

**EXPLORING THE RELATIONSHIP BETWEEN GRAMMARLY PERCEPTIONS AND
EFL UNDERGRADUATE STUDENTS' ACADEMIC WRITING ACHIEVEMENT**

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Abstract

In the context of academic writing, English as a Foreign Language (EFL) undergraduate students seem to utilize AI-based grammar checkers, such as Grammarly, to assist them in their writing. This current study aimed to investigate the correlation between EFL undergraduate students' perceptions towards the use of Grammarly and their writing achievements in academic writing. Additionally, the study sought to determine the extent to which these perceptions affect their writing achievements in academic writing. This research employed a correlational research design which collecting the data through a questionnaire and writing test from 62 students of English Education Study Program at Universitas Muhammadiyah Metro. The findings showed that more than half participants, 51.61%, held a "High Perception" of Grammarly while their writing achievements in academic writing were generally categorized as "Good", with 95.16% of participants falling into this category. Then, the results revealed that there was a direct relationship with significant moderate to strong positive correlation and a significant level, suggested that as EFL undergraduate students' perceptions of Grammarly improve, their writing achievements in academic writing also tend to increase.

Keywords: *Academic Writing, Grammarly, Undergraduate Students, Perceptions, Writing Achievements*

INTRODUCTION

EFL students in higher education levels frequently encounter challenges in academic writing, mostly in understanding of correct grammar usage, spelling, and punctuation (Fitria, 2021). Various contexts of acquiring writing skills is particularly challenging for EFL students in academic settings (Faisal & Carabella, 2023; T. N. Fitria, 2021; Hakiki, 2021; Mohammad & Hazarika, 2016). These issues are compounded by time management pressures, as students grapple with resource-intensive revisions.

The integration of Artificial Intelligence (AI) into education has revolutionized language learning, particularly in higher education. With the proliferation of digital technologies, AI tools such as grammar checkers, powered by natural language processing and machine learning, offer real-time feedback, error identification, and contextually relevant suggestions, thereby enhancing writing proficiency and efficiency (Ardhy et al., 2023; Dong, 2023; Park, 2019).

This transformation is especially vital for academic writing, a skill distinct from creative or personal forms, involving knowledge-telling and knowledge-transforming processes that demand mastery of reasoning, interpretation, and presentation (Csizér &

Tankó, 2015). Writing in an academic environment is widely recognized as an important skill that students must develop to enhance their educational achievement at higher levels of education (Faisal & Carabella, 2023). However, EFL undergraduate students' achievements in academic writing are often hindered by various elements of writing, such as grammar, word order, diction, capitalization, punctuation, and spelling all contribute to the overall quality of the text. Consequently, for students to produce quality and great achievements in academic writing, they must comprehend those multiple grammatical components (Subandowo, 2022).

In addition, AI tools such as Grammarly (2024) address these barriers by delivering automated, real-time corrections for grammar, spelling, punctuation, and style. Grammarly as AI-based grammar checker is helpful to check grammatical errors in writing text (Ghufron & Rosyida, 2018). Ghufron and Rosyida (2018) mentioned that Grammarly is useful for writing assignments valuing its accessibility and ability to shift focus from technical edits to content development. This widespread adoption underscores AI's potential to mitigate EFL writing obstacles, yet its impact hinges on learners' perceptions of its utility.

Studies investigating the correlational analysis on EFL students' perceptions of writing tools such as Grammarly and their relationship with writing achievement utilized in academic writing in higher education seem limited. Hence, this study aims to investigate the correlation between EFL undergraduate students' perceptions of Grammarly use and their writing achievement in academic writing.

To address these aims, two research questions were formulated:

1. Is there a correlation between EFL undergraduate students' perceptions of Grammarly use and their academic writing achievement?
2. To what extent do the students' perceptions influence their academic writing achievement?

LITERATURE REVIEW

Students' Perceptions of AI-based Academic Writing (AW) in Language Learning Dimensions

Perception is an individual process of comprehending, organizing, and attributing meaning to stimuli derived from one's environment, influenced by learning and experience (Asrori, 2020). Perception shapes a person's unique experiences and interpretations and is an important factor in language learning. Through the positive perceptions by students of one's ability to learn the target language can increase motivation, confidence and perseverance, which are crucial for successful language acquisition. Therefore, considering students' perceptions is important for teachers to customize learning to achieve academic goals. Focusing on the students' perception regarding the use of AI-based academic writing, EFL undergraduate students perceive Grammarly as an AI-based grammar checker is a valuable tool that helps in identifying and correcting grammatical errors, style suggestion, punctuations, and spelling, which thus improving the quality of their writing. EFL undergraduates was actively engaged with Grammarly reported improvements in the accuracy of their writing (Oktaviani et al., 2022; Pratama, 2020; Rejeki, 2023; Wibawa & Nabhan, 2023).

A critical review of prior studies highlights Grammarly's role in EFL writing while revealing underexplored dimensions. Ardhy et al. (2023) surveyed 13 EFL students at IAIN Manado using mixed methods, finding predominantly positive perceptions of Grammarly for improving grammatical and stylistic accuracy, though limitations like internet dependency and storage constraints were noted. Similarly, Armanda et al. (2022) and Hakiki (2021) employing descriptive qualitative approaches with 40 and 43 Indonesian EFL students respectively, confirmed Grammarly's favorability as a grammar checker that enhances writing proficiency, despite occasional inaccuracies. Wibawa and Nabhan (2023) used a qualitative case study with five students at a private university in Surabaya, identifying benefits such as sentence structure checks, vocabulary suggestions, and user-friendliness, with drawbacks like result accuracy overcome through manual verification. Rejeki (2023) echoed these sentiments in a qualitative case study of 106 students at UIN Syarif Hidayatullah Jakarta, emphasizing Grammarly's efficacy in elevating writing quality while advising cautious use due to connectivity issues. Oktaviani et al. (2022) and Pratama (2020) through descriptive qualitative methods with 10 and 30 students in Indonesian contexts, reported positive views on Grammarly's features for error detection, tempered by premium costs, tense-detection limitations, and internet needs.

All in all, the mentioned studies affirm EFL undergraduate students' generally positive perceptions of Grammarly, highlighting its advantages in error correction and skill enhancement over its drawbacks. However, they predominantly rely on small-scale, qualitative designs focused on perceptions, benefits, and limitations, with limited generalizability due to homogeneous samples from specific Indonesian institutions (e.g., Ardhy et al., 2023; Wibawa & Nabhan, 2023). Critically, while Faisal and Carabella (2023) and Fitria (2021) touch on AI's broader writing impacts, few investigations quantitatively link perceptions to tangible outcomes like writing achievements in academic writing, overlooking how attitudinal factors influence performance in academic contexts.

AW in Higher Education Institution (HEIs)

Irvin (2010, p. 8) defines AW as a form of assessment that requires individuals to showcase their knowledge and exhibit proficiency in specific disciplinary skills related to thinking, interpreting, and presenting information. Likewise, Paltridge (2004) highlights that academic writing involves producing non-fiction texts that adhere to the standards of a particular academic subject or discipline and it encompasses a wide range of genres, including reports on empirical fieldwork, monographs analyzing culture or proposing new theories, and undergraduate versions of these texts.

Moreover, the experts agree that academic writing is important to achieve academic purposes in the higher education level because it supports learners to fulfill their necessity in learning (Perdana et al., 2021). It takes a great deal of study and practice in order to improve a student's writing ability (R. A. Fitria et al., 2022). Specifically, academic writing should utilize complex, formal, objective, hedged, precise, clear or explicit, and accurate language that higher student must comprehend it (Gillett et al., 2009).

According to Gillett et al. (2009), essays are recognized as the "standard genre" in all academic areas. Essays are employed to analyze and investigate a subject comprehensively, such as the causes of a historical event, the merits and drawbacks of a theory, or the effects of a new law on society. The EFL undergraduate students are typically required to present their perspective or assessment on the topic.

METHOD

Research design

This study employed a correlational research design. According to Burkholder et al. (2020), the correlation research design is employed to comprehend the nature of the relationship between naturally occurring variables that cannot be manipulated. The participants were 62 EFL undergraduate students from the English Education Department at Universitas Muhammadiyah Metro, enrolled in the 4th, 6th, and 8th semesters. A purposive sampling technique was used, following Babbie's (2013) definition of purposive sampling as a type of non-probability sampling in which the researcher intentionally selects specific units to be studied based on their judgment of which ones are the most valuable or representative.

The participants involved in this study were EFL undergraduate students of English Education Department at Universitas Muhammadiyah Metro in the 4th, 6th, and 8th semesters who had taken or were currently taking the Academic Writing (AW) course, as well as those who have used Grammarly in composing English academic writing.

Research instruments

Research instruments employed in this current study were questionnaire and writing test. This study used close-ended questionnaire that adapted and modified to measure the following perception of EFL undergraduate students toward the use of Grammarly in writing from the research by Ardhy et al. (2023) and Hakiki (2021). There were 30 statements in total of the questionnaire from both studies regarding the EFL undergraduate students' perception of Grammarly, including the utilization and the quality of Grammarly as an AI-based writing tools in academic writing, particularly in writing English assignment and essay. The questionnaire utilized a 5-point Likert scale to assess perceptions, namely Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1) for positive statements and vice versa for negative statements.

In addition, the writing test aimed to evaluate students' writing achievements through an essay writing test. The assessment was based on an analytical scoring rubric adapted from Jacob et al. (1981), focusing on content, organization, language, vocabulary, and mechanics, with a total score of 100. In compiled the evaluation results, the assessment was carried out through inter-rater by involved 2 raters. Moreover, the researchers also used an interpretive guide for college and university placement which has five categories Jacob et al. (1981), namely Excellent to very good (88-100), Good (75-87), Fair (64-74), Poor (49-63), and Very Poor (34-48). Additionally, in validating the instruments, this study utilized construct and content validity for the questionnaire and

writing test's content validity was confirmed through the validation from English for Academic Purposes (EAP) lecturers.

Data collection

The data collection involved several steps. First, the questionnaire was made available online via Google Forms to facilitate data collection and completed the questionnaire in 35-40 minutes during offline meeting conducted at different times for each semester. After all participants completed the questionnaire, the researcher scheduled a second offline meeting for the writing test, also conducted at different times for each semester. During this meeting, participants received Microsoft Word assignment sheets with clear instructions for completing and submitting their essays. In this case, the researcher set a limit of 60 minutes for each participant to complete their essay.

Data analysis

Several tests were carried out to explore the topic, such as normality test, linearity test, and hypothesis test. The normality and linearity test were employed before test the hypothesis. In doing so, the researcher used the Kolmogorov Smirnov calculation to test the normality because the number of respondents was greater than 50. In the basis of decision making, if the significant value (P) > 0.05 , the data distribution is normal. Subsequently, the researchers used ANOVA (Analysis of Variance) Table to test linearity. In the basis of decision making, if the value of deviation from linearity Sig > 0.05 , it means that there is a linear relationship between the two variables. Then, the researcher utilized Pearson Product-Moment Correlation Coefficient (Pearson r) to test the hypothesis followed the values of the Pearson r by Patten and Newhart (2018).

The Pearson r measured the strength and direction of the linear relationship (positive and negative) between EFL undergraduate students' perceptions Grammarly use and their writing achievements in academic writing. The terms "positive" and "negative" refer to the literal value of Pearson's r , the correlation coefficient, which ranges from -1.00 to 1.00, where a value of -1.00 signifies a strong negative correlation, while a value of 1.00 indicates a strong positive correlation (Patten & Newhart, 2018). Furthermore, all the data was analyzed through Statistical Package for Social Science (SPSS) 27 version.

Research involving human subjects

This present study involved human participants and it was conducted in accordance with established ethical standards and best practices, including the outlined by institutional review guidelines at UM Metro. The participants provided informed consent, emphasizing voluntary participation, confidentiality, and the right to withdraw at any time without penalty. Personal data were anonymized, stored securely, and used solely for research purposes. The exclusion of the researcher and a fellow classmate

from the sample further mitigated conflicts of interest. Also, ethical approval was obtained from the relevant departmental ethics committee prior to data collection.

FINDINGS AND DISCUSSION

Findings

EFL Undergraduate Students' Perceptions toward the Use of Grammarly in Academic Writing

The first finding deals with EFL students' perceptions towards the use of Grammarly in academic writing. The following Table 1 demonstrates the results of descriptive statistical data of the questionnaire from SPSS 27.

Table 1. The descriptive statistics of the questionnaire

Descriptive Statistics of EFL Students' Perceptions at UM Metro toward the Use of Grammarly in Academic Writing					
Indicators	Statements	N	Mode	Mean	Std. Deviation
EFL students' opinion about the use of Grammarly in writing English assignment	S1	62	4	3.9355	.90302
	S2	62	4	3.7903	.74958
	S3	62	3	2.8548	.72081
	S4	62	4	4.0484	.71121
	S5	62	4	3.9032	.76200
	S6	62	4	3.7742	.71102
	S7	62	4	3.4516	.76131
	S8	62	4	3.5323	.74035
	S9	62	4	3.6290	.85380
	S10	62	3	3.1129	.87037
	S11	62	3	3.2581	.78793
	S12	62	4	3.6613	.80863
	S13	62	4	3.5645	.93425
	S14	62	3	3.4032	.63915
	S15	62	3	3.3387	.72301
EFL students about their awareness of Grammarly and other grammar checking tools to support their essay writing	S16	62	3	3.0806	.79545
	S17	62	4	3.6452	.77028
EFL students' perceptions of the usefulness of Grammarly in writing their English essays	S18	62	4	3.8065	.78592
	S19	62	4	3.7258	.72811
	S20	62	4	3.4677	.69466
	S21	62	3	3.2097	.81255
	S22	62	4	3.5323	.76217
EFL students' perceptions of the usefulness of Grammarly in improving their writing skills	S23	62	4	3.6774	.62132
	S24	62	4	3.5645	.80207
	S25	62	4	3.6129	.75433
EFL students' perceptions about the quality of	S26	62	4	3.8387	.85303
	S27	62	4	3.4677	.78339

Grammarly software or applications for essay writing	S28	62	4	3.5484	.76131
	S29	62	3	3.4677	.71787
	S30	62	4	3.6774	.90126
Valid N (listwise)		62			

Table 1 shows that the students' perceptions towards the use of Grammarly in academic writing have predominantly positive view of the tool. For example, in the efficiency in grammar correction in the S1 "*I can fix English grammar faster by using Grammarly than fixing it manually*" received a mean score of 3.9355 with standard deviation of .90302 and a mode of 4, indicating strong agreement among EFL undergraduate students. This suggests that Grammarly was viewed as a timesaving resource, allowing EFL undergraduate students to focus more on content rather than getting bogged down by grammatical details.

However, this reliance on speed raised concerns about whether EFL undergraduate students were sacrificing a deeper understanding of grammar rules in favor of expediency. Likewise, in the utility in the writing assignments in the S4 "*I use Grammarly to help me understand grammatical errors in writing my assignments*" scored a mean of 4.0484 with standard deviation of .71121 and a mode of 4, further reinforcing the positive perception of Grammarly as a learning tool. EFL undergraduate students appeared to appreciate its role in clarifying grammatical concepts, which could contribute to their overall language development. This indicated that Grammarly was not merely a corrective tool but also serves an educational purpose which can help students to learn from their mistakes.

In feedback on features, such as the plagiarism-checking capability, was also noteworthy. The S9 "*I find the plagiarism-checking feature to be a valuable addition to Grammarly*" received a mean of 3.6290 with standard deviation of .85380 and a mode of 4, indicating that EFL undergraduate students recognized the importance of maintaining academic integrity. This suggests that Grammarly was seen as a comprehensive tool that not only corrects grammar but also supports ethical writing practices.

In the confidence in writing in the S24 "*With Grammarly, I feel more confident in writing my academic texts, particularly my English essays*" received a mean of 3.5645 with standard deviation of .80207 and a mode of 4, indicating that EFL undergraduate students feel empowered by using the tool. This confidence in writing was crucial for EFL undergraduate students who may struggle with language barriers. The ability to produce error-free writing can enhance their self-esteem and encourage them to engage more actively in academic discourse.

The findings also suggested critical insights, particularly regarding the negative statements that highlight areas of ambivalence and potential limitations of the tool. For instance, the neutrality towards problematic experiences in the S3 "*I do NOT encounter any problems when using Grammarly for my English assignments*" received a mean of 2.8548 with standard deviation of .72081 and a mode of 3, indicating that EFL undergraduate students were largely neutral about their experiences with the tool. This neutrality suggested that while many of them may find Grammarly useful, there was a portion who either experience issues or were not fully aware of the tool's limitations. Also,

in confidence and understanding in S7 "*Using Grammarly makes me feel LESS confident with my English grammar in writing assignments*" received a mean of 3.4516 with standard deviation of .76131 and a mode of 4, indicating disagreement. This indicated that EFL undergraduate students generally feel more confident when using Grammarly.

Moreover, in neutrality on frequency of use in S14 "*I always use Grammarly in writing my English assignments*" had a mean score of 3.4032 with standard deviation of .63915 and a mode of 3. Then, in this case, the use of Grammarly was addressed quite sensibly. Although they felt confident when using Grammarly, not all assignments were completed by relying on this tool. If this continues to be developed, their writing achievements also develop adequately, potentially leading to an understanding of the rules of academic conventions.

Table 2 below provides the segmentation of complete data distribution based on the categorized results for the level of perception.

Table 2. Data distribution of questionnaire

No.	Score Range	Category	Frequency	Percentage
1	$X < 70$	Low Perception	-	-
2	$70 \leq X < 110$	Medium Perception	30	48.39%
3	$110 \leq X$	High Perception	32	51.61%
Total			62	100%

The data presented in Table 2 revealed that none of the EFL undergraduate students fell into the "Low Perception" category, defined by a score below 70. There were 30 EFL undergraduate students, representing 48.39% of the respondents, who were classified under the "Medium Perception" category with scores ranging from 70 to 109. Furthermore, there were more than half of EFL undergraduate students, totalling 32 or 51.61%, belonged to the "High Perception" category, with scores of 110 and above. This distribution suggested that the majority of the EFL undergraduate students highly perceived positively Grammarly as a helpful tool to help them compose English writing in an academic context.

EFL Undergraduate Students' Academic Writing Achievements

The second finding was related to the EFL undergraduate students' writing achievements in academic writing. The following Table 3 displays the results of the statistical data.

Table 3. The descriptive statistics of the writing test

Descriptive Statistics of EFL Undergraduate Students' Writing Achievements at UM Metro in Academic Writing						
	N	Range	Minimum	Maximum	Mean	Std. Deviation
Y	62	10	74	84	80.05	1.979
Valid N (listwise)	62					

Regarding to Table 3, the data indicated that EFL undergraduate students have a good level of writing achievement in academic writing, with a mean score of 80.05 with standard deviation of 1.979. The scores range from 74 to 84, showing some variability but overall, a strong performance. The standard deviation suggested that most students scored similarly, indicating a consistent level of proficiency in writing among the

participants. Table 4 showed the segmentation of complete data distribution based on the categorized results for writing achievements.

Table 4. Data distribution of writing test

No.	Score Range	Category	Frequency	Percentage
1	100-88	Excellent to very good	-	-
2	87-75	Good	59	95.16%
3	74-64	Fair	3	4.84%
4	63-49	Poor	-	-
5	48-34	Very poor	-	-
Total			62	100%

The data revealed the absence of "Excellent to very good" category suggested that while students were performing well, there may be room for improvement in reaching the highest levels of writing achievements. The majority of EFL undergraduate students, a remarkable 95.16%, achieved scores within the "Good" category, which ranges from 75 to 87.

Based on the scoring rubric, EFL undergraduate students were likely able to meet writing requirements in subject matter courses with minimal difficulty, though additional time and effort may be necessary. Conversely, a small portion of the EFL undergraduate students, specifically 4.84%, belonged into the "Fair" category, with scores ranging from 64 to 74. This indicated that while these students were meeting the basic requirements of academic writing, their achievements were not as strong as their peers in the "Good" category. As shown in scoring rubric that in proficiency evaluation the EFL undergraduate students seemed to likely encounter significant challenges in completing writing requirements for subject matter courses and may struggle to compete effectively with native English writers.

Lastly, there were no EFL undergraduate students categorized as "Poor" or "Very poor," which indicated that all students managed to achieve at least a fair level of writing achievements in academic writing. Then, the findings showed that most students' writing achievements was at a "Good" level, while a small number is at a "Fair" level, indicating that a small number of EFL undergraduate students have less understanding in composing English academic writing.

Correlations between EFL Undergraduate Students' Perceptions Towards the Use of Grammarly and Their Writing Achievements in Academic Writing

Additionally, before employed parametric testing to test the hypotheses, it was crucial to know that data distribution was normal and the variables has linear relationship. The significant value of normality test was greater than 0.05 ($0.198 > 0.05$). It can be concluded that the data was normally distributed. Therefore, the significant value of deviation from linearity was greater than 0.05 ($0.123 > 0.05$). It can be concluded that there was a linear relationship between the two variables.

Based on the normality test and linearity test which found that the data were normally distributed and the relationship between the two variables was linear, the hypothesis test was carried out with parametric statistics using Pearson Product-Moment Correlation Coefficient (Pearson r) in SPSS 27. Table 5 provides the results of the hypothesis tests.

Table 5. The result of hypothesis tests

Correlations			
		X	Y
X	Pearson Correlation	1	.571**
	Sig. (2-tailed)		.000
	N	62	62
Y	Pearson Correlation	.571**	1
	Sig. (2-tailed)	.000	
	N	62	62

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson r of 0.571 indicated that there was a direct relationship with a moderate to strong positive correlation (0.49-0.59). It means that EFL undergraduate students who hold positive perceptions of Grammarly are likely to achieve higher writing scores in academic writing. The significance level of 0.000 reinforces the strength of this correlation.

DISCUSSION

This study aimed at investigating a correlation between EFL undergraduate students' perceptions towards the use of Grammarly and their writing achievement in academic writing. The findings discussed regarding the problem formulations, previous research, theoretical review, and potential implications in higher educational context.

For the research question 1, the investigation reveals that there a significant correlation between EFL undergraduate students' perceptions towards the use of Grammarly and their writing achievements in academic writing.

In term of the research question 2, the results suggest that a Pearson r value of 0.571 and significant value of 0.000 indicated that the findings of this study had a direct relationship with a moderate to strong positive correlation, suggesting that EFL undergraduate students who view Grammarly positively were likely to have higher writing achievements in academic writing. This results supported the overall conclusions of previous research which indicated that EFL undergraduate students' have positive perceptions of Grammarly and significantly assist EFL undergraduate students in overcoming challenges in writing (Ardhy et al., 2023; Armanda et al., 2022; Hakiki, 2021; Oktaviani et al., 2022; Pratama, 2020; Rejeki, 2023; Wibawa & Nabhan, 2023).

The findings of this current study contributed valuable empirical evidence and new insight regarding the correlation between EFL undergraduate students' perceptions towards the use of Grammarly and their writing achievements in academic writing, an area that had been underexplored in the context of EFL undergraduate education. The moderate to strong positive correlation identified in this current study underscored the potential of Grammarly as a beneficial tool for enhancing writing achievements in academic writing among EFL undergraduate students, thereby reinforcing the importance of integrating such AI-based writing tools into academic writing instruction.

Furthermore, the findings showed that most EFL students at Universitas Muhammadiyah Metro perceived Grammarly positively which fell into the "High

Perception” category with scores of 110 and above. This finding aligned with previous studies which stated that EFL undergraduate students perceive positively toward the use of Grammarly in writing, specifically in academic context (Ardhy et al., 2023; Armanda et al., 2022; Hakiki, 2021; Oktaviani et al., 2022; Pratama, 2020; Rejeki, 2023; Wibawa & Nabhan, 2023). As such of those conducted by Ardhy et al. (2023) and Wibawa and Nabhan (2023) which reported that EFL undergraduate students generally hold positive perceptions of Grammarly and recognize its benefits in enhancing their writing skills, particularly in academic writing. Ardhy et al. (2023) found that positive perceptions of Grammarly were prevalent among EFL students, leading to increased effectiveness and accuracy in writing.

Wibawa and Nabhan (2023) highlighted that EFL undergraduate students perceived Grammarly as a helpful tool for checking sentence structures and improving writing skills. Likewise, Rejeki (2023) found that the most EFL undergraduate students’ perceived Grammarly positively in its implementation in writing classes such as can improve their academic writing skills.

Moreover, the findings also revealed that EFL undergraduate students’ writing achievements was at a “Good” level with scores ranging from 75 to 87. This indicated that there was a good understanding of the nuance of academic writing, reflecting their ability to effectively applied the academic convention, communicated their ideas, and arguments in written form. Based on the scoring rubric, the students are likely able to meet writing requirements in subject matter courses with minimal difficulty, though additional time and effort may be necessary. This finding linked with the studies from Armanda et al. (2022) and Hakiki (2021) who demonstrated that EFL undergraduate students favor using Grammarly to check grammar errors and improve writing achievements.

Furthermore, this present study also supported the research by Oktaviani et al. (2022) and Pratama (2020) that revealed that Grammarly as an online grammar checker has many related features for checking grammar errors, punctuation, and spelling which can improve EFL undergraduate students’ writing process. Similarly, the finding of this study aligned with study by Rejeki (2023) which from the data showed that Grammarly can improve the efficacy and quality of writing by correcting grammatical and stylistic problems.

Thus, indirectly, this study proved the claim by Grammarly (2024) that it is tools can assist pupils in attaining their academic objectives and enhancing their writing proficiency in essays, reports, and college admissions applications. This was aligned with the theory by O’Neill and Russell (2019) state that Grammarly can reconcile contradictory notions concerning textual corrective feedback. It can analyze written text for grammatical errors, punctuation issues, spelling mistakes, and style improvements. Also, Villar (2018) as cited in Setyani et al. (2023) state that Grammarly automatically identifies potential errors in grammar, spelling, punctuation, word selection, and stylistic elements in written. The consistent theme across these studies is that Grammarly has benefits in improving EFL undergraduate students’ writing achievements in academic writing.

Additionally, the findings of this study were relevant to the theory about the integration of Grammarly into academic writing not only improved EFL undergraduate students' perceptions of their writing abilities but also translated into tangible improvements in their writing achievements in academic writing. This was particularly relevant in the context of EFL learners who often faced challenges in academic writing due to language barriers and unfamiliarity with the nuances of academic English (Aldabbus & Almansouri, 2022). Then, using an online grammar checker, such as Grammarly, can be a solution for those with several different perspectives (Pratama, 2020).

Finally, this study suggests that the integration of Grammarly into academic writing was not only perceived positively by EFL undergraduate students, but also has the potential to significantly improved writing achievements in academic writing. This positive correlation was significant as it may indicate that EFL undergraduate students were increasingly realizing the value of digital tools in their language learning process.

CONCLUSION

The study aimed to investigate the correlation between EFL undergraduate students' perceptions towards the use of Grammarly and their writing achievements in academic writing. The researchers accepted the hypothesis, confirming a significant moderate to strong positive correlation between EFL undergraduate students' perceptions towards the use of Grammarly and their writing achievements in academic writing. The findings revealed that there were predominantly positive perceptions towards the use of Grammarly with 51.61% participants belonged to "High Perception." This indicated that Grammarly was recognized as a valuable tool for addressing academic writing challenges.

In terms of writing achievements, 95.16% of students scored within the "Good" category, demonstrating a good understanding of the nuance of academic writing. The hypothesis testing showed a Pearson r of 0.571 and significance value of 0.000, suggesting that improved perceptions of Grammarly correlate with better writing achievements in academic writing. This underscores the importance of students' perceptions in the learning process and supports the benefits of using AI-based writing tools.

The implication in teaching academic writing is English teachers in higher education must encouraged to actively incorporate digital tools such as Grammarly into their teaching practices. By organizing training sessions, they can help students become familiar with Grammarly's features, such as grammar checking, style improvement, and error correction. Continuously, EFL undergraduate students should take the advantages of Grammarly, not only as a final proofreading tool, but also to learn from the corrections offered. Developing a consistent writing routine that includes drafting, revising with Grammarly, and seeking feedback from teachers or peers can greatly improve writing achievements in academic writing.

Furthermore, as this current study focused on the correlation with limited long-term impact of Grammarly use, for future researchers interested in conducting research in the

same field, they can explore, maximize, and expand their studies to examine the long-term impact of Grammarly on academic writing through longitudinal research. They can also adapt the writing test instruments developed in this study by conducting a pilot study with a larger sample size to ensure the validity and reliability of the instruments. Additionally, exploring EAP lecturers' perspectives on the use of Grammarly in their teaching may highlight best practices and the overall influence of these AI-based writing tools in writing instruction.

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