

Table 1

A Summary of Reviewed Studies on TMWCF and L2 Writing (2015–2025)

Limitations	Feedback Mode	Feedback Tools & Features	Improved Writing Aspects	Research Design & Participants	Authors (Year)	Article No
Generalizability was affected by bimodal and multidirectional (voice and written)	(Oral/and written) feedback	Google Docs as a collaborative writing and editing tool, and Blackboard Collaborate Ultra (BCU) for oral feedback	Organizing sentences, punctuation, vocabulary, grammar	Qualitative, 56 (EFL) learners in a Saudi university	(Abdu et al., 2022)	-1
It posed a greater number of questions to students, effect sitting next to the writer as they speak	Audio and video feedback	Free note-taking application, sending PDF, Deborah chose to record and send MP3 files for the Conversation	Organization, content, vocabulary	Mixed methods, twelve students divided into two groups	(Ahern-Dodson & Reisinger, 2017)	-2
Limited sample, the utilization of one application, a need to employ other techniques for collecting data	Written comment	Microsoft Word (comment option), feedback on spelling, content, vocabulary, organization, grammar, punctuation	Spelling, punctuation, vocabulary, grammar	Quantitative quasi-experimental design (a pre-test and post-test) for 72 10th-grade students (16 years old)	(Al-Olimat & AbuSeileek, 2015)	-3
Difficulties in using paper—and—pencil corrective feedback, time-consuming and effortful, workload, and endless writing	Video and written feedback	Computer-mediated (using computer editing programs), corrective and editing writing (formal and academic)	Grammatical accuracy writing (formal and academic)	Mixed methods, 7 teacher assistants in PNU, and 4 students	(Althoubiti, 2021)	-4

Limitations	Feedback Mode	Feedback Tools & Features	Improved Writing Aspects	Research Design & Participants	Authors (Year)	Article No
Limited sample size, homogeneous samples from one group, results' generalizability, limited to one skill	Written feedback	Virtual Tutor (cohesion, dynamism, provocativeness, clichés, exclamation marks, title, opening, context, thesis, argument-related words, vocabulary profile, and academic vocabulary profile, introducing different parts of the essay, appropriate phrases for strengthening arguments). Grammarly (grammar, spelling, usage, paraphrasing, wordiness, style, punctuation, and plagiarism)	Virtual Tutor (general writing quality according to writing rubrics, structure, and content, body paragraph, vocabulary), in addition to writing accuracy and precision via Grammarly	Quantitative (a pre-test and post-test) from 20 female advanced English learners	(Atar Sharghi et al., 2022)	-5
Homogeneous samples from one group, same prompts for both groups, were utilized, with a low level of interrater reliability	Written comment	Feedback Fruits app embedded in the Brightspace platform (peer feedback, assignment evaluation, skill assessment, automated feedback, interactive videos, dynamic documents, discussion tasks, and engaging presentations) and an online module (peer feedback), ChatGPT (give feedback on the peers' essays)	Argumentative essay writing chat GBT (macro elements) and peer online feedback (micro elements)	Quantitative experiment for 74 graduate students	(Banihashem et al., 2024)	-6
The application is not increasing students' proficiency, the limited samples, and the results' generalizability	Written feedback	Computer programs and applications (Grammar checker), identifying lexical and grammatical errors	Lexical errors (accuracy in spelling, false friends, and erroneous collocations)	Quantitative, 33 students	(Chacón-Beltrán & Echitchi, 2022)	-7
Technological issues, playability issues, novelty effect, student-teacher relationship	Written comments, interactive video lessons	MS Word document (insert comments, track changes features, end comments), Screencast video feedback (distributed as a link to an online playable version of the video)	Global and local errors	Mixed-methods data collected from 12 students in the same intermediate ESL writing class	(Cunningham, 2019)	-8

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<p>Its subjectivity, a need to employ other techniques for collecting data, and not taking into account students' reflections, one application is utilized</p>	Written comment	Google Drive (Word track changes and comment buttons) to provide comments on Local errors such as (grammar, vocabulary, syntax, mechanics), and global errors such as (structure of the written draft, logical organization of ideas, analysis, conciseness, cohesion and brevity, impact, authority and voice, Self-learning and/or self-regulation, clarity of expression or intended	Language issues, logical organization, and coherence	Qualitative (Content analysis) of 80 drafts of 80 different students	(Delante, 2017)	-9
				Mixed methods, 85 first-year undergraduates majoring in English Language and Literature, and 67 first-year undergraduates majoring in English education from the university	(Gao & Ma, 2020)	-10
<p>The transferability of the knowledge afforded by the feedback could be compromised by a change of task type between treatment and assessment</p>	Written feedback	Automated feedback on an error correction test, instructor CF, in free writing tasks	Error correction			
<p>Homogeneous samples from one group, and focus on the use of OAF only</p>	Written feedback	Tools like NVivo or LMS are used for analysis, reformulation, and future application for a report of events or experiences	Journal writing	Mixed-methods, with 138 first-year AEUS students (66 males and 72 females, aged 17 -22 years	(Cheng, 2017)	-11
<p>Inability to provide comments on both students' ratings and qualitative feedback on students' peers' essays, inaccessibility to the actual essay evaluated, its research design, a need to employ other techniques for collecting data, a limited sample,</p>	Written comment	Eva was utilized for giving feedback on (content, organization, and language) via Eva's two features, prompting and feedback (affective, descriptive, identification, justification, and constructive)	Content and language	Quantitative and Quasi-experimental research using pre-test/post-test design	(Guo et al., 2024)	-12

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Homogeneous samples from one group, results' generalizability, the research design, and the cross-sectional design	Written comment	The automated corrective Feedback (Criterion) provides holistic and diagnostic feedback, individualized and comprehensive comments	Grammar and mechanical errors	Mixed methods (pre-test/post-test) were collected from 75 Turkish EFL university students	(Han & Sari, 2024)	-13
Limited sample	Written comment	The automated corrective feedback (Criterion) generated holistic and diagnostic feedback	Increase accuracy	Quantitative experimental design, assessing 38 second-year English	(Hoang, 2022)	-14
Limited sample, homogeneous samples from one group, results' generalizability, cross-sectional design. Students' assessment in their area of weakness	Oral video feedback	Using a digital online platform like Loom , Flipgrid , or Mote for giving video feedback	Academic writing quality	Mixed-methods research for 38 students enrolled in an intermediate-level English course in the UAE	(Hojeij & Ayber, 2022)	-15
Simultaneous use of feedback source (peer vs. teacher) and feedback delivery method (Multimodal technology-mediated vs. conventional	Video feedback	Screencast technology, multimodal technology-mediated feedback, software, global and local aspects of writing	Accuracy, fluency	The quantitative (quasi-experimental) study involved 53 second-year students at a public university in Thailand	(Imsa-ard & Barrot, 2024)	-16

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The limited scope of writing tasks, the absence of a comparison with peer or teacher feedback, no assessment of long-term impact, limited participant diversity, and the lack of a control group	Written feedback	The Pigai AWE system provided written feedback in the form of grammatical, lexical, and syntactical corrections, as well as overall feedback on writing organization and coherence.	Accuracy, organization, and communicative competence	The mixed-methods, Chinese university students	(Jiang & Yu, 2022)	-17
	Video feedback	Screencast-O-Matic software and Grammarly premium plan, using them simultaneously with screen casting feedback	Academic writing	Mixed methods, 67 EFL undergraduate students	(Kim, 2018)	-18
Limited sample, results' generalizability, and the questionnaire did not ask the participants how many times they revisited their screencasts	Written, oral feedback	Grammarly provided written feedback on grammar and style, QuickTime offered oral and visual feedback, delivered oral feedback through direct verbal interaction	Writing accuracy	Qualitative design for ESL college students	(Koltovskaia, 2020)	-19
The lack of comparison to other feedback types, limited exploration of affective engagement, and variations in students' awareness and interpretation of feedback	Written feedback	Markin, which provides annotations in the student's text, the category name for the annotation explanation/further detail, a link, a superordinate category, and positive and negative feedback	Their perceived learning outcomes	Qualitative with 3 cases, each case being one teacher and her approximately 20 eighth-grade students	(Kjærgaard, 2018)	-20
Limited sample, self-report data						

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Limited sample and generalizability, cross-sectional design, focus on perceptions rather than measurable learning gains, potential instructor bias, and lack of comparison with other feedback modes.	Written feedback	Google Docs was used for collaborative peer and written corrective feedback, while Zoom facilitated synchronous oral feedback and real-time discussions	Grammar, vocabulary, and overall writing accuracy	Mixed-methods design involving 46 adult learners enrolled in advanced online French as a Second Language (L2) courses and 3 teachers	(Papin & Michaud, 2024)	-25
Contextual sensitivity, initial disparities between experimental and control groups, underline the necessity for future investigations into the long-term impacts	Oral feedback	Writeabout.com, digital feedback into English writing pedagogy.	Grammatical accuracy, coherence, cohesion, and Lexical resources	Mixed methods, involving 28 freshmen participants from 18 -20 years to -17 years of learning Experience	Peungcharoenkun & Waluyo, 2024)	-26
Research design, not assessing the exact aspects of language development	Written feedback	Written asynchronous interaction in Google Docs through the editing and comparison function in MS Word	Writing accuracy	Mixed-methods were collected from 26 Vietnamese EFL students aged between 18 and 20	(Pham, 2022)	27
Lacking a control group, a limited sample, and a need to employ other techniques for collecting data	Written feedback	Pigai, a Chinese automated writing evaluation system, provides immediate, holistic, and diagnostic feedback, non-corrective feedback	Lexical sophistication, diversity, writing accuracy, and lexical complexity of essays	Mixed methods for 42 English as a foreign language (EFL) learners with varying language levels	(Shen et al., 2023)	-28

Limitations	Feedback Mode	Feedback Tools & Features	Improved Writing Aspects	Research Design & Participants	Authors (Year)	Article No
Limited sample, homogeneous samples, generalizability of the results	Written comment feedback, interactive video lessons	A computer-based feedback Writing Planet™ Software – immediate, holistic, and diagnostic feedback	Writing performance	Quantitative experimental (a pre-test and post-test) for 42 Iranian upper-intermediate EFL learners	(Sherafati & Mahmoudi Largani, 2023)	-29
Limited and homogeneous sample, a focus on a single grammatical feature, the absence of comparison with other feedback types, potential observer effects, and biases in data interpretation and cross-sectional design	Written, oral feedback	Computer-mediated writing tools, screen-capture software, and audio/video tools were used to provide visual, auditory, and textual feedback	Grammatical accuracy, particularly the correct and meaningful use of hypothetical conditionals, along with enhanced metalinguistic awareness	Mixed-method study, Japanese university students	(Shintani, 2016)	-30
Cross-sectional design, they did not investigate the target structure in a new piece of writing. Only one grammatical feature was investigated	Oral, written, and video feedback	Computer-mediated synchronous corrective feedback (SCF) and Asynchronous corrective feedback (ACF) provided through Google Docs real-time editing	Grammar and accuracy	Qualitative, second-year university students	(Shintani & Aubrey, 2016)	-31
Limited sample, generalizability, and linguistic problems in determining articles, their frequency would vary depending on the level of proficiency of the EFL writers	Written feedback	Tools and platforms for grammar checkers, such as Grammarly, an automated writing (grammar and spelling) tool	Linguistic problems: grammar, determiner, and article use	Mix method, 54 students aged 18-19 years	(Tambunan et al. ,2022)	-32

Limitations	Feedback Mode	Feedback Tools & Features	Improved Writing Aspects	Research Design & Participants	Authors (Year)	Article No
Limited sample and limited demographics, cross-sectional design, limited, lack of control over feedback applications, and context-specific findings	Written feedback and peer feedback	Learning Management Systems (LMS) provided teacher feedback, online writing platforms (Google Docs, Microsoft Word Online) facilitated collaborative peer feedback, and peer feedback tools (Peer grade, Turnitin Peer Review) enabled peer-to-peer, comment-based feedback.	Argumentative essay writing skills	Experimental design involving 221 undergraduate students	(Valero Haro et al., 2024).	-33
		Online document sharing (Google Docs) was used for providing peer feedback, including formative feedback and comment-based feedback through student-to-student interaction	Content development and organization, grammar and mechanics, critical thinking	Quasi-experimental design involving EFL learners, possibly university students	(Wihastyanang et al., 2020)	-34
No significant improvement with Edmodo, a limited sample, cross-sectional design, variability in the quality of peer feedback,	Written and possibly oral feedback	Screen recording software was used to provide audiovisual feedback, offering oral corrective feedback and explanatory feedback through recorded video	Grammatical accuracy, specifically the accurate use of English indefinite and definite articles	Quasi-experimental and mixed-method design involving 48 ESL (English as a Second Language) students studying at an American university	(Yamashita, 2021).	-35
Results' generalizability, lack of control over learner variables, no comparison with other feedback types, artificial writing task, cross-sectional design	Oral and written feedback	The AWE system provides written feedback on grammar, syntax, and structure; the Interactive Evidence-Based Argumentation (IEBA) platform offers feedback on argument quality and logical reasoning; and the Log Data Collection System provides feedback on user interaction and engagement patterns	Writing arguments	The quasi-experimental study involved middle and high school students in the United States	(Zhu et al., 2020)	-36
A narrow scope of feedback types, a focus on a single subject area, difficulty in measuring complex learning gains, results' generalizability, and the potential bias in automated feedback	Written feedback					