

The correlation between the frequency of using Grammarly and the accuracy of students' thesis writing

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doi: 10.17977/um064v6i12026p105-118

Keywords

frequency;
Grammarly;
accuracy of students' writing

Kata Kunci

frekuensi;
Grammarly;
keakuratan tulisan mahasiswa

Article History

Submitted: January 16, 2025
Revised: February 6, 2026
Accepted: February 11, 2026
Published: February 25, 2026

Abstract

Grammar-checking tools have gained popularity as a means of addressing writing difficulties and improving students' writing quality, particularly grammatical accuracy. Therefore, it is important to examine the relationship between the frequency of Grammarly use and the accuracy of students' thesis writing to understand the potential benefits and limitations of Grammarly as a writing tool in academic contexts. This study aimed to investigate whether a correlation exists between these two variables. A quantitative approach with correlational research design was employed. The participants were 63 English Language Education students from Universitas Negeri Malang who were enrolled in the 2017, 2018, and 2019 academic cohorts and completed a questionnaire. In addition, 36 participants submitted their thesis drafts for further analysis. The data were analyzed using statistical tests with SPSS version 25 to determine the correlation between Grammarly use frequency and writing accuracy. The findings revealed that no significant relationship exists between the two variables. Based on these results, it is suggested that teachers implement Grammarly in a balanced manner rather than relying on it excessively. Future studies are encouraged to explore other grammar-checking tools that may contribute to improving the mechanical accuracy and overall quality of students' thesis writing.

Abstrak

Alat pemeriksa tata bahasa semakin populer sebagai sarana untuk mengatasi kesulitan menulis dan meningkatkan kualitas tulisan siswa, khususnya dari segi keakuratan tata bahasa. Oleh karena itu, penting untuk meneliti hubungan antara frekuensi penggunaan Grammarly dan keakuratan penulisan tesis mahasiswa guna memahami potensi manfaat dan keterbatasan Grammarly sebagai alat bantu menulis dalam konteks akademik. Penelitian ini bertujuan untuk mengetahui apakah terdapat hubungan antara kedua variabel tersebut. Penelitian ini menggunakan pendekatan kuantitatif dengan desain penelitian korelasional. Partisipan penelitian terdiri atas 63 mahasiswa Pendidikan Bahasa Inggris Universitas Negeri Malang angkatan 2017, 2018, dan 2019 yang mengisi kuesioner. Selain itu, sebanyak 36 mahasiswa menyerahkan draf tesis mereka untuk dianalisis lebih lanjut. Data dianalisis menggunakan uji statistik dengan bantuan perangkat lunak SPSS versi 25 untuk mengetahui hubungan antara frekuensi penggunaan Grammarly dan keakuratan penulisan. Hasil penelitian menunjukkan bahwa tidak terdapat hubungan yang signifikan antara kedua variabel tersebut. Berdasarkan temuan ini, disarankan agar guru menerapkan Grammarly secara seimbang dan tidak mengandalkannya secara berlebihan. Penelitian selanjutnya disarankan untuk mengeksplorasi alat pemeriksa tata bahasa lain yang berpotensi meningkatkan keakuratan mekanis dan kualitas penulisan tesis mahasiswa.

1. Introduction

English writing skills are essential for communication, academic success, and professional growth in today's globalized world. Writing plays a fundamental role in expressing ideas and opinions, persuading others, and conveying information effectively. Proficiency in English writing is therefore critical across various fields, including education, business, and technology (Rose, 2012). However, for many students, grammar remains one of the most significant challenges in developing academic writing skills (Ahmed, 2019; Mouri, 2020; Al-Seyabi & Tuzlukova, 2014). Inadequate

grammatical competence may lead to misunderstandings, misinterpretations, and a lack of clarity, ultimately reducing the effectiveness of written communication (MacGregor & Folinazzo, 2017).

This challenge is particularly evident among Indonesian students learning English as a foreign language (EFL). Many students struggle to construct sentences, paragraphs, or complete texts in English. Difficulties often arise when students are required to express their ideas, thoughts, or experiences in written form, especially when English writing is not practiced regularly (Alisha et al., 2019). Consequently, teaching writing has become increasingly challenging. Despite years of English instruction at the secondary and tertiary levels, students frequently continue to make grammatical errors in their written work (Fitrawati & Safitri, 2021). These difficulties may stem from differences between the structures of the first language and English, limited exposure to English, and insufficient instructional support tailored to learners' individual needs. Previous studies have shown that Indonesian EFL students encounter various grammatical problems in English writing due to limited and incomplete knowledge of second-language grammar (Putri, 2023). Furthermore, Indonesian EFL learners tend to commit multiple types of errors, with misinformation and omission being the most dominant (Floranti & Adiantika, 2019).

In response to these challenges, grammar-checking tools have gained popularity as aids for correcting errors and improving the quality of students' writing. One widely used tool is Grammarly, which was founded in 2009 by Max Lytvyn, Alex Shevchenko, and Dmytro Lider. Grammarly is a computer-based application designed to evaluate written texts by identifying errors in grammar, spelling, punctuation, and vocabulary, as well as detecting plagiarism (Ghufron & Rosyida, 2018). In addition, Grammarly offers style-specific corrections for different types of writing and allows users to select writing goals and target audiences. The platform also provides context-optimized synonym suggestions and an adaptive spell checker that recommends appropriate word choices based on the content of the text.

Despite these features, the use of grammar-checking tools has raised concerns among some scholars. Critics argue that excessive reliance on such tools may reduce learners' critical thinking and linguistic awareness (Ghaemi & Bayati, 2021). Nevertheless, growing evidence suggests that grammar-checking tools can serve as beneficial resources for students seeking to enhance their writing abilities. Several studies have reported that students who use grammar-checking software tend to produce higher-quality writing than those who do not (Nobles & Paganucci, 2015). Similarly, Grammarly has been shown to improve the grammatical accuracy of students' written work (Dizon & Gayed, 2021). Research involving graduate students has also demonstrated that Grammarly significantly enhances overall writing quality and reduces errors through its automatic detection of issues related to grammar, punctuation, sentence structure, style, and vocabulary (Joy et al., 2018). In addition, Koltovskaia (2020) confirmed that the use of Grammarly improves the overall writing quality of college students and minimizes grammatical errors.

Although Previ, and Limitedes have highlighted the positive effects of Grammarly on students' writing skills, limited attention has been given to the frequency of its use. Like other computer-based tools, Grammarly requires time and consistent practice for users to become proficient in operating it effectively. Previous findings have not provided sufficient data regarding how long students have been familiar with the tool or how frequently they use it. Such information is essential to determine whether Grammarly significantly contributes to improvements in students' writing quality. The frequency of Grammarly use may influence students' perceptions of its benefits and limitations (Miranty & Widiati, 2021). Students who have used Grammarly consistently over a long period may be more skilled in utilizing its features than those who have only recently adopted it. However, frequency of use remains a crucial factor, as students who use Grammarly intensively over a shorter period may outperform those who have known the tool for years but use it sporadically. Therefore, the frequency of Grammarly use is a relevant variable in examining writing accuracy.

Given these considerations, it is important to investigate the relationship between the frequency of Grammarly use and the accuracy of students' thesis writing. This study aims to shed light on the potential benefits and limitations of Grammarly as a writing tool in academic contexts, particularly in thesis writing. It seeks to examine how effectively Grammarly addresses the specific needs of thesis writers and how the frequency of its use influences writing accuracy. The analysis will focus on students' thesis drafts, with writing accuracy measured through error analysis. By examining the relationship between Grammarly usage frequency and writing accuracy, this study is expected to contribute to a deeper understanding of the role of grammar-checking tools in academic writing and to provide insights for educators, students, and institutions regarding the appropriateness of Grammarly for thesis writing.

2. Methods

2.1. Research Design

This study examined the correlation between the frequency of Grammarly use and the accuracy of students' thesis writing. A quantitative approach with a correlational research design was employed, as it enables the examination of relationships between two or more variables (Creswell, 2012). Quantitative data were collected through a questionnaire to obtain a comprehensive understanding of students' Grammarly usage frequency and its relationship with their writing accuracy. The two variables investigated in this study were the frequency of using Grammarly (X) and the accuracy of students' thesis writing (Y).

2.2. Research Instruments

The primary instrument used in this study was a validated online questionnaire adapted from previous studies by Dewi U. (2022), Fitria (2021), Novianti (2020), and Wismatul and Hadiat (2022). The questionnaire was adapted because its content aligns with the objectives of the present study, particularly in measuring students' frequency of Grammarly use. Adopting instruments from reputable prior studies also ensured that the questionnaire had undergone validation, thereby enhancing the credibility of the research findings.

The questionnaire was validated by experts and employed a four-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (4). This scale intentionally excluded a neutral option to encourage respondents to express a clear stance and is commonly used to explore attitudes and perceptions in greater depth than dichotomous ("yes/no") questions.

Table 1. Likert Scale Interpretation

Point Score	Descriptive Rating
4	Strongly agree
3	Agree
2	Disagree
1	Strongly disagree

According to Roopa (2012), the Likert scale is widely used in social research to quantify attitudes by assigning numerical values to levels of agreement. Prior to its official administration, the questionnaire underwent a pilot test involving five English Language Education students of Universitas Negeri Malang who had written thesis drafts and used Grammarly. The pilot test, distributed via Google Forms and WhatsApp, aimed to ensure clarity of the questions and instructions, as recommended by Connelly (2008). Feedback from the pilot test was used to refine the questionnaire.

Because the participants were EFL students, the questionnaire was administered in English. After the pilot-testing stage, the finalized questionnaire was distributed to participants who met the research criteria.

In addition to the questionnaire, students' thesis drafts were collected as primary data to obtain in-depth information on writing accuracy. Participants were asked to submit the most recent versions of their thesis drafts. Although the drafts varied in length—ranging from the methodology section to the findings section—most drafts extended to the findings. The premium version of Grammarly was used to assess grammatical accuracy in the thesis drafts following questionnaire completion.

2.3. Research Population and Sample

The population of this study comprised English Language Education students of Universitas Negeri Malang enrolled in the 2017, 2018, and 2019 academic cohorts. The total number of active students was 25 in 2017, 40 in 2018, and 66 in 2019. Based on Creswell's (2012) recommendation that quantitative studies include at least 30% of the population, the sample was determined accordingly.

The sample consisted of students who were actively writing their thesis and using Grammarly as a writing aid. Simple random sampling was employed to ensure equal probability of selection (Singh, 2003). The inclusion criteria were: (1) undergraduate English Language Education students enrolled in 2017–2019; (2) students currently writing their thesis and using Grammarly; and (3) students willing to submit their thesis drafts for analysis.

2.4. Research Procedures

The first stage involved developing a questionnaire blueprint adapted from Ummah and Bisriyah (2022), Fitria (2021), and Wismatul and Hadiat (2022), with modifications to suit the research focus. The second stage was pilot testing to identify and resolve potential issues before full-scale administration (Roopa, 2012). The third stage involved distributing the finalized questionnaire via Google Forms. In the fourth stage, selected participants were asked to submit their thesis drafts. Data collection took place in November 2023.

The fifth stage involved analyzing the collected thesis drafts to determine grammatical accuracy using Corder's Error Analysis theory (1975). Errors were categorized into four types: omission, addition, selection, and ordering. Omission errors involve missing required grammatical elements, such as articles or auxiliary verbs. Addition errors refer to the inclusion of unnecessary elements. Selection errors occur when incorrect grammatical forms are chosen, such as inappropriate verb tenses. Ordering errors involve incorrect word order (Novianti, 2013). Finally, the results were interpreted to examine the correlation between Grammarly usage frequency and writing accuracy.

2.5. Data Analysis

Data analysis involved both descriptive and inferential statistics (Christensen et al., 2014). Descriptive statistics were used to describe the frequency distribution of Grammarly usage across various timeframes, including hourly and monthly usage. Frequency distribution analysis indicates how often specific values of a variable occur (Oosterbaan, 1994).

Students reported their Grammarly usage duration per session and frequency per month. These data were accumulated to calculate total monthly usage hours, following Manikandan's (2011) frequency distribution framework. For example, using Grammarly for 45 minutes per

week resulted in approximately three hours per month, while one hour of daily use equated to 30 hours per month. Each participant was then assigned a frequency score based on accumulated monthly usage.

Error analysis was conducted on the thesis drafts using Grammarly Premium. Errors detected were classified according to Corder's four error types. Total errors per student were scored using a scale adapted from Challay and Kanneh (2022). A double-check procedure was conducted to identify errors not detected by Grammarly. The resulting frequency and accuracy scores were analyzed using SPSS version 25. Normality testing preceded inferential analysis, and Pearson's correlation coefficient was calculated to determine the strength and direction of the relationship between Grammarly usage frequency and thesis writing accuracy (Harland, 2011).

2.5.1. Frequency of Using Grammarly

Table 2. Frequency Score Classification

Monthly Usage	Point Score
45 minutes	1
1 hour	2
3 hours	3
4 hours	4
10 hours	5
22.5 hours	6
30 hours	7
75 hours	8

Monthly frequency scores were calculated based on total accumulated usage hours. Higher scores indicated more frequent Grammarly use.

2.5.2. Accuracy of Students' Thesis Writing

Table 3. Accuracy Score Classification

Total Errors	Accuracy Level	Point Score
281–320	Strongly inaccurate	1
241–280	Inaccurate	2
201–240	Inaccurate	3
161–200	Inaccurate	4
121–160	Accurate	5
81–120	Accurate	6
41–80	Strongly accurate	7
1–40	Strongly accurate	8

The fewer errors a student made, the higher the accuracy score. Accuracy levels were further categorized into four bands—strongly inaccurate, inaccurate, accurate, and strongly accurate—adapted from Yulianto et al. (2019). This dual-layered scoring system enabled clearer interpretation of students' writing performance and facilitated correlation analysis.

3. Results

The research data focused on two variables: the frequency of using Grammarly (X) and the accuracy of students' thesis writing (Y). The findings consist of the results of the normality test, descriptive data on the frequency of Grammarly use, the accuracy of students' thesis writing, and the correlation between the two variables. The normality test was conducted to determine whether the data distribution of both variables met the assumptions required for further statistical analysis.

3.1. Normality Test

The normality test was conducted to determine whether the independent and dependent variables were normally distributed. The One-Sample Kolmogorov–Smirnov test was employed to examine the distribution of the data.

Table 4. The Result of Normality Test Using One-Sample Kolmogorov–Smirnov Test

Variable	N	Kolmogorov–Smirnov Sig.	Interpretation
Frequency of Using Grammarly	38	0.054	Normally distributed
Students' Thesis Writing Accuracy	38	0.054	Normally distributed

The data are considered normally distributed if the significance value is greater than 0.05. Conversely, if the significance value is less than 0.05, the data are not normally distributed. Based on the results presented in Table 4, the significance obtained was 0.054, which exceeds the threshold of 0.05. Therefore, it can be concluded that both independent and dependent variables are normally distributed, allowing the use of parametric statistical analysis.

3.2. Frequency of Using Grammarly

The frequency of using Grammarly was measured based on the duration of use, frequency of access, and estimated hours of use per month. The total frequency of use was then converted into a score, where a higher score indicates more frequent use of Grammarly.

Table 5. The Frequency of Using Grammarly

Students' Name	Duration of Use	Time per Session	Frequency	Total Hours/Month	Frequency Score
ARAM	More than 2 years	45 minutes	Once a week	3 hours	3
SU	Less than a year	1 hour	Every day	30 hours	7
DP	1 year	1 hour	Once a month	1 hour	2
A	More than 2 years	1 hour	Once a week	4 hours	4
EKA	More than 2 years	2.5 hours	Once a week	10 hours	5
KO	More than 2 years	1 hour	Once a month	1 hour	2
THC	Less than a year	45 minutes	Once a month	45 minutes	1
AFZ	More than 2 years	45 minutes	Once a month	45 minutes	1
MIW	More than 2 years	1 hour	Once a week	4 hours	4
ANR	1 year	1 hour	Once a week	4 hours	4
AKA	Less than a year	2.5 hours	Once a week	10 hours	5
EA	Less than a year	45 minutes	Once a week	3 hours	3
MRES	More than 2 years	45 minutes	Once a week	3 hours	3
MDAP	More than 2 years	45 minutes	Once a week	3 hours	3
RAS	More than 2 years	45 minutes	Once a month	45 minutes	1

Students' Name	Duration of Use	Time per Session	Frequency	Total Hours/Month	Frequency Score
UAF	More than 2 years	2.5 hours	Once a week	10 hours	5
ZRM	Less than a year	45 minutes	Once a week	3 hours	3
AR	More than 2 years	1 hour	Once a week	4 hours	4
GR	1 year	1 hour	Every day	30 hours	7
MFD	More than 2 years	45 minutes	Every day	22.5 hours	6
SRA	More than 2 years	45 minutes	Every day	22.5 hours	6
FDY	More than 2 years	2.5 hours	Every day	75 hours	8
STD	1 year	45 minutes	Once a week	3 hours	3
MSA	More than 2 years	2.5 hours	Every day	75 hours	8
NWA	More than 2 years	45 minutes	Once a month	45 minutes	1
D	1 year	45 minutes	Once a month	45 minutes	1
MAD	Less than a year	45 minutes	Once a week	3 hours	3
YF	More than 2 years	1 hour	Once a week	4 hours	4
CWL	More than 2 years	2.5 hours	Every day	75 hours	8
AB	More than 2 years	45 minutes	Once a week	3 hours	3
TMS	Less than a year	1 hour	Every day	30 hours	7
NAA	More than 2 years	45 minutes	Every day	22.5 hours	6
AA	Less than a year	45 minutes	Once a month	45 minutes	1
AIP	1 year	1 hour	Once a week	4 hours	4
AZ	More than 2 years	2.5 hours	Once a week	10 hours	5
TUS	More than 2 years	2.5 hours	Once a week	10 hours	5

As shown in Table 5, students demonstrated varied patterns of Grammarly usage. The frequency scores ranged from 1 to 8, indicating substantial differences in the intensity of Grammarly use among students. While many students had been using Grammarly for more than two years, their monthly usage hours varied considerably, from less than one hour per month to up to seventy-five hours per month. This variation suggests that length of experience with Grammarly does not necessarily reflect consistent or intensive usage.

3.3. Accuracy of Students' Thesis Writing

Students' thesis writing accuracy was assessed through an error analysis of their thesis drafts. The drafts were initially checked using Grammarly Premium and subsequently double-checked by the researcher to ensure accuracy. Errors were classified into four categories: errors of omission, addition, selection, and ordering.

Table 6. The Recapitulation of Students' Errors

Student	Omission	Addition	Selection	Ordering	Total Errors	Accuracy Score
ARAM	129	47	78	53	307	1
SU	60	26	63	30	179	4
DP	29	8	20	10	67	7
A	38	8	14	10	70	7
EKA	32	8	18	9	67	7
KO	26	22	27	47	122	5
THC	49	22	26	28	125	5
AFZ	47	14	27	12	100	6
MIW	1	3	5	8	17	8
ANR	39	14	23	13	89	6
AKA	43	12	23	19	97	6
EA	61	12	15	14	102	6
MRS	16	19	29	14	78	7
MDAP	31	25	31	13	100	6
RAS	46	16	27	20	109	6
UAF	32	15	24	21	92	6
ZRM	16	4	10	8	38	8
AR	7	21	16	25	69	7
GR	37	16	40	22	115	6
MFD	11	7	15	15	48	7
SRA	30	9	8	26	73	7
FDY	4	11	7	20	42	7
STD	17	12	10	10	49	7
MSA	3	4	8	1	16	8
NWA	5	9	18	6	38	8
D	55	36	28	26	145	5
MAD	41	20	28	16	105	6
YF	4	0	4	2	10	8
CWL	19	13	18	22	72	7
AB	18	10	22	14	64	7
TMS	25	20	14	12	71	7
NAA	41	16	30	15	102	6
AA	54	23	40	34	151	5
AIP	13	6	0	11	30	8
AZ	16	16	40	25	97	6
TUS	23	17	16	15	71	7

Table 6 shows that the total number of errors varied substantially among students, ranging from 10 to 307 errors. Errors of omission and selection were the most frequently identified, while errors of addition and ordering occurred less consistently. Based on the total number of errors, students' accuracy scores ranged from 5 to 8, indicating moderate to high levels of writing accuracy across participants.

3.4. Correlation between the Frequency of Using Grammarly and the Accuracy of Students' Thesis Writing

To examine the relationship between the frequency of using Grammarly and students' thesis writing accuracy, Pearson Product Moment Correlation was employed.

Table 7. Pearson Product Moment Correlation

Variables	Pearson Correlation	Sig. (2-tailed)	Interpretation
Frequency of Using Grammarly – Thesis Writing Accuracy	0.224	0.224	Not significant

A correlation is considered statistically significant if the significance value is less than 0.05. As shown in Table 7, the significance value obtained was **0.224**, which is greater than 0.05. This indicates that there is no statistically significant correlation between the frequency of using Grammarly and students' thesis writing accuracy.

Table 8. Pearson Correlation Value Degree

Coefficient Value	Interpretation
0.00–0.199	Very low
0.20–0.399	Low
0.40–0.599	Moderate
0.60–0.799	High
0.80–1.00	Very high

Based on Table 7, the Pearson correlation coefficient between the frequency of using Grammarly and students' thesis writing accuracy was 0.224, which falls within the low correlation category according to the interpretation scale in Table 8. Although the correlation coefficient is positive, the relationship remains weak and statistically insignificant. This finding suggests that an increased frequency of Grammarly use does not necessarily lead to higher accuracy in students' thesis writing. Other factors may play a more substantial role in determining writing accuracy.

4. Discussion

This study investigated the correlation between the frequency of using Grammarly and the accuracy of students' thesis writing. The respondents consisted of 63 English Language Education students of Universitas Negeri Malang from the 2017, 2018, and 2019 cohorts, with 36 students voluntarily submitting their thesis drafts for further analysis. Data were collected through questionnaires and document analysis and processed using SPSS version 25.

Overall, the findings indicate that there is no significant correlation between the frequency of using Grammarly and students' thesis writing accuracy. Although Grammarly was frequently used by some students, increased frequency of use did not necessarily correspond to fewer grammatical errors in thesis writing.

4.1. Frequency of Using Grammarly

The frequency of Grammarly usage was calculated by combining the duration of use per session and the number of sessions per month, resulting in frequency scores ranging from one to eight. The findings revealed substantial variation in Grammarly usage, with monthly use ranging from 45 minutes to 75 hours. This indicates that students' engagement with Grammarly differed considerably, even among those who had been using the tool for more than two years.

Previous studies suggest that frequent Grammarly use can enhance students' confidence and motivation in writing academic assignments (Grammarly, 2012; Maulidina & Wibowo, 2022). Grammarly's instant feedback may help students feel more secure about their grammar choices and save time during the writing process. However, increased confidence does not automatically translate into improved grammatical accuracy, particularly in complex academic writing such as thesis writing.

Concerns have also been raised regarding excessive reliance on intelligent writing tools. Wogu et al. (2018) argued that overdependence on such tools may reduce students' independent learning, critical thinking, and problem-solving skills. Seo et al. (2021) further emphasized the importance of establishing clear boundaries and ethical guidelines for the use of intelligent tools

to minimize potential negative effects. These concerns may explain why students, despite frequent Grammarly use, do not consistently apply it to high-stakes academic writing such as thesis drafting.

4.2. Accuracy of Students' Thesis Writing

Students' writing thesis accuracy was analyzed using Corder's error taxonomy (omission, addition, selection, and ordering), following Novianti (2013). Grammarly Premium was used as an initial error detection tool, followed by manual verification to ensure accuracy. The results showed that grammatical errors were still present in students' thesis drafts, regardless of their frequency of Grammarly use.

This finding aligns with O'Neill and Russell (2019), who identified several limitations of Grammarly, including missed errors, misleading suggestions, and excessive error generation. These limitations may reduce the effectiveness of Grammarly in improving writing accuracy, particularly in advanced academic writing that requires nuanced grammatical and rhetorical control.

In contrast, Marzuki et al. (2023) reported that intelligent writing tools can improve EFL students' writing accuracy when used with proper guidance. This suggests that Grammarly's effectiveness may depend less on frequency of use and more on how the tool is used and whether students are trained to critically evaluate its feedback.

4.3. Correlation between Frequency of Grammarly Use and Writing Accuracy

The correlation analysis revealed a low and statistically insignificant relationship between the frequency of Grammarly use and students' thesis writing accuracy. This finding indicates that frequent Grammarly usage alone is insufficient to significantly reduce grammatical errors in thesis writing.

One possible explanation is Grammarly's limited ability to detect certain grammatical features, such as tense consistency in extended academic texts (Fitria et al., 2022). Additionally, many students may rely on the free version of Grammarly, which offers fewer features than the premium version and may be inadequate for detecting complex grammatical errors (Astuti et al., 2023).

Moreover, writing thesis requires careful attention to content, argumentation, and coherence, aspects that extend beyond grammar correction. As Steiss et al. (2023) noted, human feedback remains more effective in clarifying complex issues and providing contextualized guidance, especially for lower-quality or developing academic texts. Therefore, Grammarly may be more suitable for lighter writing tasks rather than high-stakes academic writing such as theses.

Table 9. Summary of Key Discussion Findings

Aspect	Findings	Supporting Studies
Frequency of Grammarly use	Usage varied widely (45 minutes–75 hours/month)	Grammarly (2012); Maulidina & Wibowo (2022)
Writing accuracy	Grammatical errors remained present in thesis drafts	O'Neill & Russell (2019)
Correlation result	Low and insignificant correlation between frequency and accuracy	Present study
Tool limitations	Difficulty detecting tense and complex	Fitria et al. (2022); Astuti et

Aspect	Findings	Supporting Studies
	grammar	al. (2023)
Role of human feedback	Human feedback is more effective for complex writing	Steiss et al. (2023)

4.4. Pedagogical Implications

The findings of this study offer several pedagogical implications for educators and students. First, Grammarly should be positioned as a supplementary tool rather than a primary solution for improving thesis writing accuracy. While Grammarly can assist in identifying surface-level grammatical issues, it cannot fully replace human feedback or explicit grammar instruction.

Second, educators should provide explicit guidance on how to use Grammarly effectively, including training students to critically evaluate its feedback rather than accepting suggestions automatically. This approach may help students develop grammatical awareness and avoid overreliance on automated tools.

Third, balancing Automated Writing Evaluation (AWE) tools with instructor feedback is crucial. As Bailey and Lee (2020) cautioned, excessive dependence on Grammarly may hinder students' self-reliance in writing. Therefore, instructors should integrate Grammarly into classroom activities in a way that promotes independent revision, reflection, and metalinguistic awareness.

Finally, institutions should consider ethical and practical issues such as data privacy and access to premium features. Encouraging moderate and guided use of Grammarly, combined with continuous instructor support, may enhance its pedagogical value and contribute more effectively to improving students' thesis writing accuracy.

5. Conclusion

The findings of this study reveal that there is no significant correlation between the frequency of Grammarly use and students' thesis writing accuracy, indicating that frequent reliance on Grammarly does not necessarily predict higher levels of grammatical accuracy in high-stakes academic writing. This suggests that Grammarly may not be consistently utilized as a primary accuracy-checking tool in thesis writing. While Grammarly offers certain benefits, its limitations highlight the importance of integrating complementary strategies, such as guided supervision or double-checking mechanisms, to prevent overreliance and ensure that grammatical issues are properly addressed. Consequently, Grammarly should be positioned as a supportive component of the writing process rather than a substitute for students' language competence.

This study is subject to several limitations, including its focus on thesis writing as the sole measure of accuracy, the absence of individual learner variables, and the lack of control over draft versions submitted by participants. Based on these constraints, students are encouraged to use Grammarly critically, lecturers and educators are advised to implement it strategically through explicit instructional guidance, and future researchers are recommended to explore additional learner-related variables and the long-term effects of grammar-checking tools on academic writing development beyond the thesis context.

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