showing a more effective correction percentage than indirect WCF. Significant differences exist in both successful and unsuccessful corrections between the experimental groups (DG and IG) and the control group (CG), in both grammar and non-grammar categories. Particularly, direct WCF demonstrates superior performance in correcting grammar and non-grammar errors compared to the control group and indirect WCF.

There is a significant difference in error percentages between the experimental groups (DG and IG) and the control group (CG) in the delayed post-test. Receiving direct WCF contributes to a lower error rate compared to indirect WCF or no WCF. The total number of words in the post-test and delayed post-test shows a significant difference between the experimental groups (DG and IG) and the control group (CG). Indirect WCF appears to increase the number of words produced by participants over time (long term), while both direct WCF and no WCF increase the participants' t-units over time.

Previous studies suggest that teacher error feedback is no more effective than content-related comments or no feedback in developing accuracy in second language (L2) student writing. Further research is crucial to understanding the effects of feedback on accuracy and fluency in writing, involving a balanced amount of writing exercises. Overall, the findings of this research support the importance of both direct and indirect feedback in improving the accuracy and fluency of student writing in the context of a second language (L2). Direct WCF, in particular, significantly contributes to error correction and the long-term development of writing skills.

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Authors contributions

M. plays a pivotal role in the design and execution of the research, as well as data analysis, ensuring the reliability and validity of the findings. S.E. provides critical insights in the problem formulation stage and the design of the research methodology. U.R. is actively involved in data collection and statistical analysis. On the other hand, B.H.W. contributes theoretical insights and in-depth literature knowledge, providing substantial support in structuring and writing the article.

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Competing interest

The author affirms that there are no apparent conflicts of interest, either financial or personal, that could be perceived as influencing the findings presented in this paper.

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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References

- Ahmadian, M., & Tajabadi, A. (2014). A Sociocultural Perspective on Corrective Feedback in L2: The Effect of Negotiated versus Nonnegotiated Feedback on the Accuracy Improvement in Writing. *The Iranian EFL Journal, December*(November 2017), 6-36.
- Benson, S., & DeKeyser, R. (2019). Effects of written corrective feedback and language aptitude on verb tense accuracy. *Language Teaching Research, 23*(6), 702-726. <https://doi.org/10.1177/1362168818770921>
- Biber, D., Nekrasova, T., & Horn, B. (2011). the Effectiveness of Feedback for L1-English and L2-Writing Development: a Meta-Analysis. *ETS Research Report Series, 2011*(1), i-99. <https://doi.org/10.1002/j.2333-8504.2011.tb02241.x>
- Bitchener, J. (2012). A reflection on “the language learning potential” of written CF. *Journal of Second Language Writing, 21*(4), 348-363. <https://doi.org/10.1016/j.jslw.2012.09.006>
- Bitchener, J., & Ferris, D. R. (2012). Written corrective feedback in second language acquisition and Writing. *Written Corrective Feedback in Second Language Acquisition and Writing, 1*-220. <https://doi.org/10.4324/9780203832400>
- Chandler, J. (2003). The efficacy of various kinds of error feedback for improvement in the accuracy and fluency of L2 student writing. *Journal of Second Language Writing, 12*(3), 267-296. [https://doi.org/10.1016/S1060-3743\(03\)00038-9](https://doi.org/10.1016/S1060-3743(03)00038-9)
- Ellis, R., Sheen, Y., Murakami, M., & Takashima, H. (2008). The effects of focused and unfocused written corrective feedback in an English as a foreign language context. *System, 36*(3), 353-371. <https://doi.org/10.1016/j.system.2008.02.001>
- Ferris, D. R. (1999). The case for “The Case Against Grammar Correction in L2 Writing Classes”: A response to Truscott (1996). *Journal of Second Language Writing, 8*(2), 111-122. [https://doi.org/10.1016/S1060-3743\(99\)80124-6](https://doi.org/10.1016/S1060-3743(99)80124-6)
- Ferris, D. R. (2010). Second language writing research and written corrective feedback in SLA: Intersections and practical applications. *Studies in Second Language Acquisition, 32*(2), 181-201. <https://doi.org/10.1017/S0272263109990490>
- Ferris, D. R., Liu, H., Sinha, A., & Senna, M. (2013). Written corrective feedback for individual L2 writers. *Journal of Second Language Writing, 22*(3), 307-329. <https://doi.org/10.1016/j.jslw.2012.09.009>
- Ferris, D. R. & Roberts, B. (2001). Error feedback in L2 writing classes How explicit does it need to be? *Journal of Second Language Writing, 10*(3), 161-184. [https://doi.org/10.1016/S1060-3743\(01\)00039-X](https://doi.org/10.1016/S1060-3743(01)00039-X)
- Hyland, K. & Hyland, F. (2006). Feedback on second language students' Writing. *Language Teaching, 39*(2), 83-101. <https://doi.org/10.1017/S0261444806003399>
- Kepner, C. G. (1991). An Experiment in the Relationship of Types of Written Feedback to the Development of Second-Language Writing Skills. *The Modern Language Journal, 75*(3), 305-313. <https://doi.org/10.1111/j.1540-4781.1991.tb05359.x>
- Kim, Y. J., Choi, B., Yun, H., Kim, B., & Choi, S. (2020). Task repetition, synchronous written corrective feedback and the learning of Korean grammar: A classroom-based study. *Language Teaching Research, 24*(1), 1-15. <https://doi.org/10.1177/1362168820912354>
- Lalande, J. F. (1982). Reducing Composition Errors: An Experiment. *The Modern Language Journal, 66*(2), 140-149. <https://doi.org/10.1111/j.1540-4781.1982.tb06973.x>

- Langum, V., & Sullivan, K. P. H. (2017). Writing academic english as a doctoral student in sweden: narrative perspectives. *Journal of Second Language Writing*, 35, 20-25. <https://doi.org/10.1016/j.jslw.2016.12.004>
- Leki, I. (1991). The preferences of ESL students for error correction in college-level writing classes. *Foreign Language Annals*, 24, 204-218. <https://doi.org/10.1111/j.1944-9720.1991.tb00464.x>
- Manchón, R. M. (2011). Writing in foreign language contexts: Learning, teaching, and research. In *Writing in Foreign Language Contexts: Learning, Teaching, and Research*.
- Nusrat, A., Ashraf, F., & Narcy-Combes, M. F. (2019). Effect of direct and indirect teacher feedback on accuracy of english Writing: A quasi-experimental study among Pakistani undergraduate students. *3L: Language, Linguistics, Literature*, 25(4), 84-98. <https://doi.org/10.17576/3L-2019-2504-06>
- Polio, C., Fleck, C., & Leder, N. (1998). "If I Only Had More Time:" ESL Learners' Changes in Linguistic Accuracy on Essay Revisions. *Journal of Second Language Writing*, 7(1), 43-68. [https://doi.org/10.1016/S1060-3743\(98\)90005-4](https://doi.org/10.1016/S1060-3743(98)90005-4)
- Polio, C., & Williams, J. (2009). Teaching and Testing Writing. In *The Handbook of Language Teaching*. <https://doi.org/10.1002/9781444315783.ch26>
- Rahimi, M. (2019). A comparative study of the impact of focused vs. comprehensive corrective feedback and revision on ESL learners' writing accuracy and quality. *Language Teaching Research*, 25(5), 687-710. <https://doi.org/10.1177/1362168819879182>
- Semke, H. D. (1984). Effects of the Red Pen. *Foreign Language Annals*, 17(3), 195-202. <https://doi.org/10.1111/j.1944-9720.1984.tb01727.x>
- Simard, D., Guénette, D., & Bergeron, A. (2015). L2 learners' interpretation and understanding of written corrective feedback: insights from their metalinguistic reflections. *Language Awareness*, 24(3), 233-254. <https://doi.org/10.1080/09658416.2015.1076432>
- Suzuki, W. (2012). Written Languageing, Direct Correction, and Second Language Writing Revision. *Language Learning*, 62(4), 1110-1133. <https://doi.org/10.1111/j.1467-9922.2012.00720.x>
- Truscott, J. (1996). Truscott 1996 Case against grammar correction. *Language Learning*, 46(2), 327-369. <https://doi.org/10.1111/j.1467-1770.1996.tb01238.x>
- Truscott, J. (1999). The case for "The Case Against Grammar Correction in L2 Writing Classes": A response to Ferris. *Journal of Second Language Writing*, 8(2), 111-122. [https://doi.org/10.1016/S1060-3743\(99\)80124-6](https://doi.org/10.1016/S1060-3743(99)80124-6)
- Truscott, J. (2007). The effect of error correction on learners' ability to write accurately. *Journal of Second Language Writing*, 16(4), 255-272. <https://doi.org/10.1016/j.jslw.2007.06.003>
- Truscott, J., & Hsu, A. Y. ping. (2008). Error correction, revision, and learning. *Journal of Second Language Writing*, 17(4), 292-305. <https://doi.org/10.1016/j.jslw.2008.05.003>
- Van Beuningen, C. G. (2011). The effectiveness of comprehensive corrective feedback in second language writing. *Accelerating the World's Research*.
- Van Beuningen, C. G., De Jong, N. H., & Kuiken, F. (2012). Evidence on the Effectiveness of Comprehensive Error Correction in Second Language Writing. *Language Learning*, 62(1), 1-41. <https://doi.org/10.1111/j.1467-9922.2011.00674.x>

Appendix A: Number of Error Type in Rewritten Text

Category	Error Types
Successful Corrections	Grammar Nongrammar
Unsuccessful Corrections	Grammar Nongrammar
Uncorrected Errors	Grammar Nongrammar
Deleted Errors	Grammar Nongrammar



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