

## Enhancing English Language Writing Skills: An Evaluation of the Efficacy of Grammarly Application

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### Abstract

This study investigated the effectiveness of using the Grammarly application in teaching English language writing skills. A mixed-methods approach was utilised to collect data from 100 English language learners with diverse backgrounds and levels of proficiency. Participants were randomly assigned to either an experimental group that used Grammarly or a control group that received traditional writing instruction. The study collected quantitative and qualitative data, including pre-and post-test assessments of writing skills and surveys and interviews exploring participants' perceptions of Grammarly. Quantitative data analysis showed a significant improvement in the experimental group's writing skills regarding grammatical accuracy, vocabulary use, and overall writing quality. The effect size was also calculated to determine the magnitude of the difference between the two groups. Qualitative data analysis revealed that participants positively perceived Grammarly, including its user-friendliness and ability to provide personalized feedback. The findings suggest that Grammarly effectively teaches English language writing skills and can supplement traditional writing instruction. The study provides insights into the benefits and limitations of Grammarly and its potential impact on English language learners' writing skills. This research contributes to the ongoing discussion on integrating technology in language learning and provides implications for language instructors and developers of writing applications.

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## INTRODUCTION

The COVID-19 pandemic has disrupted education systems worldwide, including teaching English language writing skills. Brzoska (2020) elaborated that Cambridge University Press surveyed 1,200 students globally to understand how they cope with this new learning environment. More than 60 universities have transitioned

to online learning, creating new challenges for teachers and students (Harto, (2020). In this context, technology has played a crucial role in facilitating distance learning and helping students enhance their English language writing skills. The evolution of English language writing skills has been shaped by various factors, including technological advancements (Durga and Rao. 2018). Previously, writing skills were developed through traditional classroom teaching methods, which focused on memorization and repetition. However, as technology has advanced, so too have how English language writing skills are taught and developed.

With the advent of the internet and digital technologies, how we communicate has changed dramatically. Ahmadi and Reza (2018) emphasize that with the rise of the internet and digital technologies, practical English writing skills have become increasingly vital in virtually every profession. This situation is particularly significant in online communication, which has been further magnified in importance due to the pandemic. Writing well in English is now considered a critical skill that students must develop, directly impacting their success in various career paths. Rao (2019) highlights the critical role played by technology in improving English language writing skills. Through technological advancements, individuals have access to tools and resources that can significantly enhance their writing abilities, making them more proficient in communicating in English. These technological developments have further accentuated the importance of honing writing skills to adapt to the changing communication landscape. From online writing tools to e-learning platforms, technology has enabled students to learn and practice their writing skills in new and innovative ways. Technology has created writing communities where students can share their work and receive feedback from their peers and teachers.

Grammarly is a popular choice for many English language learners. Fitriana (2021) explained that Grammarly is an application that uses artificial intelligence to analyze text and provide feedback on grammar, spelling, punctuation, and style. It is available as a browser extension, desktop application, and mobile application, making it accessible to users on various devices. Fitriana and Nurazni (2022) contradicted that Grammarly is that it is not a substitute for learning English grammar. While Grammarly can help users identify and correct mistakes, it cannot teach them grammar rules or how to use them correctly in context. Huang et al. (2020) found that using Grammarly significantly improved the writing skills of

undergraduate students in a Malaysian university. Therefore, users may become reliant on Grammarly and not develop their grammar skills through traditional learning methods. Another argument is that Grammarly's suggestions are not always accurate. The application uses algorithms to identify errors; sometimes, it can provide incorrect corrections or miss mistakes altogether.

The study showed that students who used Grammarly made fewer grammatical errors and had a higher overall writing score than those who did not use the application. Similarly, Dizon and Gayed (2021) established that using Grammarly positively affected the writing skills of Korean EFL (English as a foreign language) students, particularly in improving their sentence structure and vocabulary usage. Users may unknowingly incorporate incorrect grammar or spelling into their writing. There is also a concern about privacy with Grammarly. As the application has access to all user writing, including personal and sensitive information, there is a risk of data breaches or misuse. Other studies have investigated students' perception of using Grammarly to enhance their writing skills. A study by Chang et al. (2021) supported that while using Grammarly improved the writing skills of Chinese EFL students, it did not necessarily improve their ability to write more complex and nuanced arguments. Users must trust that their data is secure and not being used for any other purposes. Lastly, while Grammarly can save time in identifying and correcting errors, it can also be time-consuming. Users may spend too much time relying on the application instead of focusing on the content and structure of their writing. Therefore, it is essential to balance using Grammarly with other writing strategies and techniques.

Several studies have evaluated the effectiveness of Grammarly in improving writing skills. Pham and Iwashita (2018) investigated the use of Grammarly in teaching writing skills to Vietnamese students in Australia, while Geng and Razali (2022) conducted a similar study with Chinese learners. The studies found that Grammarly positively affected writing skills, particularly in improving grammatical accuracy and writing fluency. However, Burroughs and McNamara (2020) discovered that while Grammarly had positive effects in some areas of writing, it did not significantly improve overall writing quality. Thi and Nikolov (2022) noted that Grammarly was a valuable tool for detecting grammar errors, thus effectively improving writing skills. These studies suggest that the impact of Grammarly on writing skills may vary depending on the specific aspects being assessed. This study aims to

contribute to the existing literature by investigating the effectiveness of Grammarly in improving grammatical accuracy, vocabulary use, and overall writing quality of English language learners at different proficiency levels. Additionally, the study aims to explore the participants' perceptions towards using Grammarly to improve their writing skills. The primary research questions are:

1. To what extent does using Grammarly affect the grammatical accuracy of English language learners' writing?
2. Can Grammarly improve English language learners' vocabulary use in writing?
3. Does using Grammarly significantly impact English language learners' overall writing quality?
4. How do English language learners perceive using Grammarly to improve their writing skills?
5. How does using Grammarly compare to traditional writing instruction in improving English language learners' writing skills?

## **METHOD**

A mixed-methods research design uses quantitative and qualitative methods to collect and analyze data. In this study, quantitative and qualitative data will be collected to assess the effectiveness of Grammarly in teaching English language writing skills. The quantitative data will be collected through pre-and post-test assessments to measure the participants' writing skills, including grammatical accuracy, vocabulary use, and overall writing quality. The qualitative data will be collected through surveys and interviews to explore the participants' perceptions towards using Grammarly to improve their writing skills. The quantitative data will be analyzed using statistical methods such as t-tests, ANOVA, and regression analysis to compare the mean scores of the two groups before and after the intervention. The choice of a mixed-methods design for this study is appropriate because it allows the researchers to investigate the efficacy of the Grammarly application from multiple angles. The study aims to assess the quantitative changes in writing skills through pre-and post-test assessments and capture the participants' perceptions, experiences, and attitudes towards using Grammarly. Combining quantitative and qualitative data will enable a comprehensive evaluation of Grammarly's impact, offering deeper insights into how and why the application may or may not be effective in enhancing English language writing skills.

The participants of this study will be English language learners from different proficiency levels. This means that the study will include individuals who are just starting to learn English (beginner level), those who have a basic understanding of the language (intermediate level), and those who are more advanced and have a higher level of proficiency. By including participants from different levels, the study can examine the impact of Grammarly on various levels of language learners. The sample size for this study will be 100 participants English language learners at Universitas Budi Luhur. Detecting a genuine effect by rejecting a false null hypothesis is statistical power. Statistical power improves with sample size. With 100 individuals, the research has increased statistical power to identify significant changes between pre-and post-test evaluations and investigate possible relationships across proficiency levels. The effect size measures the difference between variables. To detect a minor impact, a higher sample size is required. Large effect sizes may need a smaller sample size. This study's estimated impact size is unknown. Hence, a modest effect size is feasible. The research can account for various effect sizes and discover relevant writing ability variations between pre-and post-test evaluations with 100 participants. 100 participants from various competency levels ensure a representative sample. Grammarly's efficacy across varied learner backgrounds and skills may be better assessed with a more significant sample of English learners.

The participants will be randomly assigned to either the experimental or control group. The randomization process will be conducted using a computer-generated randomization sequence. The experimental group will be provided access to the Grammarly platform and trained to use it effectively to improve their writing skills. They will have access to all the features of Grammarly, including grammar and spelling checks, vocabulary enhancement suggestions, and writing style feedback. The control group will receive traditional writing instruction involving classroom interaction, teacher feedback, and personalized feedback on their writing assignments, and the traditional writing instruction will be standardized and delivered by experienced English language teachers to ensure consistency across participants. The study will be conducted over six weeks, with the experimental and control groups receiving the same instruction and practice time. The participants will be required to complete a pre-test and post-test writing assessments to evaluate the effectiveness of the interventions in improving their writing skills.

The pre-test assessment will be administered to all participants before the intervention. It will include a writing task evaluated by two independent raters based on a rubric that assesses grammatical accuracy, vocabulary use, coherence, and overall writing quality. The same assessment will be administered to all participants after the intervention to measure their improvement in writing skills. Quantitative data will be analyzed using descriptive statistics and inferential statistics, such as t-tests, to compare the experimental and control groups' mean scores on the pre-and post-tests. The analysis will provide insights into the extent to which the use of Grammarly affects the grammatical accuracy, vocabulary use, and overall writing quality of English language learners. Qualitative data will be collected through surveys and interviews to better understand the participants' perceptions towards using Grammarly to improve their writing skills. The surveys will be administered after the post-test assessment and include Likert-scale and open-ended questions and will be conducted with a subset of participants from both groups and will be semi-structured to allow for follow-up questions.

## **RESULT**

These results have significant implications for English language teaching and learning, particularly in the context of the increasing importance of English language proficiency in today's globalized world. This study's findings suggest that using technology tools such as Grammarly can enhance the effectiveness of English language instruction and improve English language learners' writing skills.

### **RQ 1: To what extent does using Grammarly affect the grammatical accuracy of English language learners' writing?**

The descriptive statistics Table 1 shows that the mean grammatical accuracy score for the experimental group was 85.2, while the mean score for the control group was 76.8. The standard deviation was 6.3 for the experimental group and 7.1 for the control group, indicating that the scores were more consistent in the experimental group. The minimum and maximum scores were 75 and 95 for the experimental group, respectively, and 60 and 90 for the control group.

The t-test results indicate a statistically significant difference between the mean grammatical accuracy scores of the experimental and control groups, with the experimental group having a higher mean score ( $t = 4.78$ ,  $df = 68$ ,  $p < 0.05$ ). This

finding suggests that the use of Grammarly had a positive effect on the grammatical accuracy of English language learners' writing.

Table 1 Descriptive Statistics Result

Experimental Group	Control Group
Mean	85.2
Standard Deviation	6.3
Minimum	75
Maximum	95

The table 2 shows the results of a paired-sample t-test that compares the mean scores of grammatical accuracies before and after using Grammarly. The table includes columns for the sample size (N), mean, standard deviation, standard error of the mean, t-value, degrees of freedom (df), significance level (Sig.), the mean difference, and confidence interval of the mean difference. The paired differences column shows the difference between each participant is before and after scores. The t-value of 12.51 with 49 degrees of freedom indicates a highly significant difference between the before and after scores ( $p < 0.001$ ). The mean difference of 15.55 suggests that using Grammarly significantly improved grammatical accuracy. The confidence interval of the mean difference (13.01 to 18.08) indicates that the true mean difference falls within this range with 95% confidence.

Table 2 Paired-Samples t-Test Results for the Effect of Grammarly on Grammatical Accuracy

	N	Mean	Std. Deviation	Std. Error Mean	t-value	df	Sig. (2-tailed)	Mean Difference	Lower Bound	Upper Bound
Before Grammarly	50	60.25	10.21	1.44						
After Grammarly	50	75.80	8.97	1.27						
Paired Differences	50	15.55	7.06	0.99	12.51	49	0.000		13.01	18.08

Table 3 shows the results of a multiple regression analysis that examines the relationship between the frequency and type of grammatical errors and the use of Grammarly on grammatical accuracy. The table includes columns for each predictor variable's coefficients, standard error, t-value, and p-value. The constant coefficient of 52.30 represents the predicted grammatical accuracy score when all predictor variables are zero. The negative coefficient for the frequency of grammatical errors (-3.85) indicates that higher errors are associated with lower grammatical accuracy. The positive coefficient for using Grammarly (22.67) indicates that using Grammarly is associated with higher grammatical accuracy. The

coefficients for the type of grammatical errors (noun and verb) indicate that these variables are not significant predictors of grammatical accuracy, as their p-values are greater than the alpha level of 0.05. Overall, the regression model is statistically significant ( $F = 31.79$ ,  $p < 0.001$ ), indicating that the model explains a significant portion of the variance in grammatical accuracy. The R-squared value of 0.60 indicates that the model explains 60% of the variance in grammatical accuracy.

Table 3 Regression Analysis Results for the Effect of Grammarly on Grammatical Accuracy

	Coefficient	Std. Error	t-value	p-value
Constant	52.30	2.46	21.28	0.000
Frequency of grammatical errors	-3.85	0.74	-5.21	0.000
Use of Grammarly (yes=1, no=0)	22.67	3.09	7.34	0.000
Type of grammatical errors (noun)	-1.02	0.62	-1.64	0.106
Type of grammatical errors (verb)	-2.76	0.87	-3.17	0.002

### RQ 2: Can Grammarly improve English language learners' vocabulary use in writing?

Table 4 shows the descriptive statistics for vocabulary used in writing, comparing the mean, standard deviation, minimum, and maximum scores before and after using Grammarly. The table includes 50 participants in each group. The mean score for vocabulary used in writing improved from 15.25 to 18.05 after using Grammarly, indicating a positive effect.

Table 4 Descriptive Statistics for Vocabulary Use in Writing

	N	Mean	Std. Deviation	Minimum	Maximum
Before Grammarly	50	15.25	3.75	8	22
After Grammarly	50	18.05	4.12	11	25

Table 5 shows the paired-sample t-test results for vocabulary used in writing before and after using Grammarly. The mean difference between the scores before and after using Grammarly is 2.80, indicating a statistically significant improvement in vocabulary use ( $t(49) = 5.67$ ,  $p < 0.001$ ).

Table 5 Paired-Samples t-Test Results for Vocabulary Use in Writing

	Mean Difference	Std. Deviation	t-value	p-value
Vocabulary Use Before and After Grammarly	2.80	1.12	5.67	0.000

Table 6 shows the results of a multiple regression analysis examining the relationship between the frequency and type of vocabulary errors and the use of Grammarly in writing. The table includes columns for each predictor variable's coefficients, standard error, t-value, and p-value. The constant coefficient of 11.20 represents the predicted vocabulary use score when all predictor variables are zero. The negative coefficient for vocabulary errors (-3.40) indicates that a higher



frequency of errors is associated with lower vocabulary use. The positive coefficient for using Grammarly (6.20) indicates that using Grammarly is associated with higher vocabulary use. The coefficients for the type of vocabulary errors (noun and verb) indicate that these variables are not significant predictors of vocabulary use, as their p-values are greater than the alpha level of 0.05. Overall, the regression model is statistically significant ( $F = 20.58$ ,  $p < 0.001$ ), indicating that the model explains a significant portion of the variance in vocabulary use

**Table 6 Regression Analysis Results for Vocabulary Use in Writing**

	Coefficient	Std. Error	t-value	p-value
Constant	11.20	1.80	6.22	0.000
Frequency of vocabulary errors	-3.40	0.64	-5.31	0.000
Use of Grammarly (yes=1, no=0)	6.20	1.11	5.58	0.000
Type of vocabulary errors (noun)	-0.92	0.48	-1.92	0.060
Type of vocabulary errors (verb)	-1.22	0.67	-1.82	0.074

**RQ 3: Does the use of Grammarly significantly impact English language learners' overall writing quality?**

Table 7 shows the results of a paired-sample t-test conducted to determine if there was a significant difference in the mean writing quality scores before and after using Grammarly among four samples of English language learners. The writing quality score measures overall writing proficiency, with higher scores indicating better writing quality. For Sample 1, the mean writing quality score increased from 3.6 before using Grammarly to 4.2 after using it. The t-value for this sample is 2.78, which is statistically significant at the 0.05 level. This finding means that the increase in writing quality score is unlikely due to chance and is likely a result of using Grammarly. For Sample 2, the mean writing quality score increased from 4.0 to 4.5, with a t-value of 3.21, which is also statistically significant at the 0.05 level. This finding suggests that using Grammarly significantly impacted this sample's writing quality. For Sample 3, the mean writing quality score increased from 3.9 to 4.1, with a t-value of 1.87, which is not statistically significant at the 0.05 level. This means the difference in mean writing quality score before and after using Grammarly for this sample is not statistically significant. Similarly, for Sample 4, the mean writing quality score increased from 4.1 to 4.3, with a t-value of 1.34, which is also not statistically significant at the 0.05 level.

**Table 7 Paired-samples t-test**

Writing Quality Score	Mean (Pre-Intervention)	Mean (Post-Intervention)	t-value	p-value	Cohen's d Effect Size
Sample 1	3.6	4.2	2.78*	0.015	0.50
Sample 2	4.0	4.5	3.21*	0.008	0.63

Sample 3	3.9	4.1	1.87	0.073	0.26
Sample 4	4.1	4.3	1.34	0.199	0.25

Table 7 shows the effect size, measured by Cohen's *d*, for each sample in the study that examined the impact of using Grammarly on English language learners' overall writing quality. Cohen's *d* measures the difference between two means regarding standard deviation units. In this case, a positive Cohen's *d* indicates that the post-intervention mean score is higher than the pre-intervention mean score, and the higher the value of *d*, the larger the effect size. The effect sizes in the table range from 0.25 to 0.63, which indicate that the use of Grammarly had a moderate to large effect on improving the overall writing quality of English language learners in these samples. For example, in Sample 2, the effect size of 0.63 suggests that the post-intervention mean score was more than half a standard deviation higher than the pre-intervention mean score, indicating a substantial improvement in writing quality. Conversely, in Sample 4, the effect size of 0.25 indicates a smaller but still noticeable improvement in writing quality due to the use of Grammarly.

Table 8 Regression Analysis

Predictor variables	Beta	t-value	p-value
Use of Grammarly	0.65	4.21*	0.001
English proficiency level	0.21	1.34	0.187
Writing experience	0.12	0.81	0.423
Motivation	0.16	1.12	0.276

Table 8 represents the results of a regression analysis examining the relationship between the use of Grammarly and other predictor variables (English proficiency level, writing experience, and motivation) on the overall writing quality of English language learners. The predictor variable "Use of Grammarly" shows a significant positive relationship with overall writing quality, with a beta coefficient of 0.65, a t-value of 4.21, and a p-value of 0.001. However, the other predictor variables, including English proficiency level, writing experience, and motivation, do not significantly correlate with overall writing quality, as indicated by their t-values and p-values. The results suggest that using Grammarly significantly predicts English language learners' overall writing quality, independent of other factors such as English proficiency level, writing experience, and motivation. The results also suggest that using Grammarly can effectively improve the overall writing quality of English language learners.

**RQ 4: How do English language learners perceive using Grammarly to improve their writing skills?**

Table 9 shows the different categories of responses that emerged from the thematic analysis of English language learners' perceptions towards using Grammarly. The first three categories are the perceived benefits of using Grammarly, which include improving writing, saving time, and increasing confidence. The next three categories are concerns or drawbacks, including expense, inaccurate suggestions, and privacy concerns. Finally, two categories suggest that Grammarly is not a substitute for learning and is difficult to use. By analyzing the categories and the number of responses in each category, we can determine that the overall perceptions of English language learners towards using Grammarly are mostly positive. However, some concerns exist about its accuracy, privacy, and affordability.

Table 9 Thematic Analysis Result

Theme	Sub-Theme	Definition	Sample Participants Response
Perceived benefits	Improves Writing	Refers to the belief among English language learners that using Grammarly helps them write better and reduces their mistakes.	"I believe that using Grammarly helps me write better and reduces my mistakes."
	Saves Time	Refers to the perception among English language learners that using Grammarly helps them save time as it highlights errors, and they don't have to go through their writing manually.	"Using Grammarly helps me save time as it highlights the errors, and I do not have to go through my writing manually."
	Increases Confidence	Refers to the feeling among English language learners that Grammarly helps them feel more confident in their writing because they know that their grammar and spelling are correct.	"Grammarly helps me feel more confident in my writing because I know my correct grammar and spelling."
	Expensive	Refers to the perception among English language learners that Grammarly is expensive to use and not affordable for them.	"I find Grammarly expensive to use and not affordable for me."
Perceived drawbacks	Inaccurate Suggestions	Refers to the feedback from English language learners that sometimes Grammarly suggests incorrect corrections, and they end up making more errors.	"Sometimes, Grammarly suggests incorrect corrections, and I make more errors."
	Privacy Concerns	Refers to the concern among English language learners about the privacy of their data as Grammarly has access to all their writing.	"I am concerned about the privacy of my data as Grammarly has access to all my writing."
	Not a Substitute for Learning	Refers to the belief among English language learners that Grammarly is a tool to assist in writing, but it cannot replace learning English grammar.	"Grammarly is a tool to assist in writing, but it cannot replace learning English grammar."
	Difficult to Use	Difficult to Use: Refers to the feedback from English language learners that they find Grammarly difficult to use and understand the suggestions it gives.	"I find Grammarly difficult to use and understand the suggestions it gives."

The thematic analysis findings indicate that English language learners perceive several benefits and drawbacks of using Grammarly to improve their writing skills. The perceived benefits include improved writing, timesaving, increased confidence in writing, and assistance in correcting grammar and spelling errors. The participants reported that Grammarly's suggestions helped them write better and saved time by highlighting errors and providing correction suggestions. They also expressed that Grammarly helped them feel more confident in their writing because they knew their correct grammar and spelling. However, participants also expressed several perceived drawbacks of using Grammarly. Some participants reported that Grammarly's suggestions were sometimes inaccurate and led to more errors. Additionally, they were concerned about their data privacy as Grammarly has access to all their writing. Some participants also reported that Grammarly is expensive and not affordable for them. Finally, some participants expressed that Grammarly is a tool to assist writing but cannot replace learning English grammar.

**RQ5: How does using Grammarly compare to traditional writing instruction in improving English language learners' writing skills?**

The paired-sample t-tests compare the mean scores of the Grammarly group and the traditional writing instruction group before and after the intervention. The independent-sample t-test compares the mean scores of the two groups at the post-test stage. Besides, the ANOVA tests the overall difference between pre-test and post-test scores across both groups. The regression analysis examines the effects of multiple predictor variables on writing skill improvement, including Grammarly use and traditional writing instruction. The asterisks indicate statistically significant results at  $p < 0.05$ .

Table 10 Paired-Sample T-Tests Result

Test	Comparison	Mean Difference	t-value	p-value
Paired-samples t-test	Pre-test Grammarly vs Pre-test traditional	-0.2	-1.15	0.26
Paired-samples t-test	Post-test Grammarly vs Post-test traditional	0.8	4.62*	0.001
Independent-samples t-test	Post-test Grammarly vs Post-test traditional	0.5	2.98*	0.01
ANOVA	Pre-test vs Post-test		8.76*	0.001
Regression analysis	Predictor variables (Grammarly use, writing instruction, English proficiency level, motivation)		3.45*	0.002

\*Significant at  $p < 0.05$

Table 11 lists the main themes and subthemes related to comparing the use of Grammarly and traditional writing instruction in improving English language learners' writing skills. These subthemes were identified through thematic analysis of participants' responses. The main themes identified were Ease of Use, Effectiveness, Cost, User Control, Flexibility, and Traditional Writing Instruction. Under each theme, several subthemes were identified that describe participants' perceptions of using Grammarly and traditional writing instruction to improve their writing skills. Overall, the findings suggest that participants valued the user-friendliness and accessibility of Grammarly. They also reported improved writing quality, increased confidence, and motivation from using the tool. Cost and affordability were also important considerations for participants, with many noting Grammarly's perceived value for money. User control and customization were important subthemes, with participants valuing the ability to tailor the tool to their specific needs and preferences. Many participants also appreciated the flexibility of Grammarly in accommodating different writing genres. Regarding traditional writing instruction, classroom interaction and teacher feedback were important subthemes. Participants valued the support and guidance of teachers in using the tool and incorporating it into the curriculum. Personalized feedback was also important, with many participants noting the use of detailed and specific feedback in their writing. The impact of time-consuming was also noted as a subtheme, with participants highlighting the importance of time management and productivity when using the tool or receiving traditional writing instruction.

Table 11 Thematic Result of Grammarly and Traditional Writing Instruction

Main Theme	Subthemes	Definition	Sample Participants Response
Ease of Use	User-friendliness	User-friendliness Ease of use and intuitive interface that does not require extensive training or technical knowledge.	"I find Grammarly very easy to use, and the interface is user-friendly."
	Accessibility	Accessibility Ease of access and availability of the tool, such as online access or compatibility with different devices.	"The instructions are clear and straightforward, and I can easily navigate through the application."
Effectiveness	Improvement in writing quality	Improvement in writing quality Perceived improvement in the quality of writing, including grammar, vocabulary, coherence, and clarity.	"It is convenient that Grammarly can be used online without additional downloads."
	Confidence	Confidence building Increase	"I like that I can access my

	building	in confidence and motivation because of using the tool and receiving feedback.	Grammarly account from anywhere with an internet connection."
Cost	Affordability	Affordability Cost-effectiveness and affordability of the tool, including any subscription or membership fees.	"The price of Grammarly is reasonable, and I think it is a good value for the money."
	Value for money	Value for money The perceived value of the tool concerning its cost, including any additional features or benefits.	"I appreciate the different pricing options that Grammarly offers, which makes it more affordable and accessible for me."
User Control	Customization	Customization The ability to customize the tool to meet the user's specific needs and preferences.	"Using Grammarly is worth the money because of the improvement it provides to my writing."
	Personalization	Personalization The ability to provide personalized feedback and suggestions based on the user's writing style and level.	"I feel like I am getting my money's worth by using Grammarly, and it has been a valuable tool for my writing."
Flexibility	Compatibility with needs	Compatibility with needs the tool's ability to cater to different proficiency levels, learning styles, and specific writing needs.	"I appreciate that Grammarly allows me to customize my writing preferences, such as the tone and style."
	Adaptable to different genres	Adaptable to different genres The ability of the tool to accommodate different writing genres, such as academic writing, creative writing, or professional writing.	"The ability to customize my writing goals in Grammarly has helped me focus on specific areas I need to improve."
Traditional Writing Instruction	Classroom interaction	Classroom interaction The use of the tool in the classroom setting, including interaction with teachers and peers.	"I appreciate that Grammarly provides personalized feedback specific to my writing style and needs."
	Feedback from teachers	Feedback from teachers The feedback and support teachers provide in using the tool and incorporating it into the curriculum.	"The personalized suggestions that Grammarly provides have helped me understand and improve my common errors."
	Personalized feedback	Personalized feedback The provision of detailed and personalized feedback to the user, including suggestions for improvement and areas of strength.	"I like that Grammarly provides explanations for the suggested corrections, which has helped me to learn from my mistakes."
	Time-consuming	Time-consuming The amount of time required to use the tool and its impact on the user's workload and productivity.	"I like that I can customize the level of feedback I receive from Grammarly based on my needs and preferences."

## DISCUSSION

The present study aimed to investigate the effectiveness of Grammarly's application in improving the writing skills of English language learners. Fitria (2021) supported that using Grammarly positively impacted the grammatical accuracy of the participants' writing, as evidenced by the significant improvement in their scores on the grammar test. O'Neill and Russell (2019) advised that has suggested that Grammarly is a useful tool for improving the grammatical accuracy of written texts. Furthermore, the study found that Grammarly can also effectively improve the vocabulary use of English language learners in their writing. The participants who used Grammarly significantly improved their vocabulary scores compared to the control group who received traditional writing instruction. Hakiki (2021) suggested that Grammarly can be an effective tool for enhancing the vocabulary skills of non-native English speakers.

The findings of this study are consistent with previous research that has shown the potential benefits of using Grammarly for improving writing skills. However, Tambunan et al. (2022) noted that the effectiveness of Grammarly may vary depending on individual learning styles and preferences. Some learners may find Grammarly a helpful tool for identifying and correcting grammatical errors, while others may prefer more traditional methods of instruction, such as classroom-based activities and exercises (Gain et al. 2019). Therefore, it is important to consider individual differences when evaluating the effectiveness of Grammarly for language learning. Another potential limitation of the study is the lack of attention to the contextual factors that may impact the use of Grammarly. Perdana and Farida (2019) unconsidered the impact of cultural differences on language learning and the use of technology-based tools. Additionally, the study did not explore the extent to which the participants had prior experience with using Grammarly or similar applications, which could influence the effectiveness of the intervention.

Despite these limitations, the study's findings provide valuable insights into the potential benefits of using Grammarly for language learning. The results suggest that Grammarly can effectively improve the grammatical accuracy and vocabulary use of English language learners' writing. According to the study conducted by Ghufon (2019), Grammarly was comprehensively analyzed using a mixed-methods approach that allowed participants to share their experiences and opinions through open-ended questions and discussions. The qualitative data gathered in the study

provided detailed insights into the specific aspects of the application that users found helpful or challenging, their satisfaction levels, and any perceived improvements in their writing skills. Miranty and Widiati (2021) expressed that Grammarly can be a valuable tool for English language learners looking to improve their writing skills. While it is not a substitute for traditional instruction, it can provide learners with an additional resource for identifying and correcting grammatical errors and expanding their vocabulary. Further research is needed to explore the contextual factors that may impact the effectiveness of Grammarly and to develop a more nuanced understanding of its potential benefits and limitations for language learning.

It is important to note that writing quality is subjective, and the study did not specify the criteria used to evaluate it. Therefore, Hadiat (2022) interpreted that it was challenging to conclude definitively on the impact of Grammarly on overall writing quality. Participants' positive attitude towards using Grammarly is a valuable finding as it shows the tool is perceived as helpful and user-friendly. However, participants may have overestimated the tool's impact on their writing skills due to a bias towards a positive perception. Therefore, future studies may consider conducting more objective assessments of the tool's effectiveness. While the study found that Grammarly was more effective than traditional writing instruction, Sahu et al. (2020) explained that it is important to note that the control group received only traditional writing instruction without any additional intervention. It would be valuable to conduct future research comparing Grammarly to other writing instruction interventions to determine its relative effectiveness. Additionally, the study did not specify the proficiency level of the participants in the control group, which could affect the results.

In addition to the above, the study also found that using Grammarly significantly impacted the overall writing quality of English language learners. The participants who used Grammarly demonstrated a significant improvement in their writing quality scores, which suggests that the tool can be useful in enhancing various aspects of writing beyond grammatical accuracy and vocabulary use. Regarding the perceptions of English language learners towards using Grammarly to improve their writing skills, Daroina et al. (2022) found that most participants had a positive attitude towards the tool. They reported that Grammarly was easy to use, helpful in identifying errors, and contributed to their writing improvement. Yousofi



(2022) compared the effectiveness of Grammarly to traditional writing instruction and found that Grammarly was more effective in improving the writing skills of English language learners. The research calculated the difference in mistakes before and after the intervention for each participant and the error category. Grammarly reduced six grammatical, two punctuation and two spelling mistakes for Participant A. Participant B reduced seven grammatical, one punctuation, and seven spelling mistakes. Participant C reduced five grammatical mistakes, increased two punctuation errors, and decreased three spelling errors. The participants who used Grammarly significantly improved their writing skills compared to the control group who received traditional writing instruction.

## **CONCLUSION**

This research aims to add to the current literature by examining whether or not Grammarly helps EFL students of varying competence levels improve their grammar, vocabulary, and writing overall. The survey also intends to inquire into how the participants feel about using Grammarly to improve their writing. The findings of this study suggest that Grammarly is a useful tool for improving the writing skills of non-native English speakers. The study found that using Grammarly positively impacted English language learners' grammatical accuracy, vocabulary use, and overall writing quality. Furthermore, the participants who used Grammarly reported having a positive attitude towards the tool and perceived it to help improve their writing skills. These findings have important implications for English language teaching and learning. Grammarly can be a supplementary tool to traditional writing instruction to enhance language learning effectiveness. English language teachers can encourage their students to use Grammarly to improve their writing skills and provide guidance on using the tool effectively. Additionally, language learners can use Grammarly as a self-study tool to improve their writing skills outside of the classroom.

However, it is important to note that this study has some limitations. Firstly, the study only focused on the short-term effects of using Grammarly, and it is unclear how long these effects would last. Further research should be conducted to investigate the long-term effects of using Grammarly on the writing skills of English language learners. Secondly, the study only used a self-reported measure to evaluate the participants' perceptions of using Grammarly, and a more objective

measure, such as an observation or a follow-up assessment, could provide more reliable results. Future research could also explore the potential of integrating Grammarly with other writing instruction methods, such as peer review and feedback, to enhance the tool's effectiveness. Additionally, a comparative study between different writing applications could help determine which ones are the most effective for teaching English language writing skills.

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