Journal of English in Academic and Professional Communication
JEAPCO, 11(2) 2025
DOI: https://doi.org/10.25047/jeapco.v11i2.5095

Enhancing EFL Students' Recount Writing: A Comparative Analysis of Grammarly, QuillBot, and GrammarCheck Applications

Titik Ismailia*[,1], Adriadi Novawan[2]

[1, 2] *Language, Communication, and Tourism Department,*
Politeknik Negeri Jember, Indonesia

**Corresponding email: titik@polije.ac.id*

Abstract

This study examines the effectiveness of three AI-powered grammar checker applications—Grammarly, QuillBot, and GrammarCheck—in improving the recount writing skills of EFL students. Fifty-two undergraduate students revised their recount texts using these tools, and data were collected through text analysis and student questionnaires. Results show that all three applications helped reduce grammatical errors and increased students' awareness of language accuracy, with Grammarly offering the most comprehensive feedback and QuillBot providing valuable paraphrasing support. Despite their benefits, limitations such as surface-level corrections and restricted free features highlight the need for integrating these tools alongside teacher guidance. The findings suggest that grammar checkers can serve as effective supplementary aids in EFL writing instruction when used thoughtfully.

Keywords:

EFL writing, grammar checker, Grammarly, QuillBot, GrammarCheck, recount text, automated feedback

|| *Received: 09/03/2024* || *Accepted: 08/03/2025* || *Published: 10/03/2025*

1. Introduction

The rapid advancement of artificial intelligence (AI) has fundamentally transformed educational practices worldwide, particularly in the domain of language learning. AI-powered technologies now permeate language classrooms, offering innovative solutions for both teachers and learners (Alharbi, 2023; Pokrivčáková, 2019; Novawan et al., 2024). Among these innovations, AI-driven applications such as chatbots, adaptive learning platforms, and automated feedback tools have gained prominence for their ability to personalize instruction, facilitate interactive language practice, and provide immediate, individualized feedback (Polamuri et al., 2024; Mohebbi, 2024; Novawan et al., 2024; Turdaliyevna, 2024). These developments align with the increasing demand for effective and scalable methods to enhance English as a Foreign Language (EFL) instruction in diverse global contexts (Schmidt & Strassner, 2022).

Within the landscape of AI in language education, grammar checker applications have emerged as essential tools for supporting writing development. Applications like Grammarly, QuillBot, and GrammarCheck are widely adopted for their capacity to detect and correct errors in grammar, spelling, punctuation, and sentence structure. By offering instant feedback, these tools empower learners to engage in self-directed revision, foster autonomy, and address common linguistic challenges faced by EFL students. The integration of such tools into writing instruction is particularly relevant for genres that require precise language use and narrative coherence, such as recount texts—a staple in EFL curricula that demands the accurate sequencing of events and mastery of past tense forms.

Despite the growing popularity of grammar checker applications, existing research has primarily focused on their general effectiveness in improving writing accuracy or on their use in broader academic writing contexts. Comparative studies that specifically examine how different grammar checkers impact EFL students' writing in recount genres are necessary, especially in this dynamic growth of AI-powered tools. Most available studies either evaluate a single application or do not account for the unique demands of recount writing, which involves recounting personal experiences, events, or interactions with clarity and grammatical accuracy.

Addressing this research gap, the present study aims to provide a comparative analysis of three widely used grammar checker applications—Grammarly, QuillBot, and GrammarCheck—in the context of EFL students' recount writing. The objectives are: (1) to evaluate the effectiveness of each application in reducing grammatical and mechanical errors in student texts; (2) to explore students' perceptions of the strengths and limitations of these tools; and (3) to offer pedagogical recommendations for the integration of grammar checkers into EFL writing instruction. By focusing on recount writing, this study seeks to contribute insights into the role of AI-powered feedback in genre-specific language development and inform educators and curriculum designers about the potential and constraints of digital writing support tools in EFL classrooms.

2. Literature review

2.1. Artificial Intelligence in language learning

Artificial intelligence (AI) has become a transformative force in language education, reshaping how learners acquire and practice new languages (Schmidt & Strassner, 2022; Novawan et al., 2024). AI-powered tools leverage natural language processing and machine learning to provide personalized instruction, real-time feedback, and adaptive learning experiences. These technologies offer benefits such as individualized lesson plans, instant error correction, and gamified activities that increase learner engagement and autonomy (Polamuri et al., 2024; Mohebbi, 2024; Novawan et al., 2024; Turdaliyevna, 2024). AI applications can assess a broad range of language skills—including grammar, vocabulary, pronunciation, and writing—enabling learners to practice and receive feedback tailored to their specific needs. This adaptability is especially valuable in diverse classrooms and remote learning contexts, where access to traditional instruction may be limited (Chen et al., 2020; Pokrivčáková, 2019; Alharbi, 2023).

Despite these advantages, the integration of AI into language learning also presents challenges (Novawan et al., 2024; Roe et al., 2023). Concerns include the reliability of automated feedback, the risk of over-reliance on technology at the expense of deeper language acquisition, and the need for ethical guidelines to ensure pedagogical value and data privacy (Novawan et al., 2024). Nonetheless, the current literature underscores AI's potential to enhance language learning outcomes when thoughtfully integrated into instructional design.

2.2. Grammar checker applications: features and functions

Among AI-driven tools, grammar checker applications have gained widespread adoption for their ability to identify and correct errors in written English. Popular platforms such as Grammarly, QuillBot, and GrammarCheck offer features including grammar, spelling, and punctuation correction, as well as suggestions for improving sentence structure and writing style (Raheem et al., 2023; Yan, 2023). These applications are accessible through web browsers, word processors, and mobile devices, making them convenient for learners across various contexts.

Table 1. Functions and features of applications

No	Applications	Functions	Features
1	Grammarly	To provide comprehensive feedback covering a wide range of error types and explanations for corrections.	offers both free and premium versions, with advanced features such as tone detection and plagiarism checking available to paid users.
2	QuillBot	To function as a paraphrasing tool including grammar checking and fluency improvement features.	Its ability to rephrase sentences and suggest synonyms supports learners in expanding their vocabulary and refining their writing style.
3	GrammarCheck	To provide basic grammar and spelling correction, with an emphasis on simplicity and ease of use.	It is particularly suitable for users seeking quick, surface-level feedback without advanced analytics or stylistic suggestions.

Grammarly

Grammarly is a comprehensive online grammar checker designed to identify and correct a broad range of writing errors, including sentence structure, prepositional mistakes, irregular verb conjugations, incorrect noun usage, and word misuse. Recognized as one of the most effective text correction tools, Grammarly offers both free and premium versions. The free version provides essential grammar and vocabulary checks, while the premium package unlocks advanced features, such as checks for over 150 grammar points and more sophisticated vocabulary suggestions (Pratama, 2020). Grammarly is accessible across multiple platforms, including Google Chrome, Microsoft Office, and the Windows operating system. Its browser plug-in is available for Chrome, Safari, Firefox, and Edge, making it highly convenient for users (Perdana & Farida, 2019). With over four million users worldwide and more than 600 universities and

language service providers utilizing its services, Grammarly is widely adopted in educational and professional settings. The free package has some limitations regarding vocabulary and word suggestions, while the Premium and Edu packages, which require a one-time payment, offer extended functionalities for ongoing use. The premium version is particularly valued for its extensive grammar checks and enhanced writing support.

QuillBot

QuillBot, founded in 2017 by Rohit Gupta, Anil Jason, and David Silin, is an advanced Natural Language Processing application that primarily serves as a paraphrasing tool but also integrates grammar checking. Its key features include:

- Paraphrasing to allow users to input sentences or texts and generate alternative versions while retaining the original meaning.
- Summarization to condense lengthy texts, such as articles or essays, into concise summaries that highlight key points.
- Word Choice to suggest synonyms and alternative phrasing to enhance writing style and vocabulary.
- Grammar Checking to identify and correct grammar, punctuation, and spelling errors.
- Fluency Improvement to enhance the overall flow and readability of written text.
- Translation, to enable translation between languages.
- Plagiarism Checking to offer both free and premium options, with the free version limited to 125 characters and the premium version allowing up to 10,000 characters per check.

QuillBot provides both standard and fluency modes to ensure that text not only adheres to grammatical rules but also sounds natural. Its accessibility and range of features make it a versatile tool for EFL students seeking to improve both accuracy and expressiveness in their writing.

GrammarCheck

GrammarCheck is an online tool focused on providing fundamental grammar and spelling checks. Designed for simplicity and convenience, it requires no installation or registration. Users can choose between a basic check for quick edits and a deep check for more challenging errors. After entering text in the provided box, the system highlights spelling, grammar, or style errors and offers correction suggestions (Perdana & Farida, 2019). The Deep Check function is especially useful for identifying errors that basic checks might miss, and for more advanced grammar issues, GrammarCheck redirects users to Grammarly for further analysis. However, GrammarCheck does not provide feedback on content, style, or in-depth proofreading, making it best suited for users seeking straightforward, surface-level corrections.

2.3. Empirical studies on effectiveness in EFL contexts

Grammar checker applications have become increasingly valuable in supporting English as a Foreign Language (EFL) learners, offering immediate feedback and enhancing writing accuracy. Their accessibility and user-friendly interfaces make them popular tools for both students and educators. However, the effectiveness of these applications is influenced by the complexity of the writing tasks and the diverse needs of learners. A

growing body of empirical research demonstrates that grammar checkers can significantly improve grammar accuracy and foster self-directed learning by providing instant feedback and clear explanations (Mohebbi, 2024; Wei, 2023; Alharbi, 2023). Many learners report heightened motivation and confidence, as these tools empower them to independently identify and correct errors. This autonomy is particularly beneficial in EFL contexts, where individualized attention from instructors may be limited.

Despite these advantages, several studies highlight notable limitations. Grammar checkers primarily address surface-level errors, such as grammar, spelling, and punctuation, but often fail to tackle higher-order writing concerns like content organization, coherence, and adherence to genre-specific conventions (Wei, 2023; Alharbi, 2023). Their accuracy can be inconsistent, especially when dealing with complex or context-dependent errors, and many advanced features are restricted to premium versions. Additionally, the feedback provided may not fully accommodate the diverse linguistic backgrounds of EFL learners, which can limit the applicability and effectiveness of these tools in certain contexts (Mohebbi, 2024; Wei, 2023; Alharbi, 2023).

Grammarly stands out as one of the most comprehensive grammar checkers, offering both free and premium versions with a range of features. Research shows that Grammarly can improve the quality of student writing, with the premium version providing advanced tools such as a plagiarism checker, tone detector, and more nuanced grammar checks. However, users of the premium version have reported drawbacks, including high subscription fees, plugin difficulties, and concerns about writing independence. Those using the free version noted issues with inaccuracy and lower quality of results (Ambarwati, 2021). In a comparative study involving first-year students in the English Education Department at a public university in Banten Province, Grammarly was found to significantly improve writing scores in the experimental group. However, the difference was not significant when compared to the control group, which relied on teacher feedback. Both students and teachers acknowledged Grammarly's usefulness in saving time during evaluation but agreed that it did not lead to a significant increase in scores, highlighting the enduring value of teacher feedback (Miranty et al., 2021).

QuillBot, another widely used application, offers strengths and weaknesses as a grammar checker. Research on authentic writing samples from diploma students at Universiti Teknologi MARA, Malaysia, found QuillBot to be reliable, though not always accurate. For instance, it failed to provide suggestions for the Oxford comma, correct incomplete sentences, or detect all errors within a paragraph (Chui, 2022). Other studies have emphasized QuillBot's utility in assisting students with paraphrasing and improving written content, such as modifying sentences, correcting structures, and offering convenient writing features (Amyatun & Kholis, 2023; Fitria, 2021). Its ability to modify sentence structures and suggest synonyms further supports vocabulary development and stylistic improvement.

Several studies have examined the performance of GrammarCheck, highlighting its potential and limitations. The first study investigated the use of GrammarCheck to address grammatical errors—specifically prepositions, articles, and verb tenses such as the past simple and past perfect. However, the improvements observed were not

statistically significant. This study was conducted at the Official School of Languages in Castillo, Spain, and involved two groups comprising a total of 46 adult learners of English as a Foreign Language (EFL), who were studying for various purposes including professional development, personal interest, and career advancement (Puertas, 2022). The second study reviewed several online grammar checkers and concluded that GrammarCheck is a viable tool to support EFL writing. It offers features that can assist both teachers and students in editing and revising texts. Nevertheless, the study also emphasized that such tools have limitations, particularly in accurately correcting all grammatical errors and addressing broader aspects of writing (Perdana & Farida, 2019).

While grammar checker applications like Grammarly, QuillBot, and GrammarCheck offer valuable support in EFL writing, their effectiveness is moderated by several factors:

- Scope of Correction: These tools excel at identifying and correcting surface-level errors but are less effective with higher-order writing skills.
- User Experience: Premium versions provide more comprehensive support, though cost and usability concerns may limit access for some learners.
- Pedagogical Integration: Automated feedback should complement, not replace, teacher guidance, especially for complex writing tasks.
- Contextual Relevance: The adaptability of feedback to diverse learner backgrounds remains a challenge, underscoring the need for context-sensitive application.

In summary, grammar checker applications are beneficial supplementary tools for EFL learners, enhancing accuracy and fostering independent revision. However, their limitations require thoughtful integration with traditional instructional methods to maximize their pedagogical impact and address the full spectrum of writing development needs.

3. Method

This study employed a descriptive qualitative research design to explore the effectiveness of three online grammar checker applications—Grammarly, QuillBot, and GrammarCheck—in improving EFL students' recount writing. The qualitative approach was chosen to provide in-depth insights into the types of errors addressed by each application and to capture students' perceptions of their experiences using these digital tools. The methodology was informed by Creswell and Creswell (2018), emphasizing the collection and analysis of multiple forms of qualitative data to ensure a comprehensive understanding of the research problem.

The participants comprised 52 undergraduate students enrolled in the Mechatronic Engineering study program, all of whom were taking an intermediate English course at the time of the study. The students represented a diverse range of English proficiency levels, but all had prior experience with digital learning tools. Participation was voluntary, and informed consent was obtained from all students prior to data collection. Each student was assigned to write a recount text based on a personal experience or event. After submitting their initial drafts, students were instructed to revise their texts using all three grammar checker applications (Grammarly, QuillBot, and GrammarCheck). To ensure

consistency, students were provided with guidelines on how to use each application and were required to submit both their original and revised versions of the recount text. This process allowed for a comparative analysis of the types and frequency of errors corrected by each tool.

Following the writing and revision process, students completed an online questionnaire administered via Google Forms. The questionnaire was designed to gather qualitative data on students' experiences, perceptions, and satisfaction with each grammar checker application. It included both open-ended and Likert-scale questions to capture a range of responses regarding usability, perceived effectiveness, and preferences among the three tools. All submitted recount texts were systematically analyzed to identify and categorize grammatical, spelling, punctuation, and structural errors before and after the use of each grammar checker application. The analysis focused on error frequency, error types, and the extent of improvement attributable to each tool. Thematic categorization was also applied to uncover patterns in the types of corrections made and to compare the effectiveness of the three applications. Descriptive statistics were used to summarize the frequency and types of errors, while qualitative interpretation provided deeper insights into the nature of the revisions. Responses from the online questionnaire were analyzed descriptively to identify common themes related to students' experiences and perceptions of the grammar checkers. Open-ended responses were coded and grouped into categories such as ease of use, usefulness, limitations, and overall satisfaction. Quantitative data from Likert-scale items were summarized using basic descriptive statistics to support the qualitative findings.

To enhance the credibility and trustworthiness of the findings, data triangulation was employed by integrating results from both the textual analysis and the student questionnaire. Member checking was conducted by sharing preliminary findings with a subset of participants for feedback and validation. Ethical approval was obtained from the relevant institutional review board, and all participants' identities were anonymized in reporting to ensure confidentiality.

4. Findings and discussion

4.1. Thematic analysis of recount texts

The analysis of students' recount texts revealed three predominant themes: personal experiences, events, and family interactions. Personal experiences constituted the majority with 30 titles (57.7%), including topics such as "Vacation to Bromo," "Vacation to Semarang," "Camping in Precet Forest," and "A Trip to Yogyakarta." Event-based recounts comprised 12 titles (23.1%), featuring topics like "Visiting a Night Market," "Attending Sholawatan," "Football Match Competition," and "Celebrating a New Year." Family interactions accounted for 10 titles (19.2%), including "Visiting Grandfather's House," "My Vacation with Family," "Celebrating a Birthday Party," and "A Long Trip with My Brother."

4.2. Grammar checker application used

Among the 52 participants, the distribution of grammar checker application usage was as follows: 12 students (23.1%) applied Grammarly, 23 students (44.2%) applied QuillBot,

DOI: https://doi.org/10.25047/jeapco.v11i2.5095

and 17 students (32.7%) applied the GrammarCheck application. This indicates a preference for QuillBot among the participants.

4.3. Comparative analysis of grammar checker applications

Grammarly

The analysis of Grammarly's performance revealed its comprehensive approach to error detection. In the free version, Grammarly provided several standard features including:

- Review suggestions for correctness with punctuation, synonyms, prepositions, and spaces
- Overall score assessment of writing quality
- Visual highlighting of errors through red underlines

As shown in Figure 1, Grammarly identified errors related to punctuation (removing unnecessary commas), word choice (suggesting synonym alternatives), spacing issues, and preposition usage. The system provided specific feedback by highlighting problematic words such as "station," "officer," "at," "to," and "in," accompanied by explanations and suggested corrections.

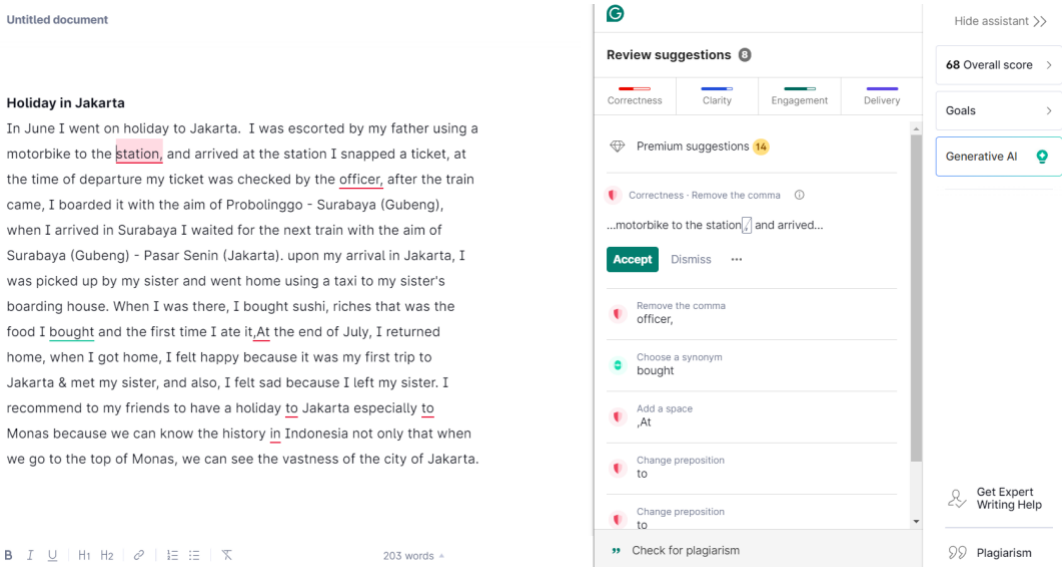

Figure 1. Example of Grammar checking using Grammarly

QuillBot

QuillBot demonstrated capabilities in both grammar checking and paraphrasing. The application identified various grammatical errors including:

- Punctuation errors
- Verb tense inconsistencies
- Article usage
- Preposition selection

DOI: https://doi.org/10.25047/jeapco.v11i2.5095

The system provided alternative phrasings and vocabulary suggestions to improve the overall quality of writing. Unlike Grammarly, QuillBot's interface emphasized paraphrasing options alongside grammar correction.

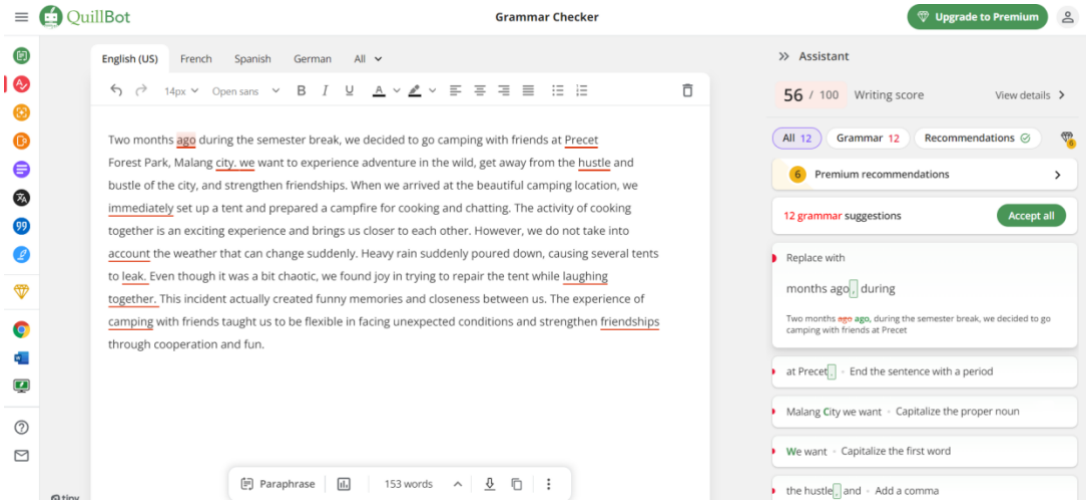

Figure 2. Example of grammar checking using Quilbot

GrammarCheck

GrammarCheck offered a more basic level of error detection compared to the other applications. Its primary focus was on:

- Spelling errors
- Basic punctuation mistakes
- Common grammatical errors

The interface was simpler, with fewer features than Grammarly or QuillBot, but still provided essential feedback for improving writing accuracy.

Based on the explanation above, Grammarly and QuillBot offer various features for grammar error checking. These include support for multiple languages, detection of grammar and spelling mistakes, tone improvement, plagiarism detection, basic generative AI for creating outlines and text suggestions, customizable writing goals, a Chrome extension, an MS Word add-on, and a desktop application. In comparison, GrammarCheck.net provides a more limited set of features, including support for English and its dialects, checks for grammar, spelling, and punctuation, word count display, underlined error highlights, and a "correct all mistakes" option available in the desktop version (see Table 2).

Table 2. Comparison of features in Grammarly, Quilbot, and GrammarCheck

No	Features	Grammarly	Quilbot	GrammarCheck
1	Grammar, spelling, and punctuation checking	√	√	√
2	Supported languages	√	√	√
3	Improve writing tone	√	√	

4	Content for plagiarism	√	√	
5	Basic generative AI for text suggestion	√	√	
6	Custom writing goals	√	√	
7	Chrome extension, MS Word add-on, desktop applications app	√	√	
8	Desktop version version only			√

Each online grammar checker has its own unique features, strengths, and limitations. Users can choose the application that best suits their specific needs—whether for grammar correction only, adjusting writing style, device compatibility, or language support. These tools can be particularly helpful in improving writing quality, especially for EFL learners who may struggle with vocabulary and grammar mastery. However, while grammar checkers provide valuable support, they are not comprehensive. As Chui (2022) notes, the use of automated corrective writing tools can significantly influence language development, but they should not be relied upon as a complete solution.

4.4. Questionnaire results

The questionnaire responses revealed several key findings regarding students' perceptions of the grammar checker applications:

- Ease of Use: 85% of respondents found the applications easy to navigate and implement in their writing process.
- Error Correction: Students reported that all three applications were effective in identifying and correcting common errors, with Grammarly and QuillBot perceived as more comprehensive than GrammarCheck.
- Learning Impact: 78% of students indicated that using grammar checkers helped them become more aware of their common writing errors and improved their understanding of English grammar rules.
- Application Preferences:
  - 42% preferred QuillBot, citing its dual functionality as both grammar checker and paraphrasing tool
  - 35% preferred Grammarly for its detailed explanations and user-friendly interface
  - 23% preferred GrammarCheck for its simplicity and straightforward approach
- Limitations: Students noted several limitations, including:
  - Restricted features in free versions
  - Occasional inaccurate suggestions
  - Limited context understanding
  - Inability to address higher-order concerns such as coherence and organization

4.5. Discussion

Effectiveness of grammar checker applications

The findings demonstrate that all three grammar checker applications contribute positively to improving students' recount writing, though with varying degrees of

effectiveness. Grammarly emerged as the most comprehensive tool, offering detailed feedback on a wide range of errors including punctuation, word choice, and preposition usage. This aligns with previous research by O'Neill and Russell (2019), who found that Grammarly provides more detailed explanations that facilitate deeper understanding of grammatical rules. QuillBot's popularity among students (44.2% usage rate) can be attributed to its dual functionality as both a grammar checker and paraphrasing tool. This versatility makes it particularly valuable for EFL students who often struggle with both grammatical accuracy and lexical variety. The finding supports Miranty et al. (2021) assertion that tools offering multiple writing support features tend to be preferred by language learners. GrammarCheck, while more basic in its approach, still provided valuable support for identifying fundamental errors. Its simplicity may actually benefit lower-proficiency students who might be overwhelmed by the extensive feedback provided by more complex applications. This observation aligns with Chen (2023) finding that simpler feedback systems can be more accessible for beginners.

Pedagogical implications

The thematic analysis of recount texts reveals that students predominantly wrote about personal experiences (57.7%), suggesting that this topic category resonates most strongly with them. This preference aligns with the nature of recount writing, which emphasizes personal narrative and reflection. Educators can leverage this insight by designing writing prompts that connect to students' lived experiences, potentially increasing engagement and authenticity in writing tasks. The questionnaire results indicate that grammar checkers serve not only as correction tools but also as learning aids, with 78% of students reporting increased awareness of grammar rules. This suggests that these applications can function as scaffolding devices in the development of metalinguistic awareness, supporting Shintani and Ellis's (2015) argument that automated feedback can enhance self-directed learning when students actively engage with the corrections. However, the limitations noted by students—particularly regarding restricted features in free versions and occasional inaccurate suggestions—highlight the importance of integrating these tools thoughtfully into writing instruction. Over-reliance on automated feedback without critical evaluation can lead to passive acceptance of suggestions without deeper understanding.

Theoretical implications

The findings contribute to the ongoing discourse on the role of technology in language learning, particularly within the framework of Computer-Assisted Language Learning (CALL) (Novawan et al., 2021). The varied preferences and usage patterns among students support the principle of technological complementarity rather than replacement—these tools enhance rather than substitute teacher feedback and instruction. Furthermore, the study reinforces the socio-constructivist perspective on language learning, wherein technology serves as a mediating tool that facilitates the co-construction of knowledge. The grammar checkers provide immediate feedback that prompts reflection and revision, creating opportunities for students to negotiate meaning and develop their linguistic competence through an iterative process.

Limitations of grammar checker applications

Despite their benefits, all three applications demonstrated limitations that merit consideration. None of the tools adequately addressed higher-order concerns such as coherence, organization, or genre-specific conventions of recount writing. This limitation underscores the continued importance of human feedback, particularly for developing aspects of writing that extend beyond sentence-level accuracy. Additionally, the applications occasionally provided suggestions that, while grammatically correct, altered the intended meaning of the text. This observation aligns with Ranalli's (2018) finding that automated feedback systems may struggle with context-dependent language features, highlighting the need for critical evaluation of suggested changes.

5. Conclusion

This study has demonstrated that AI-powered grammar checker applications—Grammarly, QuillBot, and GrammarCheck—can effectively support EFL students in improving the accuracy of their recount writing. Each tool offers distinct strengths: Grammarly provides comprehensive and detailed feedback, QuillBot combines grammar checking with paraphrasing capabilities, and GrammarCheck offers straightforward, accessible correction for basic errors. The findings indicate that these applications enhance learners' awareness of common grammatical mistakes and promote greater autonomy in the revision process.

However, the study also highlights important limitations, including the tools' focus on surface-level errors, occasional inaccuracies, and the restricted functionality of free versions. Moreover, automated feedback cannot fully replace the nuanced guidance provided by teachers, especially for higher-order writing skills such as organization, coherence, and genre-specific conventions.

Therefore, integrating grammar checker applications into EFL writing instruction should be done thoughtfully, as complementary tools that augment, rather than substitute, traditional pedagogical approaches. Future research is encouraged to explore their long-term impact across diverse writing genres and proficiency levels, as well as strategies to optimize the synergy between automated tools and teacher feedback. Ultimately, leveraging these technologies with pedagogical insight can contribute to more effective, engaging, and learner-centered writing instruction in EFL contexts.

References

Alharbi, W. (2023). AI in the Foreign Language Classroom: A Pedagogical Overview of Automated Writing Assistance Tools. *Education Research International*, *2023*, 1–15. https://doi.org/10.1155/2023/4253331

Ambarwati, E. K. (2021). Indonesian university students' appropriating Grammarly for formative feedback. *ELT in Focus*, *4*(1), 1–11. doi: 10.35706/eltinfc.v4il.5216

Amyatun, R. L., and Kholis, A. (2023). Can Artificial Intelligence (AI) like QuillBot AI Assist Students' Writing Skills? Assisting Learning to Write Texts using AI. *ELE Reviews: English Language Education Reviews*, *3*(2), 135–154. https://doi.org/10.22515/elereviews.v3i2.7533

Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *Ieee Access*, *8*, 75264-75278.

Chen, T. J. (2023). ChatGPT and other artificial intelligence applications speed up scientific writing. *Journal of the Chinese Medical Association*, *86*(4), 351–353. https://doi.org/10.1097/JCMA.0000000000000900

Chui, H. C. (2022). The QuillBot Grammar Checker: Friend or Foe of ESL Student Writers? *Journal of Creative Practices in Language Learning and Teaching (CPLT)*, *10*(1), 2022.

Creswell, J. W., & Creswell, J. D. (2018). Mixed Methods Procedures. In *Research Defign: Qualitative, Quantitative, and Mixed Method Approaches*.

Fitria, T. N. (2021). Grammarly as an AI-powered English Writing Assistant: Students' Alternative for Writing English. *Metathesis: Journal of English Language, Literature, and Teaching*, *5*(1), 65. https://doi.org/10.31002/metathesis.v5i1.3519

John, P., & Woll, N. (2020). Using grammar checkers in an ESL context. *Calico Journal*, *37*(2), 169-192.

Leacock, C., Chodorow, M., Gamon, M., & Tetreault, J. (2014). *Automated grammatical error detection for language learners*. Morgan & Claypool Publishers.

Miranty, D., Widiati, U., Cahyono, B. Y., & Sharif, T. I. S. T. (2021, December). The effectiveness of using Grammarly in teaching writing among Indonesian undergraduate EFL students. In *International seminar on language, education, and culture (ISoLEC 2021)* (pp. 41-45). Atlantis Press.

Mohebbi, A. (2024). Enabling learner independence and self-regulation in language education using AI tools: a systematic review. *Cogent Education*, *12*(1). https://doi.org/10.1080/2331186x.2024.2433814

Novawan, A., Alvarez-Tosalem, S. M., Ismailia, T., Wicaksono, J. A., & Setiarini, R. B. (2021, January). Students' experiences of online English language learning by using YouTube. In *The First International Conference on Social Science, Humanity, and Public Health (ICOSHIP 2020)* (pp. 220-226). Atlantis Press.

Novawan, A., Walker, S. A., & Ikeda, O. (2024). The new face of technology-enhanced language learning (TELL) with artificial intelligence (AI): Teacher perspectives, practices, and challenges. *Journal of English in Academic and Professional Communication*, *10*(1), 1-18.

ONeill, R., & Russell, A. (2019). Stop! Grammar time: University students' perceptions of the automated feedback program Grammarly. *Australasian Journal of Educational Technology*, *35*(1).

Perdana, I., & Farida, M. (2019). Online Grammar Checkers and Their Use for Efl Writing. *Journal of English Teaching, Applied Linguistics and Literature (JETALL)*, *2*(2), 67. https://doi.org/10.20527/jetall.v2i2.7332

Pokrivčáková, S. (2019). *Preparing teachers for the application of AI-powered technologies in foreign language education*. *7*(3), 135–153. https://doi.org/10.2478/JOLACE-2019-0025

Polamuri, S. R., Manikyamba, I. L., & Viswanath, D. G. (2024). *Artificial intelligence-driven frameworks for fostering active participation and learning in language classrooms*. *01*(03), 23–32. https://doi.org/10.62674/ijiee.2024.v1i03.004

Pratama, Y. D. (2020). The Investigation of Using of Grammarly as an Online Grammar Checker in The Process of Writing. *English Ideas: Journal of English Language Education*, *1*(1), 46–54.

Puertas, T. H. (2022). *Corrective feedback in the EFL classroom: Grammar Checker vs. teacher's feedback*. Universitat Jaume I.

Raheem, B. R., Anjum, F., & Ghafar, Z. N. (2023). Exploring the profound impact of artificial intelligence applications (Quillbot, Grammarly and ChatGPT) on English academic writing: A Systematic Review. *International Journal of Integrative Research (IJIR)*, *1*(10), 599-622.

Ranalli, J. (2018). Automated written corrective feedback: How well can students make use of it?. *Computer Assisted Language Learning*, *31*(7), 653-674.

Roe, J., Renandya, W. A., & Jacobs, G. M. (2023). A review of AI-powered writing tools and their implications for academic integrity in the language classroom. *Journal of English and Applied Linguistics*, *2*(1), 3.

Schmidt, T., & Strassner, T. (2022). Artificial Intelligence in Foreign Language Learning and Teaching. *Anglistik 33*(1), 165–184. https://doi.org/10.33675/angl/2022/1/14

Shintani, N., & Ellis, R. (2015). Does language analytical ability mediate the effect of written feedback on grammatical accuracy in second language writing?. *System*, *49*, 110-119.

Turdaliyevna, B. B. (2024). Using artificial intelligence technologies in language teaching. *International Journal Of Literature And Languages*, *4*(11), 35–39. https://doi.org/10.37547/ijll/volume04issue11-08

Wei, L. (2023). Artificial intelligence in language instruction: impact on English learning achievement, L2 motivation, and self-regulated learning. *Frontiers in psychology*, *14*, 1261955.

Yan, D. (2023). Impact of ChatGPT on learners in a L2 writing practicum: An exploratory investigation. *Education and Information Technologies*, *28*(11), 13943-13967.