

Investigating the Effect of Grammarly on Enhancing Writing Skills ELT Classroom: A Systematic Literature Review (2020-2024)

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To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v14-i1/24774> DOI:10.6007/IJARPED/v14-i1/24774

Published Online: 27 February 2025

Abstract

The purpose of this systematic literature review is to identify the effects of Grammarly on the improvement of the writing skills in the context of ELT from the year 2020 to 2024. While traditional approaches do not cater the learner adequately concerning his/her needs or make use of technological solutions, adoption of Automated Writing Evaluation (AWE) tools like Grammarly has emerged as relevant. Thus, the general goals of the review are to discuss the integration of Grammarly into the ELT approaches, its impact on student writing, teachers' and students' attitudes towards using Grammarly, as well as the difficulties observed. The review comprises 27 papers drawn based on the study's called Grammarly positively impacts grammar, vocabulary, coherence, and the quality of compositions. This review highlights the importance of the integration of grammar facilities like Grammarly, with the conventional strategy of writing instructions to enhance benefits and students' independence on self-editing. Future research suggestions include an extension of the investigation time span, an enlargement of the educational environment analysed, and the observation of methodological uniformity in order to improve the validity of the results obtained.

Keywords: Systematic Review, Grammarly, Automated Writing Evaluation, Writing Skills, English Language Teaching (ELT)

Introduction

Achieving proficiency in writing can be challenging due to various factors, including limited exposure to English, lack of feedback and difficulties in understanding complex grammatical rules (Wil et al., 2019). In the process of learning and developing written language, traditional approaches may not suffice to meet the student's needs or adapt to the dizzying technological progress in the sphere of education (Rajendran and Yunus, 2021). Therefore, an automated writing evaluation (AWE), namely Grammarly. Wilson and Roscoe (2020) established that such tools improved the students' grammar, documentation, and style and thus boosted the writing skills of these students. In ELT classrooms, fluency in writing English is considered a major aspect, which the learners should meet. English is the Medium of Instruction taught in Malaysia as a second language (ESL) (Bayuong et al., 2019), and the students' competency in English differs (Yunus and Abdullah, 2011). The Ministry of Education Malaysia has enacted

different measures in the implementation of ICT in teaching students (Lubis et al, 2011; Jerry and Yunus, 2021; Nordin et al, 2010) and learning realizing the usefulness of tools such as Grammarly in the education of ESL. Hamzah & Ting (2021) found out that Malaysian students show positive attitudes towards the use of digital technology for learning English enabling and conducive context for the integration of Grammarly in classroom learning. Therefore, with the rapid integration of the technology in education, Grammarly provides a new possibility to enhance the students' writing skills. However, the research on its effectiveness specifically in EFL/ESL context remains limited. This systematic literature review intends to identify and analyze the effectiveness of Grammarly in improving writing skills in the ELT context, identify the best practices for its integration and understand its limitations from the articles published between 2020 and 2024. The study aims to bridge the gap by exploring on how Grammarly influences the student's writing proficiency and learning independence. The review focuses on research conducted between 2020 and 2024, a period marked by significant technological advancements and shifts in educational practices due to the COVID-19 pandemic with the research question as follows:

RQ1: How has Grammarly been integrated into ELT classrooms and what pedagogical approaches have been employed?

RQ2: What impact has Grammarly had on students' writing skills, including grammar, vocabulary, coherence, and overall writing quality?

RQ3: What are the perceptions of both teachers and students regarding the use of Grammarly in the classroom?

RQ4: What challenges and limitations have been identified in the use of Grammarly for writing instruction in ELT contexts?

Grammarly's Role and Impact on Writing Proficiency

As for now, Grammarly, which is an effective digital writing assistant, is rather popular among ELT courses as well as incorporation into ELT programs increases the learners' engagement. Darren (2022) found out that Grammarly enables learners to detect and correct their errors, thus gaining self-directed learning, which is fruitful in enhancing learners' grammatical standard and writing competency. Furthermore, the efficiency of suggestion in terms of style also assists students to improve styling in their work and hence makes reading of the student work more delightful (O'Neill & Russell, 2019). Consequently, the improvement of the writing proficiency due to Grammarly has been a topic of focus to many instructors and scholars. For example, a study done by Faisal and Carabella (2021) established that students who applied Grammarly posts scores demonstrated growth in the quality of their writing for a semester compared to students who did not use Grammarly as the students appreciated Grammarly's immediate feedback with elaborated instructions on how they carried out corrections to their subsequent projects. Rababah and Talafah (2020) have documented that, daily usage of Grammarly in the course of writing enlightened students and enabled them to produce more varieties of sentences and decimalised their vocabularies leading to a social elevation of their literacy materials. Moreover, plagiarism checker of Grammarly motivates authors to write original content, which is effective for students' academic tasks (Darren, 2020).

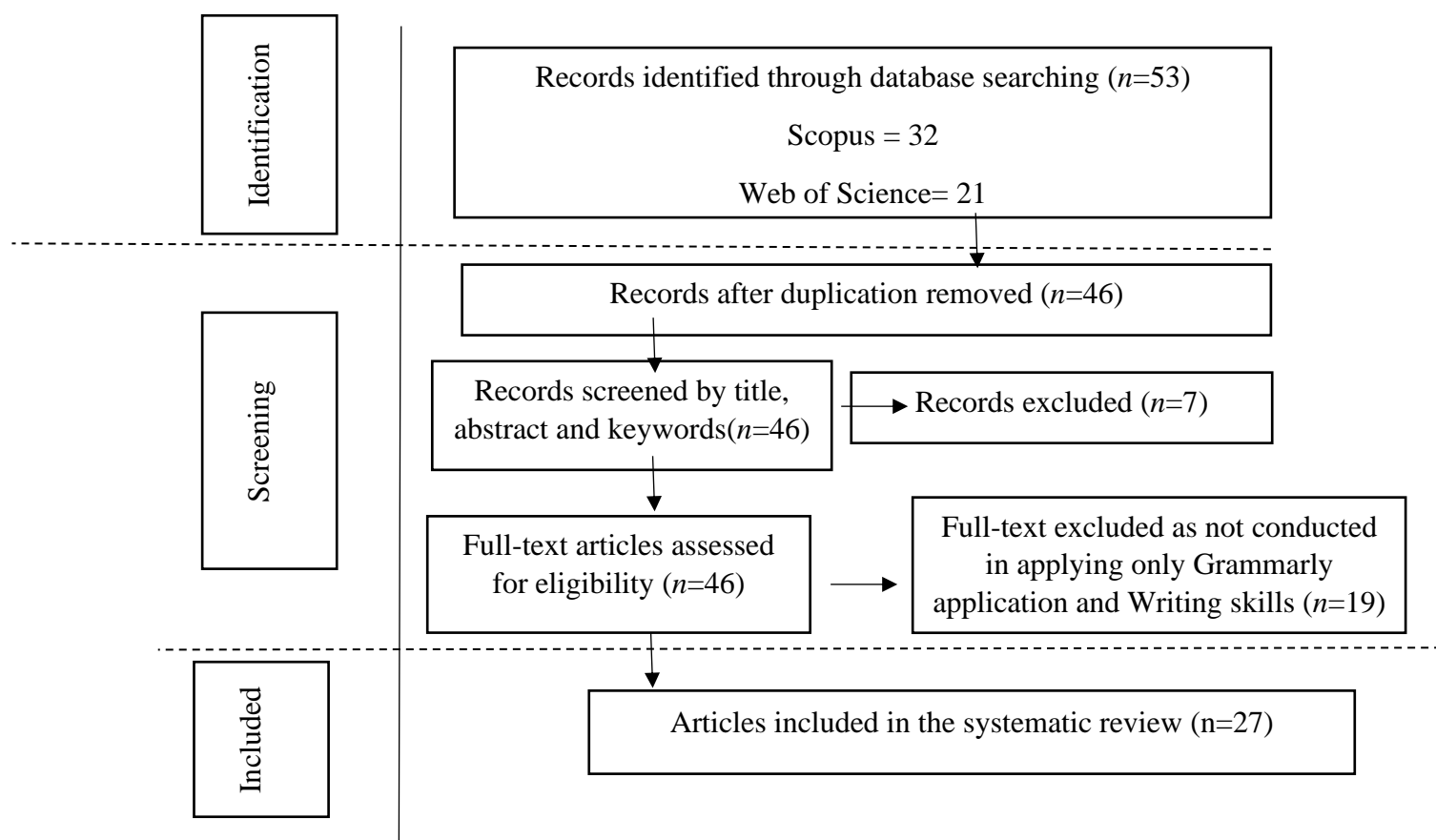
Reviews on Grammarly

It is seen that Grammarly has received some positive as well as negative feedbacks from both the clients and teachers. While, on the one hand, some special facilities like the possibility of receiving more comprehensive feedback and the simplicity of the interface are recognised by

many users. Similar to Roberts and Cook's survey (2020), a survey conducted with the participants in this study revealed that 61% of students felt more confident in the grammar skills upon their utilization of Grammarly. They estimated the tool due to the opportunity to mark certain shortcomings which might have been overseen and the features that the tool offers to explain why particular changes have to be made. However, there are critics who believe that when a user relies more on the tool and in particular on Grammarly this may lead to the poor development of independent writing skills. This has been a concern raised by Park (2021) where students may fully depend on the tool to proofread their work without actually being able to do it themselves. Also, there are doubts in the quality of the promotion, as well as in the relevance of some suggestions given by Grammarly for more complex or context-dependent usage (Green & Lindquist, 2019).

Methodology

This systematic review adheres to the method of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), consisting of four processes, known as identification, screening, eligibility, and included, as shown in Figure 1. Researchers have widely used PRISMA due to its comprehensiveness and adaptability to other studies. Therefore, the aim of the systematic review are as follows.



Identification

The first step of the systematic review of the papers under consideration is aligned with the PRISMA guidelines and is called Identification. Databases like Scopus and WoS were considered to be the most suitable for the objectives of the given study. Key terms were also

developed in a very precise manner to capture the reification of the constructs under consideration while including terms associated with Grammarly and writing skills. The search strings used for each database are provided in the following Table 1.

Table 1
Databases and Search Strings

Database	Search String
Scopus	TITLE-ABS-KEY (("Grammarly*" OR " Grammarly website" OR " Grammarly application")) AND (LIMIT-TO (SUBJAREA , "SOC")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (EXACTKEYWORD , "Grammarly") OR LIMIT-TO (EXACTKEYWORD , "Writing Skills"))
Web of Science (WoS)	TS=("Grammarly*" OR "Grammarly website*" OR "Grammarly application*" AND "The effectiveness of Grammarly*" OR "The impact of Grammarly*" AND "Writing skills" AND "English Language Teaching" OR " ELT" OR "English Second Language" OR " ESL")

Screening

Exemplified below is a step-by-step process of systematically determining the articles to screen: The first step entails the elimination of articles that appear in more than one of the used databases. This first step led to the elimination of 7 articles which were found to be duplicated, thus making the number of articles which were to be screened to be 46. Out of these 46 articles, the relevant items were identified using their titles, abstracts, and keywords that directly relate to the study of specifically the Grammarly application as well as the writing skills. Out of 46 articles, 7 articles were dismissed during the screening because they were irrelevant to the study. The last 41 articles were therefore screened against the inclusion and exclusion criterion provided in Table 2.

Table 2
Inclusion and exclusion criteria

Inclusion Criteria	Exclusion criteria
Studies conducted between 2020-2024 (5 years' time span)	Studies conducted before 2020
Article from journals	Book chapters, review articles, conference proceedings and reports
Related to only Grammarly Application and Writing skills	Not related to Grammarly only and Writing skills (Use other AWE systems)
The text was written in the English language	The text was not written in the English language

After careful selection based on the inclusion and exclusion criteria, 27 articles were potentially included in this systematic review. Although reviewed, also excluded Book chapters, review articles, conference proceedings and reports as they were less comprehensive.

Included

The article for the systematic literature review revolved around the Grammarly application and its effect on writing skills. The studies included are displayed in Table 3. Based on the

table above, fourteen articles were chosen from Scopus, seven from WoS and four from both databases. The aims of the studies were all related to Grammarly, an AWE system and its effect on enhancing writing skills. The majority of studies were carried out at the University which consisted of 24 studies, the other 3 studies were carried out with secondary students, secondary English teachers and teacher associations.

Table 3

Summary of the selected studies

Study	Database	Aim	Samples	Findings
Suryanto et al.(2024)	Scopus	To examine how Grammarly assists in enhancing the thesis writing capabilities of undergraduates students.	42 students from the 2018 batch majoring in English Language Education who engaged in thesis writing using Grammarly and 3 lecturers	Grammarly is preferred by students due to it is effectiveness in identifying grammatical mistakes as highlighted by high approval via questionnaires. Lecturers opined that through the use of Grammarly, the number of grammatical mistakes. However, some drawbacks described by the students included the absence of more profound functions different from the offered free version and some access issues that may influence the development of the students' independent proofreading skills. They argue that Grammarly is capable of adequately teaching all the hard writing skills such as; contextual sense and structural arrangement.
Rababah & Talafha (2024)	Scopus	To examine the quantitative effects that Grammarly produces on the writing abilities of EFL Jordanian students.	60 intermediate-to-advanced EFL Jordanian student	The use of Grammarly enhances the writing skills of EFL Jordanian and effective independent learning. It improves on grammar of the test, choices of words and the pace of the writer's composition. The use of Grammarly to suggest appropriate vocabulary may help the students to improve their resources for creative writing therefore teachers should propose the use of Grammarly.
Abu Guba et al. (2024)	Scopus	To explores Grammarly's benefit for the EFL beginners who	60 EFL female students enrolled in	The findings of the research show the improvement of experimental out-performed the control group in the post

		must improve their writing skills and reducing the writing errors	an intensive English 3.5-month course at a university in the UAE	test, suggesting Grammarly can generally help low-level students to improve in their writing abilities. However, they found some correct/feedback related to the grammatical forms of words and general usage of the words were unresponsive and retained their infallibility.
Sanosi & Mohammed (2024)	Scopus	To evaluate Grammarly's performance as a writing evaluation system through the students EFL perspective	98 undergraduates	The study also identified that students considered Grammarly as a useful course app. Indeed, participants manifested a clear behavioural intention to use Grammarly for other similar writing tasks on both computers and mobile devices and these perceptions and able foster their language learning process. Based on these insights, Grammarly can be helpful but should not be utilized as the main source of students' knowledge.
Mat et al. (2024)	Scopus	To explore the educational benefits that result from selecting appropriate language characteristics and vocabulary for delivering remedial education to ESL students writing problems	72 university students	The findings of this research showed that Grammarly was effective in increasing the students' lexical richness, syntactic density, and accuracy of spelling and punctuation. Therefore, the participants responded positively to its use and highlighting technological tools in the assessment of ESL writing within an online learning environment. However, there is still a need for the conventional ways of assessment, like monitoring during the writing process and exhibiting materials.
Luo et al., (2024)	Scopus	To analyze the lower proficiency EFL students understanding about applying the free version of Grammarly for academic writing.	3 EFL undergraduates	The findings shows direct correlation between the students' low English proficiency and their ineffective use of Grammarly. While the tool allows increasing the quality of their writing, they may not receive the benefits of the learning process since it is

		To investigate how participants reacted cognitively and behaviorally as well as emotionally regarding their Grammarly interactions.		impossible to achieve the required level of cognitive interaction with the feedback received.
Koltovskaia (2023)	Scopus	To investigate how post-secondary L2 writing instructions to modify their feedback through Grammarly integration with their existing teachers feedback.	6 graduate teaching associates pursuing their doctorate or master's degree in applied linguistics and working in an L2 writing program at a US university	The findings suggested that they provided feedback on the global and local writing features as well as when using Grammarly as a complement without partitions of roles. The study also examined variables related to teachers' feedback including the Grammarly report, teachers' attitude towards the automated feedback, their perceptions about the feedback and course goal. In general, the three teachers who participated in the research had a positive attitude toward Grammarly, but two teachers were skeptical.
Martínez-Carrasco & Chabert (2023)	Scopus	To understand the online grammar checker function in WCF delivery procedures alongside its impact on L2 writing proficiency capabilities.	91 students enrolled in the module TI0916 Advanced English for Translators (C1, CEFR) at University Jaume I (Spain)	The findings showed that grammar checkers can indeed be helpful when used as secondary tools; however, they are developed for native English speakers. Hence, the feedback that the students receive may not necessarily meet the expectations of EFL learners.
Kawashima, (2023)	Scopus	To identify Japanese college students' perceptions to various feedback types after using the sequential Grammarly recommendations.	189 Japanese non-English major second-year college students	This study explored Japanese college students' perceptions of Grammarly, teacher's indirect feedback, and teacher's direct feedback. The students found more useful when it comes to enhancing their English writing skills. While the Grammarly helped the subjects elaborate on the specific recommendation, the subjects trusted the teacher's general and specific feedback more and finding it more useful for improving their language

Ebadi et al., (2023)	Scopus	To investigate how Grammarly aids Iranian EFL learners to decrease their occurrence of article-related mistakes in academic writing.	90 Iranian students majoring in English language and literature	<p>proficiency. Thus, it is recommended not to base on Grammarly feedback, as it seems not to be very reliable because of its being translated by a machine.</p> <p>The findings showed that the group which was given both the usage of Grammarly and the teacher's suggestions completed the post-test with higher scores compared to the rest groups. As for the recommendations which can be drawn from the current research, it is indicated that EFL teachers should use Grammarly as additional writing instruments in the writing classes.</p>
Barrot, (2023)	Scopus, WOS	To investigate how (AWCF) delivered through Grammarly in terms of its influence on both college students' overall writing accuracy and the severity of their writing mistakes.	65 ESL students from a private university in the Philippines. ((25 males and 40 females)	<p>Thus, the results show that there is a possibility to form and utilize the AWCF to improve students' writing precision. This improvement was mainly because of the fact that AWCF could help in encouraging 'noticing', providing 'adaptive' metalinguistic explanations, and the 'self-regulated learning'. Nevertheless, the following pushbacks were observed: overcorrection, cognitive overload, and, lack of metalinguistic explanations.</p>
Thi & Nikolov (2022)	Scopus	To investigate evaluates automated feedback systems by studying Grammarly and teacher feedback institutions regarding their approaches to language structure alongside content development.	216 argumentative and narrative essays written by 27 low-intermediate level students at a Myanmar university over a 13-week semester	<p>The study showed the pedagogical value of Grammarly for refining teachers' feedback, as well as how maturing students embraced mechanically delivered feedback contingent upon simple errors. The post-test suggested that the feedback was used properly in the students' revisions and enhance writing performance, respectively. Additionally, the positive attitudes to the feedback that the students expressed in the study highlight</p>

Ginting & Fithriani (2022)	Scopus	To determine what assessment method EFL college students select to evaluate the quality of their academic English writing.	20 English education students	<p>the importance which they assigned to the feedback they received from the teacher as well as from Grammarly.</p> <p>Based on the study, students prefer peer feedback to the AWE software, Grammarly, owing to two main factors. First of all, students perceive their classmates as their real readers and, therefore, attach more importance to classmates' feedback than to Grammarly's. However, there was also a high rating by the students for Grammarly because many of them said it was entertaining to work with while writing. Thus, when combined together, the given research indicates that both peer feedback and Grammarly may result in the highest observations throughout the writing of an essay.</p>
Yousofi, (2022)	Scopus	To examines the evaluation of Grammarly by students and teachers in academic writing classrooms for English as a Foreign Language.	66 students, 5 Afghan English language (EL) teacher and and 4 students from private language schools (PLSs) and public universities (PUs)	<p>It was revealed that students had relatively positive perceptions on the use of Grammarly in writing courses. The results of the comparative analysis revealed no statistically significant differences in attitudes depending on gender, the level of proficiency, as well as the type of the institution the students belong to. The enhancement of the aspect of writing among students was also appreciated by teachers according to the given tool, Grammarly. It also identified out both the pros and cons of the software and recommended integrating Grammarly into the curricula of the English department, computer centres, libraries and Writing classes.</p>
Sanosi (2022)	Scopus, WOS	To evaluates how AWCF from Grammarly affects the accuracy levels	64 university participants	<p>The main discovery of the study is that, by the end of 14 weeks using Grammarly, the experimental group's writing</p>

			in student academic writing.		precision increased compared to the control group. This improvement was depicted by a decreased error rate in some classes of patients while the error rate in other classes of patients remained constant.
Tambunan et al., (2021)	Scopus	To discover the Indonesian EFL student writing performance through Grammarly will evaluate spelling along with grammar rules and punctuation together with sentence construction and writing style.	54 fourth-semester English department students		The result focuses on the sorts of language concerns that Grammarly catches in students' important book evaluations, article evaluations, and mini-research projects. Grammarly also successfully identifies local-level mistakes especially when it comes to articles/determiners that are frequently made by EFL learners. This software also entails error checking of spelling, punctuation, wordiness and other structures of sentences. It enhances on their writing and at the same time supplement the teacher by reducing the amount of time they spend in teaching the students writing skills.
Dong & Shi (2021)	Scopus, WOS	To explore Grammarly's plagiarism detection mechanisms through an evaluation of its educational and assessment functions.	60 undergraduate students enrolled in a university-level writing course		Grammarly positively impacted the quality of students' writing, particularly concerning grammatical errors, punctuation, and construction of sentences as they will be aware of it and less relied on Grammarly. Further on, students enhanced the skills of integrating sources and became more proficient in terms of paraphrasing as well as the process of synthesizing information drawn from different texts. However, some of the issues consisted of squabbles that Grammarly has restricted efficient in are some occasions in comprehending contextual errors and higher order composing concerns like coherence and argumentation.
Koltovskaia, (2020)	Scopus, WOS	To explore two ESL college	2 ESL college students		The studies reveal that the levels of student interaction

		students' engagement with automated written corrective feedback (AWCF) provided by Grammarly when revising a final draft.		with AWCF are diverse. More specifically, one student evidenced greater cognitive extended engagement in the form of questioning the feedback while employing only moderate written revision of the initial draft due to inadequate confirmation of the feedback's veracity. On the other hand, another student showed more superficial or minimal regulation by focusing on the various contents of AWCF and accepting the information provided without critical processing or challenging it, resulting in moderate alterations to typed writing.
O'Neil & Russell, (2019)	Scopus	To investigate how students experience Grammarly alongside advice from academic learning advisors.	96 students	The students who received the assistance from Grammarly together with ALAs were more content with the feedback received in terms of time, quantity, and writing improvement. The two features implemented in Grammarly of high responsiveness and customised reports were praised, whereas the question marks were raised regarding its reliability and technical problems. The problems were resolved when the ALAs performed a preliminary review of the feedback. The program was useful for both online and face-to-face students, and at different languages, although attentiveness might be required while amalgamating ELC and international students.
Kloppers, (2023)	WoS	To evaluate the Grammarly's ability to recognize and fix issues involving form together with lexical and style aspects in written texts.	A detailed analysis of 1136 Grammarly-identified errors. The three categories: style, lexis, and	The study established that the corrective feedback that Grammarly provides was correct in the following proportion: 78.86%. The scores came out to only 77 when the errors that involved writing style are not considered, but rose to 91.60%. The study identified

			form, and were graded by two native English speakers to evaluate the accuracy and quality of Grammarly's feedback	inconsistencies in the quality of Grammarly's feedback. This was particularly evident in feedback related to writing style, where the quality varied more than in other categories. The research pointed out that Grammarly tends to favor and promote a specific writing style. This approach may not always be suitable for all users, as it may not align with their unique or diverse writing styles (IRMA International) (IGI Global).
Utami & Mahardika, (2023)	WoS	To identify how non-native teaching professionals in narrative writing performed with regard to grammar before Grammarly became involved.	24 English teachers from the English Teacher Association of Buleleng Regency in Bali, Indonesia	In this study, it was found that, compared to the students' writing, the NNESTs also committed numerous form errors in their writing both with and without using Grammarly. Nevertheless, the level of error immunity did decrease with the help of Grammarly in all the categories showing the effectiveness of the tool for NNESTs who want to improve their writing skills.
Calma et al., (2022)	WoS	To examine how well Grammarly performs as a digital writing help system for both management instructors and their students.	one hundred 2000-word group reports from a master business analysis subject and examine the feedback from Grammarly	As previously stated, Grammarly outlines twelve genres of writing problems that it can identify including formality, vocabulary, word choice, concision, clarity, conventions, language sensitivity, consistency, readability, punctuation, and spelling; therefore, this research revealed that the feedback provided by Grammarly is useful in ways that go beyond the correction of errors.
Ranalli & Yamashita, (2022)	WoS	To investigate AWCF in errors correction and studies how feedback timing influences student writing development.	82 ESL students	The utilisation of AWCF depends on the timing of the feedback. This is because the errors made in one's writing are corrected right at the source and therefore the learner can understand his mistakes immediately and necessary corrections made on the spot. However, the study also shows

that when it comes to creating retention and knowledge that can be used long-term, delayed feedback is more effective. As a result, regarding the presented research, it became clear that the issue of the timing of feedback provision is crucial to the successful implementation of AWCF systems for language learners.				
Sanosi, (2022)	WoS	To investigate the success rates between what human instructors provides as corrective feedback and what Grammarly generates as automated feedback,	A corpus of 115 texts, comprising 23,700 words, written by college students and 5 college professors	The authors also conclude that there were no statistical differences discovered in the total number of errors that human raters and Grammarly identified. Specifically, human raters performed somewhat better in the aspects of grammars and structures, but poorer in spellings and punctuations than Grammarly. The outcomes of the study point to the fact that intervention seems most potent for various writing facets when both human and automated feedback are used.
Ranalli, (2021)	WoS	To investigate how learner interaction with AWE feedback enhances their learning process and how their trust in AWE feedback affects their response to it.	Mandarin L1 university students at different levels of English writing instruction	This paper also identified that students mostly used Grammarly for checking and editing purposes and not learning as their interaction was closely related to the confidence that they had in the tool. Thus, it was the trust that defined how they engaged with the feedback, not language proficiency, showing that trust and idiosyncrasies played a crucial role in one's experience using the automated writing evaluation tools.
Guo et al, (2021)	WoS	To investigate how well intermediate EFL learners utilize AWCF to improve their research manuscripts.	38 EFL students	It concluded that while students were involved in revisions, their error scores were tended to decline, and students were able to modify 85% of items highlighted by the system. This success shows the measure to which extent the tool can be

Miranty & Widiati, (2021)	WoS	To study writing procedures while assessing both positive aspects and challenges of Grammarly use by Indonesian EFL undergraduate learners.	100 students majoring in English education from a public University in Banten Province	utilized in technical research writing and areas of comparable difficulty. Feedback accuracy or the amount of information feedback affected response accuracy and was mediated by the user on response accuracy. The research has certain practical applications for instruction of academic writing to students and for development of AWE technologies. Based on the research results, the students of all year groups were not different in their views that Grammarly was fundamental in writing and editing processes. Students experiencing various writing problems even when they applied the use of tools such as Grammarly. Many of them appreciated Grammarly because it automatically offered feedbacks, notifications about mistakes, and revisions for the text. Moreover, the usage rate affected students' perceptions of the benefits and possible demerits of the tool, most importantly concerning the reliability of the feedback provided by Grammarly.
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Data Analysis Procedure

The method of data analysis applied in the present systematic literature review and meta-analysis included some basic steps, which are detailed as follows: This study adhered to the PRISMA guidelines for systematic reviews and meta-analyses. First, in the identification stage, the necessary articles were selected from sources like Scopus and Web of Science by the terms connected with Grammarly and writing skills. Duplicate records were removed. During the screening phase, only the titles and abstracts as well as the keywords of the articles found were reviewed in order to focus only on those works that were devoted to the discussion of Grammarly and writing skills. All articles that did not conform to the specified criteria were eliminated; these included articles about topics not or only indirectly associated with Grammarly, articles published before the year 2020, and articles written in languages other than English. To begin with, 45 articles were retrieved from the database and out of them 6 articles were excluded from the study as it was found that they do not fit any of the identified categories. During the eligibility phase of conducting the meta-ethnography of the studies, the authors evaluated the full-text articles of the 41 remaining citations based on the above-

said inclusion and exclusion criteria which meant that articles that did not report on the impact of the Grammarly application on writing skills were excluded. It led to a final set of 27 articles for inclusion in the final analysis for the review. Hence, in the inclusion phase, the following notes were taken for each of the selected articles which included the name of the study database, aim of the study, samples used, and findings. It helped in identifying the number of articles published and the findings of prior research done about Grammarly in the domain of ELT and writing skills.

Findings

RQ1: How has Grammarly been integrated into ELT classrooms and what pedagogical approaches have been employed?

The reviewed studies described multiple ways of utilizing Grammarly in ELT classrooms, thus pointing out its functions of the supplement, an independent learning asset, and the element of the blended learning strategy. For example, Suryanto et al. (2024) described an additional application of Grammarly to the conventional writing intervention where the teacher employed the tool as an additional source of grammar and style comments. Similarly, Rababah & Talafha (2024) also supported Gomez-Chacon's opinion about Grammarly as they stressed that feedback in real-time, given with teachers' support, helped them become more independent in writing. In the same regard is the work of Sanosi and Mohammed (2024) who described the combined current type of teaching-learning called blended learning where Grammarly is incorporated into class tasks and homework. Such a continuous support allowed the students to get continuous feedback on their writing thereby strengthen learning within and beyond class. Mat et al. (2024) also pursued this line of thought in the study and also found that the integration of Grammarly in different writing assignments enhanced the students' lexical density and syntactic complexity as well as spelling correctness. Such a trend was most noticeable in experiments carried out within the scope of higher learning where Grammarly was applied to enhance thesis development (Suryanto, Mahmud, & Abdullah, 2024) as well as enhance advanced English language classes (Kawashima, 2023). Therefore, flexibility turned out to be one of the major strengths in the context of the ELT classrooms as Grammarly can be easily tailored to various teaching approaches and learning contexts.

RQ2: What impact has Grammarly had on students' writing skills, including grammar, vocabulary, coherence, and overall writing quality?

Overall, the findings and reviews of the effect of Grammarly on students' writing skills were impressive, and average overall ratings of different aspects of writing were enhanced according to various studies. Some benefits of using Grammarly to support EFL learners are highlighted as follows: A study conducted by Abu Guba et al in 2024 showed that Grammarly is useful in pointing out discipline and mistakes about grammar resulting to important enhancement of writing preciseness among learners. This was in a consistent with other studies done before for instance Sanosi 2022 which portrayed a reduction in the error rate and enhancement of the precision in writing after 14 weeks of using Grammarly. Additional word knowledge was another major improvement that was stressed in the studies. Mat et al. (2024) also noted that Grammarly aids users to select appropriate word options which consequently enhances their vocabulary and thereby, free them from using similar words continually. This was in agreement with Rababah & Talafha (2024), who observed that the use of Grammarly in suggesting these words enhanced the EFL students' vocabulary resources and writing quality. Better and more coherent outlining of the ideas and more coordinated

development of the points stressed were also observed. In a study by Luo et al., (2024) it is stated that by adopting grammatical suggestions provided by Grammarly of writing, especially relating to paragraph formation, the quality of writing was put in a more coherent and orderly level. Similarly, Barrot (2023) mentioned that using Grammarly has always benefited students in farming out vastly structured and logically managed content which in turn improved the quality of written content. All these enhancements helped to bring about a positive change on the general standard of students' performance as indicated in their compositions. In a same perspective, Thi & Nikolov (2022) pointed out that the combination of the proposed automated feedback with the teachers' feedback had a positive impact on the quality of the students' writing skills, confirming the efficiency of a tool like this in different learning environments.

RQ3: What are the perceptions of both teachers and students regarding the use of Grammarly in the classroom?

Most of the teachers and students had positive attitudes towards Grammarly while appreciating the usefulness of the device, they understood its drawbacks. Teachers liked how Grammarly can give very fast and practically constant feedback, so that they do not have to spend a lot of time on correction that can interfere with focus on higher level aspects of writing. For example, Sanosi & Mohammed (2024) pointed out that teachers appreciated Grammarly's contribution into the improvement of students' independent work and the reduction of teachers' correction time. Yousofi (2022) was also in support of the tool which indicated that teachers liked it because it avails detailed and timely feedback.

Dong & Shi (2021) revealed that more student satisfaction regarding the feedback received in terms of time, quantity, and writing improvement was noted when the students used Grammarly with tradition grammar instructions. Ranalli (2021) shares the same and stated that students claimed to have enhanced confidence in writing because of the immediate feedback from Grammarly. However, a few of the identified works also mentioned possible disadvantages. For example, Luo et al. (2024), and Koltovskaia (2020) observed that though Grammarly was helpful in enhancing the correctness of text, overdependence on it may lead to the learners' impaired editing skills. This concern was also underlined by Martínez-Carrasco & Chabert (2023) in which these authors stressed the importance of the moderation of Grammarly usage and the importance of the conventional writing pedagogy.

RQ4: What challenges and limitations have been identified in the use of Grammarly for writing instruction in ELT contexts?

However, several limitations and issues were noted in the reviewed research literature as follows: Another issue that was identified was the possible pupils' dependency on Grammarly, which would decrease their capacity to engage in self-editing or peer-editing exercises. According to Suryanto et al. (2024), although Grammarly could enhance the accuracy of students' writings, there was a concern that students might overdependent on the tool, and thus, fail to enhance their own editing skills. Koltovskaia (2020) also voiced a similar concern about students' ability to invest time in the feedback provided by Grammarly. Both Martínez-Carrasco & Chabert (2023) and Kawashima (2023) elaborated on this flaw, specifically, that Grammarly was not quite as helpful in the correct identification of the type of writing issues. These studies further stated that while automated feedback provided a good basis for feedback together with teacher feedback for other areas of writing needed to be used to deal

with other more complex matters. Some of the concerns raised by the studies were technical in nature, for instance, challenges of accessing all the functionalities of Grammarly or variability in the quality of feedback. The studies of Kloppers (2023) and Guo et al. (2021) stated that though Grammarly generated beneficial feedback at times, it failed in the quality of feedback, especially concerning the style of writing. Some of these problems were technical; they could influence the efficiency of the tool and hence required to be solved so that the tool could give best results. Therefore, based on the analysis of the aforementioned challenges and limitations, recommendations on how to improve the use of Grammarly and its effectiveness are as follows. The analysis of the reviewed studies also confirms the necessity to maintain a reasonable proportion of using Grammarly as an effective tool to improve students' writing skills with presenting traditional WM schemes equally and developing students' independent writing skills.

Discussion

The findings of the systematic literature review can be summarised as the following insights concerning the integration of Grammarly as an AWE tool and its effects on ELT practices. This discussion brings together the conclusions and analyses the results' meaning and potential practical application. Consequently, the implementation of Grammarly in ELT classrooms employs essential components of grammar instruction and the nature of Grammarly in the complementary, individual and flipped learning style. Suryanto et al. (2024) note that the use of Grammarly as an additional resource which enhances the usual writing education, because it gives the authors extra comments regarding grammar and style. These two facets enable the teachers to be fully supportive to the students, hence improving the learning and teaching of writing. According to Sanosi and Mohammed (2024), environments that integrate blended learning include using Grammarly both in class and homework. This seemingly continuous feedback process supports learning both within the classroom and outside the four walls: what some have dubbed as the 'formative writing process.' Mat et al. (2024) also explaining that the Grammarly incorporation in the writing assignments improves the lexical density, syntactic complexity, and spelling correct rate of the writing assignments and also proving its versatility in any learning environments. Another is the ability of Grammarly to adopt to the various learning and teaching approaches in the classroom setups. It is used in the context of university thesis writing to use for enhancing the higher level of the writing skills (Suryanto, Mahmud, & Abdullah, 2024); and also in improving the primary level of the writing skills of the advanced English language classes (Kawashima, 2023).

According to the analysed works, the effects of Grammarly on writing proficiency are correlated to as positive in every explored study. In its daily employability, Abu Guba et al. , (2024), and Sanosi, (2022), affirm that the overreliance on Grammarly assist in drastically reducing the occurrence of grammatical mistakes and enhancing the accuracy of Campus writing. These findings suggest that Grammarly is helpful in improving the writer's skills and produces better quality and error-free writing throughout time. Another area of benefit that Grammarly has, is the improvement of the used vocabulary. Mat et al. , 2024 and Rababah & Talafha, 2024 reveal that the feature of word suggestion assists students in their choice of improvement in vocabulary and do not use the same word time and time again. This classification leads to the enhancement of greater variety in the words used and consequently contributes to better quality writing. Grammarly also impacts the coherence and the arrangement of the writing of the students in a positive manner. Luo et al. , (2024), also Barrot

(2023) found that, Grammarly assists in enhancing the paragraph structure and coherence hence allowing students to produce more logically written texts. Thi & Nikolov, 2022 also back these discoveries by stating that using Grammarly together with the teacher feedback has a positive impact on the general quality of the papers written by the students.

Apart from that, the attitude of one's respondents and interviewees is quite positive, and the tool's function in delivering instant and comprehensive feedback is acknowledged. Sanosi & Mohammed, (2024) and Yousofi (2022) highlighted that teachers found that writing corrections were mitigated thus leaving them to attend to other values added activities such as conceptual content and argumentation. Such a decrease in the general load helps teachers devote more time to the necessary and sufficient amount of one-on-one student guidance. The third factor is where students perceived relative advantages of using Grammarly to get suggestions as these suggestions are so much convenient. Dong & Shi (2021) and Ranalli (2021)'s findings indicate the satisfaction derived from the prompt feedback of Grammarly, which enhances students' self-efficacy regarding their writing. The increased confidence fostered by the programme, overall and through the specifics of the feedback, assists the students in enhancing their writing progressively. Still, the papers mentioned, including Luo et al. (2024) & Koltovskaia (2020), raise issues regarding the overreliance of Grammarly that might be detrimental to student's self-correction abilities.

Nevertheless, this systematic literature review is not without flaws as discussed below. First, the search is restricted to articles published in 2020 and 2024 only, thus leaving out potentially relevant information existing in the literature before the given timeframe. Second, the study only focuses on ELT contexts and therefore the results are not necessarily valid for other educational contexts or for other subjects. Third, the reviewed studies in terms of their methodologies, sample sizes, as well as contexts of educational settings may differ in ways that could lead to inconsistencies and differences in results. Finally, there must be some selection bias because studies where authors can report positive results will be more likely to be published than those with negative or null results. The following are possible directions for future research studies that could help avert some of these limitations in understanding the effects of Grammarly: Extending the time in which children can be enrolled in the studies, using wider context of educational environments, and increasing the methodological consistency in the studies can improve the reliability and applicability of future research.

Conclusion

The review of existing research demonstrates that Grammarly provides advantageous writing support for ELT which improves skills through supplementary study and independent and blended learning scenarios as well as contributes to the growing body of research on the AWE tools. This review provides valuable insights into the benefits and limitations of Grammarly in ELT environment as well as able to guide the educators on its practices to integrate the tool effectively. It also highlights the importance of balancing the AWE tools with traditional writing instructions to foster the students independent learning. Thus, this tool strengthens grammar in addition to improving word selection along with text flow and overall writing quality which improves student literary abilities and acts as a confidence booster. Most teachers together with their students maintain positive opinions about this tool because it helps simplify the process of correcting mistakes. Some drawbacks of using Grammarly involve its expense in addition to its inability to resolve complex writing problems while it

generates inconsistent feedback and it sometimes encounters technical platform limitations. Income from Grammarly will be optimized through its integration with traditional writing instruction and student-led revision practice supported by appropriate training. Thus, further research needs to be conducted to better understand Grammarly's lasting impact while examining how it performs across diverse educational settings.

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