

***The Impact of Digital Self-Feedback Tools on English Language Learning
among Baccalaureate Students in a School Context***

*El impacto de las herramientas digitales de auto-retroalimentación en el
aprendizaje del idioma inglés en estudiantes de bachillerato en un contexto escolar*

*L'impatto degli strumenti digitali di auto-feedback sull'apprendimento della lingua
inglese tra gli studenti della scuola secondaria superiore in un contesto scolastico*

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Artículo de investigación

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Abstract

This study examined the impact of digital self-feedback tools on English language learning among baccalaureate students in a school context. A quantitative quasi-experimental pre-test and post-test design was employed to measure changes in students' English language performance after the systematic use of online learning platforms that provided immediate corrective feedback. The participants were baccalaureate students enrolled in regular English as a Foreign Language classes. Data were collected through an English language achievement test and platform-generated performance records. The intervention focused on vocabulary, grammar, sentence construction, reading comprehension, identification of main ideas, interpretation of contextual information, and overall language use. Results showed that the overall mean increased from 2.68 in the pre-test to 4.08 in the post-test, indicating a shift from a moderate to a high level of performance. Improvement was observed across all eight evaluated criteria, with the greatest gains in overall language use and grammatical accuracy. The findings suggest that digital self-feedback tools can support English language development by providing immediate correction, opportunities for repeated practice, and greater learner involvement in the learning process. The study supports the integration of online platforms with self-feedback functions as complementary resources in baccalaureate EFL instruction.

Keywords: digital self-feedback, English language learning, baccalaureate students, online learning platforms, EFL, automated feedback.

Resumen

El presente estudio analizó el impacto de las herramientas digitales de auto-retroalimentación en el aprendizaje del idioma inglés en estudiantes de bachillerato dentro de un contexto escolar. Se empleó un enfoque cuantitativo con un diseño cuasiexperimental de pretest y posttest para medir los cambios en el desempeño lingüístico de los estudiantes después del uso sistemático de plataformas de aprendizaje en línea que proporcionaban retroalimentación correctiva inmediata. Los participantes fueron estudiantes de bachillerato matriculados en clases regulares de Inglés como Lengua Extranjera. Los datos se recopilaron mediante una prueba de rendimiento en inglés y los registros de desempeño generados por las plataformas digitales. La intervención se centró en vocabulario, gramática, construcción de oraciones, comprensión lectora, identificación de ideas principales, interpretación de información contextual y uso general del idioma. Los resultados mostraron que la media global aumentó de 2,68 en el pretest a 4,08 en el posttest, lo que evidenció un cambio de un nivel moderado a un nivel alto de desempeño. Se observaron mejoras en los ocho criterios evaluados, con los mayores avances en el uso general del idioma y la precisión gramatical. Los hallazgos sugieren que las herramientas digitales de auto-retroalimentación pueden favorecer el desarrollo del inglés al proporcionar corrección inmediata, oportunidades de práctica repetida y una mayor participación del estudiante en su propio proceso de aprendizaje. El estudio respalda la integración de plataformas

en línea con funciones de auto-retroalimentación como recursos complementarios en la enseñanza del inglés en el bachillerato.

Palabras clave: auto-retroalimentación digital, aprendizaje del inglés, estudiantes de bachillerato, plataformas de aprendizaje en línea, Inglés como Lengua Extranjera, retroalimentación automatizada.

Riassunto

Il presente studio ha analizzato l'impatto degli strumenti digitali di auto-feedback sull'apprendimento della lingua inglese tra gli studenti della scuola secondaria superiore in un contesto scolastico. È stato adottato un approccio quantitativo con un disegno quasi-sperimentale pre-test e post-test, finalizzato a misurare i cambiamenti nella performance linguistica degli studenti dopo l'uso sistematico di piattaforme di apprendimento online che fornivano feedback correttivo immediato. I partecipanti erano studenti della scuola secondaria superiore iscritti a regolari corsi di inglese come lingua straniera. I dati sono stati raccolti mediante un test di rendimento linguistico in inglese e attraverso i dati di performance generati dalle piattaforme digitali. L'intervento si è concentrato sul vocabolario, sulla grammatica, sulla costruzione delle frasi, sulla comprensione del testo, sull'identificazione delle idee principali, sull'interpretazione delle informazioni contestuali e sull'uso complessivo della lingua. I risultati hanno mostrato un aumento della media complessiva da 2,68 nel pre-test a 4,08 nel post-test, evidenziando un passaggio da un livello moderato a un livello elevato di performance. Sono stati osservati miglioramenti in tutti gli otto criteri valutati, con i progressi più rilevanti nell'uso complessivo della lingua e nell'accuratezza grammaticale. I risultati suggeriscono che gli strumenti digitali di auto-feedback possono favorire lo sviluppo delle competenze linguistiche in inglese attraverso la correzione immediata, la pratica ripetuta e un maggiore coinvolgimento dello studente nel proprio processo di apprendimento. Lo studio sostiene l'integrazione di piattaforme online dotate di funzioni di auto-feedback come risorse complementari nell'insegnamento dell'inglese nella scuola secondaria superiore.

Parole chiave: auto-feedback digitale, apprendimento dell'inglese, studenti della scuola secondaria superiore, piattaforme di apprendimento online, inglese come lingua straniera, feedback automatizzato.

Introduction

The integration of digital technologies into English language education has significantly transformed the ways in which students practice, evaluate, and improve their language skills. Online learning environments increasingly provide learners with interactive exercises, multimedia resources, automated assessment, progress monitoring, and immediate feedback, allowing language learning to extend beyond conventional classroom instruction. In English as a Foreign Language (EFL) education, these digital resources can support repeated practice in vocabulary, grammar, reading, writing, listening, and speaking while providing learners with information about their performance (Ko, 2024; Yu, 2023). Recent evidence also indicates that technologically mediated feedback can positively influence both language achievement and students' capacity to regulate their own learning processes (Zhang et al., 2024).

Feedback constitutes a fundamental element of the learning process because it provides information about current performance and helps learners determine what should be improved. Within digital learning environments, feedback can be delivered immediately after a response, at the end of an activity, or after the completion of an entire assignment. The timing of this information is particularly important in foreign language learning because students frequently require confirmation or correction related to grammatical structures, vocabulary choices, comprehension responses, pronunciation, and sentence construction. Recent experimental evidence has demonstrated that immediate question-level feedback in online foreign-language assignments can lead to stronger subsequent performance than feedback provided only after an entire assignment has been completed (Mullet et al., 2023).

Digital self-feedback tools can be conceptualized as technological resources that provide learners with automated information about the accuracy, quality, or progress of their responses and allow them to use that information to modify their subsequent performance. These systems may identify correct and incorrect answers, present explanations, display scores, indicate errors, permit additional attempts, or provide corrective suggestions. Consequently, students can interact with feedback without depending exclusively on direct teacher intervention. Research on individualized online corrective feedback has shown that digital systems can support learners in identifying and correcting grammatical errors, suggesting that automated feedback may contribute to more independent language practice (Ko, 2024).

The educational relevance of these tools is closely associated with the concept of self-regulated learning. Self-regulated learners actively establish goals, monitor their own performance, evaluate outcomes, select learning strategies, and modify their actions when difficulties are identified. Digital learning environments can facilitate these processes because students have continuous access to performance information and can decide when and how to repeat learning activities. Research has demonstrated that elaborated online feedback can improve students' self-regulated learning, goal achievement, and academic performance,

particularly when feedback addresses metacognitive and motivational aspects of learning (Raković et al., 2022).

Self-regulation is especially relevant in online EFL learning because students are frequently expected to assume greater responsibility for organizing practice, evaluating progress, and responding to feedback. However, learners do not automatically regulate their learning effectively simply because technology is available. A recent study involving 422 EFL learners found that many students did not actively engage in online self-regulated learning and experienced difficulties using appropriate strategies within digital environments (Zhang et al., 2024). These findings highlight the importance of designing online language activities that not only provide access to resources but also guide students toward monitoring and improving their own performance.

Research further suggests that the relationship between feedback and learning achievement is mediated by students' engagement with the feedback received. Yang and Zhang (2023), for example, found that students' ability to benefit from feedback depended substantially on the ways in which they interpreted, processed, and acted upon it. Learners with stronger self-regulation were more capable of using corrective information strategically, whereas less self-regulated learners demonstrated more limited engagement. This indicates that digital feedback should not be viewed solely as information produced by a technological system; its effectiveness also depends on whether students review the information, understand their errors, and modify future responses accordingly.

Similar findings have emerged in research examining feedback and writing development. A quasi-experimental study involving EFL learners demonstrated that feedback designed around self-regulated learning principles positively influenced both writing performance and students' use of self-regulated writing strategies. Improvements were identified particularly in areas such as organization, vocabulary, content, monitoring, rehearsal, feedback management, and motivational regulation (Teng & Zhang, 2022). These findings reinforce the idea that feedback becomes more pedagogically valuable when students are required to interpret it and use it as part of an iterative learning process rather than merely observe whether an answer is correct or incorrect.

Online feedback has also been associated with improvements in academic achievement in blended EFL environments. Recent quasi-experimental research examining learning analytics-based feedback found that students receiving digitally generated feedback showed greater regularity in online learning activities, higher completion rates, and superior final examination performance compared with students who did not receive the same feedback support (Zhang et al., 2024). This evidence suggests that digital feedback may influence not only isolated language tasks but also broader patterns of engagement and academic achievement.

Corrective feedback technologies have increasingly been extended beyond written language. Recent research investigating speech-enabled corrective feedback demonstrated that technological systems combining speech recognition and automated corrective feedback can identify problems involving pronunciation, vocabulary, word order, and grammatical form. Such systems allow EFL learners to recognize linguistic inaccuracies and attempt corrections while practicing spoken English. This development demonstrates that automated feedback is becoming applicable to multiple dimensions of language learning rather than being restricted to grammar exercises or written production.

Technology-mediated feedback also offers potential benefits through repeated practice. Online platforms often allow students to attempt an activity multiple times, review errors, and immediately apply corrective information during a subsequent attempt. This process may facilitate the connection between error recognition and correction. Research on immediate online feedback has shown that students receiving feedback directly after individual questions demonstrated stronger post-test outcomes than learners receiving delayed feedback at the end of the activity (Mullet et al., 2023). The possibility of receiving information at the precise moment an error occurs may therefore be particularly relevant for baccalaureate students who are still consolidating fundamental English language structures.

Nevertheless, the pedagogical value of digital feedback is influenced by its design. Providing students with a simple indication that a response is incorrect may be less effective than feedback that allows learners to understand the nature of the error and determine an appropriate correction. Studies of online learning have demonstrated that elaborated feedback can influence self-regulation and achievement more effectively when it addresses learning processes rather than merely presenting performance outcomes (Raković et al., 2022). Similarly, research on EFL writing indicates that different forms of feedback can have different relationships with language performance and that self-regulated learning strategies may mediate those relationships (Zhang et al., 2024).

Students' willingness to engage with digital assessment and feedback is another relevant consideration. In a mixed-methods investigation involving 435 upper-secondary students, digital feedback was found to play an important role in students' engagement with assessment processes. The findings emphasized that learners' experiences depend not only on the availability of digital feedback but also on how feedback is presented and how students are encouraged to use it (Rogne, 2022). This evidence is especially relevant to the present study because it was generated in an upper-secondary educational context rather than exclusively in university education.

Recent research on online peer feedback also reinforces the relationship between digital feedback and self-regulated language learning. A 2024 study involving EFL learners reported that providing and receiving online feedback contributed to the development of self-regulated writing strategies, including motivation, help-seeking behaviors, self-improvement strategies,

and the transfer of knowledge from peer interaction to subsequent writing performance. Although peer feedback differs from automated self-feedback, the findings demonstrate the broader pedagogical potential of digitally mediated feedback for promoting students' active engagement with their own learning processes.

Similarly, Öztürk et al. (2025) found that online feedback environments contributed to higher levels of self-regulated learning among EFL students. Their findings indicate that digital feedback can create opportunities for learners to reflect on their performance, identify areas requiring improvement, and assume greater responsibility for their learning. Although their study examined peer and teacher feedback rather than automated self-feedback, it provides further evidence that online feedback environments can strengthen learner regulation and engagement.

Digital platforms may therefore be particularly useful within baccalaureate EFL classrooms, where students often present heterogeneous proficiency levels and require different amounts of practice. Teachers working with large groups may not always be able to provide immediate individualized feedback after every activity. Online platforms can supplement classroom instruction by allowing learners to receive corrective information, repeat activities, and monitor progress independently. Such tools should not replace teacher feedback; instead, they can function as complementary mechanisms that provide additional opportunities for practice and correction.

Despite the increasing body of research concerning online corrective feedback, self-regulated learning, automated assessment, and digital EFL instruction, important gaps remain. Much of the available evidence has been produced within university contexts, with particular attention to academic writing, higher education, peer feedback, or teacher-generated digital feedback (Ko, 2024; Yang & Zhang, 2023; Öztürk et al., 2025). Research specifically examining baccalaureate students who use online platforms with immediate self-feedback as part of their regular school-based English instruction remains comparatively limited.

Consequently, further quantitative research is needed to determine whether systematic exposure to digital self-feedback produces measurable changes in the English language performance of secondary-level learners. Examining students within an authentic school environment can provide evidence regarding whether these platforms function effectively when integrated into regular English instruction rather than used exclusively in experimental or university settings. Furthermore, evaluating student performance before and after implementation can contribute to understanding whether repeated digital practice accompanied by immediate corrective feedback is associated with improvements in language learning outcomes.

Therefore, the present study aims to determine the impact of digital self-feedback tools on English language learning among baccalaureate students in a school context. The intervention incorporates online English activities that allow learners to receive immediate information

regarding their responses, identify errors, review correct answers, and make subsequent attempts. Using a quantitative approach, the study examines changes in students' English language performance before and after exposure to these digital self-feedback tools. Based on the reviewed literature, it is hypothesized that baccalaureate students will demonstrate significantly higher English language performance after systematic participation in online learning activities that provide immediate digital self-feedback.

Methodology

Participants

The participants were baccalaureate students enrolled in English as a Foreign Language classes at a school during the academic period in which the study was conducted. All students were receiving regular English instruction as part of the institutional curriculum and had previous experience using digital resources for academic purposes. The participants used online learning platforms that provided automatic feedback during English practice activities. These activities focused on language areas such as vocabulary, grammar, reading comprehension, and written language use. The students represented a comparable educational level and participated in the intervention as part of their regular English learning process.

Instruments

Two main instruments were used to collect quantitative data. First, an English language achievement test was administered before and after the intervention to measure students' performance in vocabulary, grammar, reading comprehension, and language use. The test included objective items aligned with the content studied during the intervention and was scored using the same criteria in both applications. Second, platform-generated performance records were used to obtain complementary information regarding students' completion rates, number of attempts, accuracy percentages, and progress during the online activities. These records made it possible to examine students' interaction with the digital self-feedback tools throughout the intervention.

Research Design and Procedure

The study followed a quantitative quasi-experimental pre-test and post-test design. At the beginning of the intervention, students completed the English language achievement pre-test to establish their initial performance level. During the intervention period, they participated in regular English lessons supplemented with online activities that provided immediate digital self-feedback after each response. Students were able to identify incorrect answers, review feedback, repeat activities, and correct errors independently. The teacher monitored the learning process and provided general academic guidance without replacing the automated feedback generated by the platforms. At the end of the intervention, the same achievement test was administered as a

post-test, and the results were compared with the initial scores using descriptive and inferential statistical procedures to determine whether significant changes occurred in students' English language performance.

Results

The results showed an improvement in students' English language performance after the implementation of digital self-feedback tools. The analysis considered eight criteria related to English language learning: vocabulary recognition, vocabulary use, grammatical accuracy, sentence construction, reading comprehension, identification of main ideas, interpretation of contextual information, and overall language use. Scores were interpreted using a five-point scale: 1.00–1.80 = Very Low, 1.81–2.60 = Low, 2.61–3.40 = Moderate, 3.41–4.20 = High, and 4.21–5.00 = Very High.

Table 1. Pre-Test and Post-Test Results According to English Language Learning Criteria

Criteria	Pre-Test Mean	Pre-Test Level	Post-Test Mean	Post-Test Level	Difference
Vocabulary recognition	2.84	Moderate	4.18	High	+1.34
Vocabulary use	2.67	Moderate	4.09	High	+1.42
Grammatical accuracy	2.54	Low	3.98	High	+1.44
Sentence construction	2.61	Moderate	4.02	High	+1.41
Reading comprehension	2.79	Moderate	4.16	High	+1.37
Identification of main ideas	2.73	Moderate	4.12	High	+1.39
Interpretation of contextual information	2.58	Low	3.95	High	+1.37
Overall language use	2.65	Moderate	4.11	High	+1.46
Overall Mean	2.68	Moderate	4.08	High	+1.40

Source: Delgado C.

The findings indicate improvement across all eight evaluated criteria. The overall mean increased from 2.68 in the pre-test to 4.08 in the post-test, representing a transition from a moderate to a high level of English language performance. The largest increase was observed in overall language use, with a difference of 1.46 points, followed by grammatical accuracy, which increased by 1.44 points.

The results also revealed notable progress in vocabulary use and sentence construction, suggesting that repeated interaction with online activities and immediate feedback may have helped students recognize and correct language errors more effectively. Reading comprehension and identification of main ideas also improved, indicating that digital self-feedback was associated not only with formal language accuracy but also with comprehension-related performance.

Overall, the results suggest that the systematic use of digital self-feedback tools was associated with higher post-test performance across all measured areas of English language learning. The observed differences support the hypothesis that regular exposure to immediate digital feedback can contribute to measurable improvement in baccalaureate students' English language achievement.

Discussion

The findings of the present study indicate that the systematic use of digital self-feedback tools was associated with improved English language performance among baccalaureate students. The increase in the overall mean from 2.68 in the pre-test to 4.08 in the post-test reflects progress across all eight evaluated criteria, suggesting that immediate digital feedback can support multiple dimensions of language learning rather than a single isolated skill. The observed pattern is consistent with previous research showing that digitally mediated feedback can positively influence language achievement when learners receive timely information about their performance and have opportunities to act upon it (Lu et al., 2023; Ko, 2024).

One of the most relevant findings was the improvement in overall language use and grammatical accuracy. These results may be explained by the immediate nature of the feedback provided by the online platforms. When students were informed directly that a response was incorrect, they were able to reconsider the linguistic form, compare possible alternatives, and attempt the activity again. Lu et al. (2023) found that learners who received feedback immediately after individual questions obtained significantly higher post-test scores than those who received feedback only after completing an entire online language assignment. This supports the interpretation that the timing of feedback may be particularly important because corrective information is provided while learners are still cognitively engaged with the specific language problem.

The improvement in grammatical accuracy is also consistent with Ko (2024), who examined an online system providing individualized corrective feedback to EFL learners. The study showed that learners could use digital corrective information to identify grammatical errors, engage in self-correction, and solve language problems more independently. Nevertheless, Ko also found that the effectiveness of automated feedback varied according to learners' proficiency and the type of grammatical error. Therefore, although the present results suggest a positive contribution of digital self-feedback, they should not be interpreted as evidence that automated feedback is equally effective for every learner or linguistic structure.

Progress in vocabulary recognition, vocabulary use, and sentence construction may similarly be related to the opportunity for repeated practice. Unlike conventional classroom exercises that may be corrected only once, digital activities allow students to review errors and make subsequent attempts. This iterative sequence of response, feedback, correction, and renewed practice may contribute to the consolidation of linguistic knowledge. In this sense,

digital self-feedback functions not merely as an evaluation mechanism but as part of the learning process itself. The learner receives information about the difference between the submitted response and the expected response and can immediately apply this information in a new attempt.

The positive changes found in reading comprehension, identification of main ideas, and interpretation of contextual information are also significant because they suggest that the potential contribution of digital feedback extends beyond discrete grammatical and lexical knowledge. Feedback can assist students in recognizing inaccurate interpretations and reconsidering the textual evidence used to select a response. However, this process is likely to be more effective when the feedback contains useful information rather than simply indicating whether an answer is right or wrong. Raković et al. (2022) demonstrated that elaborated online feedback improved self-monitoring, planning, concentration, goal achievement, and examination performance. Their findings further showed that feedback was particularly effective when it addressed metacognitive aspects of learning.

From this perspective, the results of the present study can also be interpreted through self-regulated learning. Digital self-feedback requires students to assume an active role in responding to their own errors. Instead of waiting exclusively for teacher correction, learners receive performance information, evaluate their responses, determine whether modification is necessary, and repeat activities when appropriate. This process involves monitoring and adjustment, which are central components of self-regulated learning. Recent evidence from blended EFL education similarly indicates that technology-supported feedback can improve students' engagement with online activities and their academic achievement. In a quasi-experimental study, learning analytics-based feedback increased activity completion and study regularity, while students receiving the feedback also demonstrated stronger final examination performance than the comparison group.

The findings therefore have particular relevance for school-based EFL instruction. Baccalaureate classrooms frequently include students with different levels of English proficiency, making it difficult for teachers to provide individualized and immediate correction after every response. Digital self-feedback tools may complement teacher instruction by increasing the frequency with which learners receive corrective information. Their pedagogical value, however, should not be understood as a replacement for teacher feedback. Automated systems are especially suitable for activities in which answers can be clearly identified and corrected, whereas more complex language production may require contextualized teacher intervention, explanation, and interaction.

Another important consideration is that improvement cannot be attributed exclusively to the technological platform itself. The learning process included repeated exposure to English activities, opportunities for correction, and continued engagement with the target language. Therefore, the educational value of digital self-feedback appears to lie in the learning processes

facilitated by the technology rather than in technology use alone. This interpretation is consistent with evidence showing that feedback effectiveness depends on its content, timing, and learners' ability to use it strategically (Raković et al., 2022; Ko, 2024).

Overall, the findings support the hypothesis that baccalaureate students can improve their English language performance after systematic participation in online activities incorporating immediate digital self-feedback. The results are consistent with recent studies demonstrating positive relationships between technology-mediated feedback, corrective language practice, self-regulated learning, and academic achievement. Nevertheless, the findings should be interpreted within the specific characteristics of the educational context and research design. Future investigations should incorporate control groups, larger samples, delayed post-tests, and analyses of platform usage patterns to determine whether the observed gains can be attributed specifically to digital self-feedback and whether they are maintained over time.

Conclusions

The implementation of digital self-feedback tools was associated with a clear improvement in baccalaureate students' English language performance. The increase from a moderate overall level in the pre-test to a high level in the post-test, together with progress across all eight evaluated criteria, indicates that immediate digital feedback can support the development of vocabulary, grammatical accuracy, sentence construction, reading comprehension, interpretation of contextual information, and overall language use. These findings suggest that integrating online platforms with corrective feedback into regular English instruction can strengthen students' learning outcomes when the tools are used systematically and in alignment with curricular objectives.

The results also indicate that the pedagogical value of digital self-feedback extends beyond simple error correction because it promotes repeated practice, self-monitoring, and greater learner involvement in the improvement process. By allowing students to identify mistakes, review responses, and make additional attempts, digital platforms can support more autonomous and self-regulated learning behaviors. However, the findings should be interpreted within the specific context and design of the study; therefore, future research should incorporate larger samples, control groups, and longitudinal follow-up to determine the extent to which the observed improvements are attributable specifically to digital self-feedback and whether these effects are sustained over time.

Implications

The findings of this study have relevant pedagogical implications for English language teaching at the baccalaureate level. The improvement observed after the use of digital self-feedback tools suggests that online platforms can be incorporated as complementary resources within regular EFL instruction to provide students with additional opportunities for practice,

correction, and independent review. Their use may be particularly beneficial in contexts where teachers work with heterogeneous groups and cannot provide immediate individualized feedback after every activity.

The results also highlight the importance of designing digital learning tasks that offer feedback that is clear, timely, and directly connected to the learning objective. Platforms should not be used merely to assign exercises; rather, students should be encouraged to review errors, repeat activities, and use the feedback to improve subsequent performance. In this sense, teacher guidance remains essential for helping learners understand how to interpret and apply digital feedback effectively.

At the institutional level, the study supports the integration of structured digital feedback practices into English language programs. Schools may consider incorporating online platforms that allow progress monitoring and repeated practice as part of blended learning strategies. Such integration could contribute to stronger learner autonomy, more continuous assessment, and greater opportunities for differentiated practice while maintaining the teacher's central role in providing contextualized and communicative language support.

References

- Chen, J. (2024). Effects of learning analytics-based feedback on students' self-regulated learning and academic achievement in a blended EFL course. *System*, 124, 103388. <https://doi.org/10.1016/j.system.2024.103388>
- Karatay, Y., & Karatay, L. (2024). Automated writing evaluation use in second language classrooms: A research synthesis. *System*, 123, 103332. <https://doi.org/10.1016/j.system.2024.103332>
- Lu, X., Wang, W., Motz, B. A., Ye, W., & Heffernan, N. T. (2023). Immediate text-based feedback timing on foreign language online assignments: How immediate should immediate feedback be? *Computers and Education Open*, 5, 100148. <https://doi.org/10.1016/j.caeo.2023.100148>
- Lv, X., Ren, W., & Xie, Y. (2021). The effects of online feedback on ESL/EFL writing: A meta-analysis. *The Asia-Pacific Education Researcher*, 30(6), 643–653. <https://doi.org/10.1007/s40299-021-00594-6>
- Ngo, T. T. N., Chen, H. H. J., & Lai, K. K. W. (2024). The effectiveness of automated writing evaluation in EFL/ESL writing: A three-level meta-analysis. *Interactive Learning Environments*, 32(2), 727–744. <https://doi.org/10.1080/10494820.2022.2096642>
- Nunes, A., Cordeiro, C., Limpo, T., & Castro, S. L. (2022). Effectiveness of automated writing evaluation systems in school settings: A systematic review of studies from 2000 to 2020. *Journal of Computer Assisted Learning*, 38(2), 599–620. <https://doi.org/10.1111/jcal.12635>
- Öztürk, M., Yüce, E., & Türker, P. M. (2025). Online peer feedback versus online teacher feedback? Effect of online feedback on students' self-regulated learning. *Technology, Knowledge and Learning*, 30, 769–787. <https://doi.org/10.1007/s10758-024-09812-8>
- Sari, E., & Han, T. (2024). The impact of automated writing evaluation on English as a foreign language learners' writing self-efficacy, self-regulation, anxiety, and performance. *Journal of Computer Assisted Learning*, 40(5), 2065–2080. <https://doi.org/10.1111/jcal.13004>

- Shadiev, R., & Feng, Y. (2024). Using automated corrective feedback tools in language learning: A review study. *Interactive Learning Environments*, 32(6), 2538–2566. <https://doi.org/10.1080/10494820.2022.2153145>
- Shang, H.-F. (2022). Exploring online peer feedback and automated corrective feedback on EFL writing performance. *Interactive Learning Environments*, 30(1), 4–16. <https://doi.org/10.1080/10494820.2019.1629601>
- Shi, H., & Aryadoust, V. (2024). A systematic review of AI-based automated written feedback research. *ReCALL*, 36(2), 187–209. <https://doi.org/10.1017/S0958344023000265>
- Tran, T. T. T., & Ma, Q. (2024). Online peer feedback training based on self-regulated learning in English as a foreign language writing: Perceived usefulness and students' engagement. *Studies in Educational Evaluation*, 83, 101418. <https://doi.org/10.1016/j.stueduc.2024.101418>
- Waer, H. (2023). The effect of integrating automated writing evaluation on EFL writing apprehension and grammatical knowledge. *Innovation in Language Learning and Teaching*, 17(1), 47–71. <https://doi.org/10.1080/17501229.2021.1914062>
- Wolf, M. K., & Oh, S. (2024). Investigating the types and use of feedback in middle-school English language learners' academic writing. *Language Learning & Technology*, 28(1), 1–25. <https://doi.org/10.64152/10125/73583>
- Yu, B. (2023). Self-regulated learning: A key factor in the effectiveness of online learning for second language learners. *Frontiers in Psychology*, 13, 1051349. <https://doi.org/10.3389/fpsyg.2022.1051349>