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Scrutinizing the Impacts of Grammarly Application on Students' Writing Performance and Perception

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SCRUTINIZING THE IMPACTS OF GRAMMARLY APPLICATION ON STUDENTS' WRITING PERFORMANCE AND PERCEPTION

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Abstract

This research explored the impact of the Grammarly application on students' writing performance and perceptions, particularly during the thesis writing stage. Writing is a complex cognitive process requiring strategic planning, organization, grammar, and vocabulary skills. The study focused on students majoring in English Language Education at Ar-Raniry State Islamic University, specifically those in their ninth semester from the 2018 cohort. A purposive sample of 42 students, all at the thesis writing stage and users of Grammarly, was selected from a total of 127. Additionally, three lecturers, serving as thesis supervisors, were randomly selected for interviews from a pool of 20. The research employed both qualitative and quantitative methods, using survey questionnaires and interviews for data collection. Results indicated that Grammarly was a beneficial tool for students, significantly aiding in thesis writing and reducing the time spent on checking grammatical errors. The surveys revealed unanimous student agreement on Grammarly's positive impact on their writing process. Interviews with lecturers supported this, noting an improvement in the quality of theses written by students who used Grammarly. This study underscored the effectiveness of Automated Writing Evaluation (AWE) tools like Grammarly in enhancing students' writing skills and outcomes.

Keywords: Education; Grammarly; Thesis Writing; Perception; Automated Writing Evaluation.



A. Introduction

The rapid advancement of technology has reshaped the global landscape significantly, influencing various aspects of society including networking and education. Notably, English language education plays a crucial role in this era, especially in language instruction. English, as a dominant global language, is a key skill for students worldwide (Lee et al., 2022). Incorporating technology into English language teaching has shown to be beneficial (Merta et al., 2023), particularly in enhancing proficiency in English as a Foreign Language (EFL) through the use of technological devices and internet connectivity (Lee et al., 2022). The introduction of software and applications into language learning, as observed by Daniel et al., (2023), has made the process more engaging.

The four core skills in learning English are listening, reading, speaking, and writing, with writing often considered the most challenging (Bassot, 2016). Writing is a complex cognitive process that demands not only basic skills like spelling, grammar, and vocabulary but also advanced skills such as strategic planning and organizational structuring (Muluk et al., 2022). Technology, according to Law and Baer (2020) can improve university students' self-review abilities in writing.

Grammar proficiency is critical for effective writing. In the complex global context, students often struggle with grammar, but technological solutions like Grammarly offer assistance. Nova (2018) highlights that Automated Writing Evaluation (AWE) tools, such as Grammarly, aid in checking the formal aspects of writing. Grammarly, available on the Play Store, is recognized for correcting language issues, particularly articles and prepositions. Fitria et al., (2022) notes its efficacy in addressing various grammatical aspects including punctuation, spelling, conciseness, readability, word choice, and plagiarism.

The extensive use of Grammarly demonstrates an acknowledgment of its efficacy in improving writing skills throughout many educational settings. Multiple research studies have shown that using Grammarly has yielded a substantial enhancement in students' writing confidence (Setyani et al., 2023). Enhancing confidence is a crucial element in the learning

process, as it motivates students to approach increasingly intricate writing assignments with more certainty.

The impact of Grammarly on students' writing confidence can be explored through several lenses, one of which is the perception theory. Perception theory posits that individuals form their thoughts and interpretations based on their sensory experiences and interpretations. In the learning context, this theory suggests that students' perceptions of their learning environment, including the tools and resources available to them, significantly influence their learning outcomes. Grammarly, as a tool that assists in writing, directly impacts students' perception of their writing abilities (O'Neill & Russell, 2019; Fitria, 2021). By providing immediate feedback and corrections, Grammarly helps students perceive their writing skills as more competent and reliable.

Perception can be described as the cognitive process through which individuals form their thoughts and interpretations of the objects or events they perceive. According to Spivey (2023), the concept of perception refers to the cognitive process via which humans engage in thinking. Students' perceptions can be defined as the comprehension of their preferred learning method, which includes their personality traits related to visual, auditory, kinesthetic, and reading/ writing modalities (Muluk et al., 2020; Mudra, 2023). This study examines the relationship between students' perceptions and thoughts on the utilization of the Grammarly application, with a specific emphasis on its application in thesis writing.

Ellis (2019) calls perception in language learning "language cognition", a rich understanding of the surrounding environment. Jerome Bruner, one of the proponents of the perceptual model, believes that perception is when we put together information about a targeted situation (Ozdem-Yilmaz & Bilican, 2020). When perception theory is used to study language learning, it provides a lens through which to examine how students perceive, process, and react to the language input and criticism they come across when writing.



Learning to make sense of their sensory experiences is emphasized by perception theory, which has its roots in cognitive psychology (F. Xu, 2019). This theory goes beyond the decoding of linguistic symbols to include the understanding of complex cultural, contextual, and rhetorical components in the context of language learning. It also covers the interpretation and processing of written language. Perception theory can be used to explain how writers perceive written language, as White (2021) highlights, both in terms of production (language acquisition) and comprehension (grammatical theory).

People interpret and make meaning of the sensory data they receive from their surroundings through perception. Distinct sensory modalities and cognitive processes are involved in distinct types of perception. Visual perception is the first kind of perception. The interpretation of data obtained through the eyes is a component of visual perception (Lupyan et al., 2020). Recognizing patterns, colors, forms, depth, and spatial relationships are all included. Cui et al., (2019) add that for activities like reading and computation, for example, and navigating the surroundings, visual perception is essential.

The second form of perception is auditory perception, which deals with sound interpretation (Denham & Winkler, 2020). Pitch, loudness, tone, and the capacity to differentiate between various auditory inputs are all included in this. Understanding conversation, appreciating music, and being aware of one's surroundings all depend on auditory perception. The next category of perception is gustatory perception, which is related to taste (Spence, 2022). It entails identifying many flavors, including sour, bitter, salty, and sweet. Other types and categorizations of perception are long. Social perception, time perception, cognitive perception, spatial perception, body movement perception, touch sensation perception, or smell perception, among others, are some categorizations of perceptions in our world. In the context of this article, the study focuses on emphasizing social and cognitive perception to perceive the use of Grammarly and its impacts on students' writing.

Writing can be considered a mode of nonverbal communication wherein individuals convey their thoughts and ideas through written words. The skill of effectively communicating through writing is greatly esteemed and has significant practical applications in contemporary culture. The mastery of this ability is of utmost importance for individuals, as seen by its application in tasks such as crafting written communications or producing scholarly articles. According to Xu et al. (2022), while writing is an intricate and demanding endeavor, it is vital to acquire other English skills. Similarly, Fahmi and Rachmijati (2021) believe that the acquisition of writing competency by pupils may facilitate the acquisition of other abilities. In a more precise way, Kadam and Pusawale (2023) mentioned that acquiring writing skills leads learners to possess effective communication skills.

Many scholars in the academic community have undertaken comprehensive inquiries into the subject matter of writing proficiency. The study of grammar, widely regarded as a key aspect of the English language, frequently elicits considerable apprehension among students. The study undertaken by Hicham & Bachir, (2020) involved a thorough examination aimed at identifying the many faults present in the written texts generated by students. The discovered faults encompassed a range of areas, such as composition, grammar, spelling, verb usage, tense consistency, preposition usage, article usage, capitalization, and punctuation. To mitigate the cognitive load, it is imperative for persons who are acquiring a new language to possess the requisite abilities and access to appropriate resources (Allen et al., 2014).

Graham (2022) puts forth a conceptual framework comprising five essential stages that serve the purpose of rectifying any inadequacies in the process of producing written content, encompassing prewriting, drafting, revising, editing, and publishing. Although Hicham and Bachir (2020) present a noteworthy proposition, it is crucial to recognize that the process of rectifying grammatical faults in written compositions has been significantly easier with technological improvements. Even, the technological application has successfully built students' confidence in being free from grammatical mistakes (Setyani et al., 2023; Ayu & Nurweni, 2023).



The advancements in modern technology have greatly facilitated the process of rectifying grammatical faults in written text (Utami & Mahardika, 2023). According to Lin et al. (2020), AWE, or Automated Writing Evaluation, is a technological tool employed to analyze written content and offer points and criticism. Dizon and Gayed, (2021) suggested that:

“Automated Writing Evaluation (AWE) software is widely employed in the enhancement of writing proficiency among second language (L2) learners. These systems aid foreign language learners in enhancing their writing accuracy by providing automatic corrective feedback, hence reducing errors pertaining to grammar, vocabulary, style, organization, and mechanics”.

Established in 2009 in the United States (Qassemzadeh & Soleimani, 2016), Grammarly is a grammar-checking tool. Calma et al. (2022) suggested that Grammarly is an artificial intelligence tool utilized in writing activities to assess grammar and spelling accuracy, as well as identify instances of plagiarism. Grammarly is capable of correcting unconventional punctuation and suggesting alternative words, thus enhancing the overall appeal of the written content (Dizon & Gayed, 2021; Thi & Nikolov, 2022).

Numerous studies have examined the implementation of Grammarly, an Automated Writing Evaluation (AWE) tool, within the context of education. These studies have investigated the effects of Grammarly on students' writing abilities, teachers' feedback strategies, and the overall learning experience in English as a Foreign Language (EFL) settings. For example, Tambunan et al. (2022) examined the impact of Grammarly, an Automated Writing Evaluation (AWE) tool, on the scholarly writing skills of Indonesian English as a Foreign Language (EFL) learners. The study demonstrated the benefits of technological corrective feedback. This exemplified the efficacy of AWE tools in enhancing writing skills via correcting fundamental errors, including punctuation and grammar. Nevertheless, it also highlighted the tool's insufficiency in evaluating intricate aspects of writing that need human logic. The generalizability of the study results may be limited as a result of its restricted scope. This study suggested further inquiries regarding the enduring impacts of AWE tools,

cross-tool, and cross-context comparisons, and the potential of AWE feedback to enhance traditional teaching methods to improve writing skills and independent thinking.

Using surveys and tests, Miranty et al. (2023) examined the impact of Automated Writing Evaluation (AWE) tools, Grammarly and Grammarly, on the writing abilities of 35 Indonesian undergraduate EFL students over the course of four months. The findings indicated notable advancements in writing proficiency, specifically in the areas of punctuation, grammatical accuracy, mechanics, and style. Students expressed their satisfaction with the effectiveness of the tools. However, the study mentioned its limitations its small sample size, and emphasis on surface writing elements, despite its valuable contributions. The research suggested investigating the potential of AWE in language learning and teaching by comparing different AWE tools across a range of writing tasks, examining long-term effects, and incorporating qualitative analyses.

Other Studies on teachers' perspectives and the use of AWE technologies such as Grammarly uncover a complex perspective. There exists a divergence of opinions among educators on the efficacy of automated feedback in addressing lower-order writing difficulties, so affording them more time to focus on higher-order features (Koltovskaia, 2023). Research indicates that educators persist in delivering thorough criticism that includes both global and local writing elements, irrespective of the assistance Grammarly provides. The varied response highlights the need to adopt a well-rounded strategy that integrates automated technologies with human expertise to accommodate the varying requirements and learning goals of students (Mat et al., 2024).

Moreover, studies on the use of AWE tools in writing instruction indicate a wider controversy over the significance of technology in the process of acquiring knowledge. Although programs such as Grammarly have the potential to enhance certain elements of writing, such as vocabulary and punctuation, they may not fully address the content and structure of writing. The aforementioned constraint underscores the



ongoing want for conventional assessment techniques and individualized instruction in cultivating proficient writing abilities (Mat et al., 2024).

Amidst the COVID-19 epidemic and the ensuing transition to online education, there has been a surge in the investigation of digital tools, such as Grammarly. Teachers have been urged to use a range of digital tools to improve the learning process, regardless of whether it is done in real time or at a later time. The increasing acknowledgment of the advantages and constraints of digital tools in education is evident in the willingness to adapt and embrace technological integration. This underscores the importance of careful implementation and continuous investigation to fully harness their potential in enhancing writing abilities and educational achievements (Ahmad et al., 2022; Muluk et al., 2023).

Drawing upon the gaps identified in the aforementioned reviews, this research seeks to address the underexplored facets of utilizing Grammarly, an Automated Writing Evaluation (AWE) tool, within varied academic contexts, specifically in undergraduate thesis writing (Miranty et al., 2023; Tambunan et al., 2022). Realizing the demand for more qualitative analysis (Miranty et al., 2023), the study intends to examine the implications of Grammarly's application from both student and educator perspectives (Koltovskaia, 2023), thus enriching the analysis with multifaceted viewpoints. By incorporating a qualitative methodology alongside quantitative analysis, this investigation aims to provide a comprehensive understanding of the impacts of Grammarly in enhancing undergraduate students' thesis writing. This endeavor is significant as it contributes to the broader academic discourse on the impact of technology on academic writing and its consequences for students' educational improvement.

B. Method

This study applied a mixed-methods approach with a concurrent design to investigate the impacts of Grammarly on thesis writing quality among students at Ar-Raniry State Islamic University. Referring to Venkatesh et al. (2016) and Creswell (2022), the researchers combined

qualitative and quantitative data to provide comprehensive insights. Utilizing purposive sampling, 42 students from the 2018 batch majoring in English Language Education, engaged in thesis writing and using Grammarly, were selected for the study. Qualitative data were collected through semi-structured interviews with students and three lecturers, chosen randomly from 20 potential participants, to obtain their perspectives on using Grammarly in thesis writing. These interviews, as clarified by Oltmann (2016), Jain (2021), and Burns et al. (2020) were designed to collect rich, experiential data through a flexible, rapport-building conversation lasting 15 to 25 minutes each.

For data analysis, descriptive statistics offered a preliminary quantitative overview of Grammarly's efficacy. Meanwhile, thematic analysis was employed to analyze the qualitative data, following the guidelines by Naeem et al., (2023). This involved developing a comprehensive understanding of the data, coding, theme identification, and review, ensuring a deep and nuanced understanding of the impact of using Grammarly. This methodological combination acknowledged a detailed exploration of Grammarly's role in enhancing academic writing, balancing statistical findings with thematic insights from participants' experiences.

C. Result and Discussion

The presentation of the results follows a logical progression, starting with the presentation of quantitative data and then exploring qualitative insights. This way facilitates a thorough examination, whereby quantitative results provide a basis for further, narrative-driven findings. The part combines the quantitative and qualitative data to provide a thorough comprehension of Grammarly's impacts on academic writing.

1. Result

To get the student's perception of the use of Grammarly in the thesis writings, survey questionnaires were distributed to 42 research participants. To determine the proportion of responses for each question, the researchers



employed a mathematical procedure for calculating percentages, which is outlined as follows.

$$P = \frac{f}{n} \times 100\%$$

P = Percentage

F = Frequency

N = Number of samples

100% = Constant value

The results of the survey can be seen in Table 1.

Table 1. Students' perception of the use of Grammarly in thesis writing.

Items	Strongly Agree	Agree	Disagree	Strongly Disagree
Grammarly application is useful for me.	25 (59.5%)	17 (40.5%)	0	0
Grammarly application is important for me in writing a thesis	25 (59.5%)	17 (40.5%)	0	0
Writing a thesis using the Grammarly application helped me to correct grammatical errors.	22 (52.4%)	20 (47.6%)	0	0
The feedback from Grammarly improved my writing skill	13 (30.9%)	27 (64.3%)	2 (4.8%)	0
The features of Grammarly are complete	2 (4.8%)	29 (69%)	11 (26.2%)	0
Grammarly application is easy to use and saves time	21 (50%)	20 (47.6%)	1 (2.4%)	0
I prefer the free version of Grammarly to the premium version	6 (14.3%)	20 (47.6%)	15 (35.7%)	6 (14.3%)
In my opinion, Grammarly has a weakness	0	30 (71.4%)	11 (26.2%)	1 (2.4%)
I think Grammarly wastes my time	0	1 (2.4%)	32 (76.2%)	9 (21.4%)
I think Grammarly does not help much in fixing grammar errors.	0	5 (11.9%)	27 (64.3%)	10 (23.8%)
Sometimes, it is hard to use Grammarly	0	9 (21.4%)	30 (71.4%)	3 (7.1%)
I think it is hard to correct grammar errors after receiving feedback from Grammarly	1 (2.4%)	7 (17.1%)	31 (73.8%)	3 (7.1%)
I faced several problems while using the Grammarly application	0	11 (26.2%)	28 (66.7%)	3 (7.1%)

Items	Strongly Agree	Agree	Disagree	Strongly Disagree
in writing my thesis				
I think Grammarly needs to add another feature to it	3 (7.1%)	31 (73.8%)	7 (17.1%)	1 (2.4%)
I highly recommend the Grammarly application for those who still writing their thesis	21 (50%)	20 (47.6%)	1 (2.4%)	0

From the results of the questionnaires presented in Table 1, all respondents state that Grammarly is valuable and important for them in thesis writing. This can be observed from the responses of all respondents (25 participants, 59.5% strongly agree, and 17 participants, 40.5% agree) expressing a strong agreement with the statement that "Grammarly is useful" and "Grammarly application is important for me in writing a thesis". From this result, it can be concluded that all participants agree with the assertion that the utilization of Grammarly assists them in rectifying grammatical problems during the process of composing a thesis.

The percentage presented in Questionnaire Number 4 shows that 61.9% of students agreed that "the feedback provided by Grammarly had a positive impact on their writing abilities". 31% of the participants strongly endorsed this viewpoint, while the rest, 7.1% of the participants disagreed with the statement. This result shows that all students but 7.1% agreed that Grammarly helps their writing abilities.

When asked whether Grammarly offers complete features, all but 11 respondents (26.2%) concur that the features offered by Grammarly are complete. This finding shows that students who used the free Grammarly version were not able to use certain features that are available in the premium version. If students want to have access to full or premium versions, they need to pay a certain amount of money to subscribe to yearly access. This is why some students stated that the features are not complete.

The result of the questionnaires also indicates a significant proportion of students, around 50%, expressed a firm agreement with the notion that Grammarly is both user-friendly and timesaving, and 47.6% of



students indicated their agreement with this statement. Conversely, only 1 student (2.4%) expressed disagreement with the notion mentioned above. This result indicates that Grammarly provides easy-to-follow buttons and instructions that make it easy for users to use. As such, users save a lot of time in navigating and looking for certain features needed to work on their documents.

Regarding the decision between opting for the free or premium edition of Grammarly, the findings indicate that students exhibit a range of responses about this matter. A total of 14.3% of the student population expressed a strong inclination towards utilizing the free edition of Grammarly. In comparison, 47.6% of students agreed with opting for the free version of the software. However, a significant proportion of students, precisely 35.7%, express their disagreement, while 14.3% strongly disagree about the utilization of the free version. From this data, it can be concluded that half of the respondents were willing to pay and use the premium version as it enables them to have full access to all the features, which helps them a lot in improving the quality of their writing.

The Grammarly application, like many other applications, possesses both advantages and disadvantages. According to the questionnaire data, many respondents believed that Grammarly possesses a shortcoming. Approximately 71.4% of the student population agrees, whereas 26.2% hold a contrary viewpoint, and a minority of 2.4% strongly disagree. A significant proportion of students, precisely 76.2% (32 students), express disagreement with the notion that Grammarly is a time-wasting tool, as evidenced by the data presented in questionnaire question number 9 in Table 1 above. Approximately 2.4% of students concur that using Grammarly is a useless effort, while 21.4% hold a contrary perspective.

When asked whether Grammarly's effectiveness in rectifying grammar problems is limited, only 5 respondents agreed with this statement, constituting 11.9% of the samples. This means that an overwhelming majority of respondents (37 students) agreed that Grammarly is vital in helping them solve grammatical issues. The findings presented in question number 11

show that a significant proportion of students, precisely 21.4%, agreed with the notion that Grammarly poses challenges in terms of usability. However, a majority of 71.4% of students express their disagreement over the notion that Grammarly is difficult to utilize, whereas a smaller percentage of 7.1% of students firmly hold this opposing viewpoint.

Considering the findings related to question number 12 of the questionnaires, rectifying grammatical problems after getting feedback from Grammarly is perceived as challenging. This can be seen in a significant proportion of students who hold a dissenting opinion about the assertion that "it is challenging to rectify grammatical errors after receiving feedback from Grammarly". According to the data, most students, constituting 73.8% of all samples, disagreed, although a smaller proportion (7.3%) strongly disagreed. However, it is worth noting that 17.1% of students opt to agree, while 2.4% of students choose to agree strongly.

The statement "I had various challenges when using Grammarly application in writing thesis" results in many students (66.7%) who disagreed with the statement. 26.8% of students choose to agree, and 7.3% of the students select strongly disagree with the notion that they face challenges in using Grammarly. When posed with the statement that Grammarly needs to add additional features, many students strongly agreed and agreed with the statement (80.9%). However, 16.7% of students chose to disagree, and 2.4% of students strongly disagreed with the statement, arguing that Grammarly has offered sufficient features. Finally, when asked if they highly recommend the Grammarly tool for people who are still writing their thesis, the majority of students agreed to recommend Grammarly to other students who are still writing their thesis. About 50% of students strongly agree, and 47.6% agree. Only 1 respondent (2.4%) disagreed with recommending the Grammarly application to those still writing a thesis.

The interview with 3 lecturers was conducted on August 7-11th, 2022. Eight semi-structured questions were asked in the interview. The interview was intended to know the students' performance who used



Grammarly in the thesis writing as seen by the lecturers. The results were classified into several themes: Grammarly application for thesis writing, Grammarly in boosting writing skills, and strengths and weaknesses of Grammarly.

The first identified theme is Grammarly's application for thesis writing. The first interview question concerns lecturers' opinions about using Grammarly in thesis writing. All lecturers stated that using the Grammarly application in the process of writing is very helpful, especially when it comes to minimalizing grammatical errors in thesis writing, as expressed by lecturer 1 (L1):

"In my opinion, Grammarly application for thesis writing is beneficial because it can detect grammatical errors or incorrect structural sentences, thus making it easier for me to grab the ideas instead of correcting grammatical errors. From students' works, I can differentiate among those who used writing applications and those who did not, judging from the number of grammatical errors as one of the indicators. Another indicator that reveals whether students use Grammarly or other writing application is the vocabulary used in sentences. Those who did not use writing applications, the variety and level of language used is limited".

In a similar vein, L2 stated:

"I think, judging from my experiences with students' thesis, the application of Grammarly in thesis writing is highly recommended as it possesses the capability to identify grammatical faults and erroneous sentence structures. As such, I can focus on working on the ideas rather than fixing writing errors made by students".

Furthermore, L3 suggested that:

"This software application (Grammarly) has become one of the most important software that the students must be familiar with to help them with writing tasks, including in thesis writing. Students who use Grammarly take much less time to supervise compared to those who do not use Grammarly or other similar applications".

The second theme is Grammarly in boosting writing skills. The interview outcome revealed three primary answers offered by the lecturers when asked whether Grammarly helps improve students' writing skills. The lecturers mentioned that:

"I think Grammarly has somewhat improved the quality of students', or at least it helps them minimize their grammatical errors. It is clear from my experiences that students' grammatical errors decrease considerably when they use Grammarly of other writing applications, compared to those who have not used it. It is not without problems though. Issues such as inaccuracy and misinterpretation may happen. However, to say that it helps boost students' writing a skill is an exaggeration as we do not know for sure". (L1)

On this note, L2 said:

"I am not sure whether Grammarly can improve students' writing skills, because there are several aspects that must be mastered by students to be skillful in English writing. Aspects such as the use of vocabulary and language, clarity and coherence, research skills, etc. are areas that must be mastered to be considered a proficient and adopt writer. So I think we cannot jump into conclusion that Grammarly alone improve students' writing". (L2)

L3 argued:

"I think Grammarly may improve the quality of students writing, but it does not mean that their writing skills are also improved". (L3)

From the above interview results, while the quality of students' writing has improved regarding grammatical errors, the effectiveness of Grammarly in enhancing students' writing skills remains uncertain, as there exist multiple facets that necessitate proficiency for students to excel in English writing. Proficiency and adeptness in various areas, including vocabulary and language usage, clarity and coherence, and research skills, are essential for anyone aspiring to be recognized as a skilled and accomplished writer. It is essential to use caution when asserting that Grammarly is the sole factor for enhancing pupils' writing abilities.

The third theme is the strengths and weaknesses of Grammarly. One of the most asked questions related to the application of Automated Writing Evaluation (AWE) concerns its usefulness and drawbacks it. To examine the lecturers' responses on this issue, the researchers explored their opinions on the advantages and disadvantages of using Grammarly in thesis writing. Responding to this question, L1 argued:



“The strength of Grammarly is understandable; it can be used to check a document and provide correct grammar. It also provides instantaneous feedback and correction. Moreover, Grammarly is accessible, can be used with smartphones and computers, and can be connected to Google. However, the free version of Grammarly has limited features, preventing users from accessing full features”.

The above statement indicates that Grammarly is an advanced proofreader that goes beyond simple spell checks. It helps users improve their writing quality by identifying and rectifying grammatical errors, punctuation issues, and sentence structure problems. This ensures that the thesis content is presented clearly and professionally. Furthermore, instant feedback and corrections are considered as one of the main advantages of Grammarly, providing real-time feedback. As users type, the application underlines potential errors or areas for improvement, providing immediate suggestions to correct mistakes, thus fostering a continuous learning process for writers.

In a similar note, L2 suggested:

“I think this application is user-friendly and cheap. You can get the full or premium version for a fraction of the cost now. I like the scores menu that assesses our writing. Even if we use the free version, Grammarly has several features that still can be used. However, the premium version provides more sophisticated features that enable users to use a wider range of services that are not available in the free version, such as plagiarism detector”.

The above statement concludes that Grammarly offers easy-to-follow services for users. It provides alternatives and suggestions for improving vocabulary. For a thesis, this is crucial as it helps in avoiding repetitive language, enhancing the richness of the content, and ensuring a more professional and academic tone. The plagiarism checker feature in Grammarly is immensely useful for thesis writers. It can help ensure that the content is original by scanning through a vast database of resources to flag any sections that may need proper citation or rephrasing.

Commenting on the advantage of the Grammarly, L3 suggested that:

“Grammarly, with consistent use, can help students’ writing development by providing explanations for the suggested changes,

thereby helping to improve the user's understanding of grammar rules and writing styles".

Although the benefits of the Automated Writing Evaluation (AWE) application have been acknowledged, some drawbacks were put forward by the respondents. L1 for example said:

"Although Grammarly has contributed to improving the quality of students' writing, I think it also has some issues. If students depend too much on the feedback provided by the application, it may hinder their writing and editing skills. The convenience of relying on writing applications may trigger laziness in doing their own proofreading. This could lead to a lack of critical thinking when addressing certain writing issues".

On this issue, L2 suggested that:

"Using Grammarly or other writing applications do not always guarantee a good sentence, especially because this application does not understand the deep contextual understanding that a human editor might possess. It might not understand the broader context of the thesis topic or the specific goals of the research, potentially leading to inappropriate suggestions or revisions".

L3 said:

"The issue of inaccuracy and misinterpretation can be overlooked when using this application. Grammarly may sometimes misinterpret the context or intention of a sentence, leading to incorrect suggestions. As thesis writing often involves specialized jargon or context-specific language, Grammarly might not accurately understand the intended meaning, thus suggesting changes that are inappropriate or unnecessary".

2. Discussion

Based on the analysis of the data collected through survey questionnaires and interviews, it can be concluded that all students agreed that the Grammarly application is useful for them in writing their thesis. Moreover, a student stated that the Grammarly application is one of the most important software that students need to utilize, especially for those who are in the process of thesis writing. This is because Grammarly



provides students with feedback and corrections that are useful in assuring that the writing is grammatically correct. This argument is in line with the research findings conducted by Fitria et al., (2022) stating that it is crucial to have correct grammatical because it is one of the criteria that show one's writing quality, especially in thesis writing. One of the ways to minimize incorrect writing is by having AWE such as Grammarly (Kolotovskaia, 2023; Miranty et al., 2023; Tambunan et al., 2022; Akmal et al., 2020).

All of the students agree that Grammarly is an appropriate grammatical checker application to facilitate the process of thesis writing. Besides, the Grammarly application is user-friendly and saves time. Several of them said that the Grammarly application is very helpful in correcting their writing. Furthermore, all the students agreed that Grammarly helps them in correcting grammatical errors while writing a thesis. The students' unanimous agreement not only affirms the effectiveness of Grammarly in enhancing academic writing but also illustrates its capacity to greatly simplify the intricacies of thesis composition through the provision of accurate, up-to-date grammatical guidance (Dizon & Gayed, 2021; Thi & Nikolov, 2022).

Common errors occur in English writing such as capitalization errors, punctuation errors, grammatical errors, spelling, and supporting arguments (Dobrić et al., 2021; Utami & Mahardika, 2023). This argument supports the students' answer in the interview that most of them experience grammatical errors such as wrong tenses, errors in the use of singular and plural nouns, punctuation, word choice, the use of articles, passive voice, and complex sentences. The majority of the students said that Grammarly can improve their writing ability with its excellent correction (Dizon & Gayed, 2021; Thi & Nikolov, 2022).

The features of the Grammarly application are now categorized as complete. However, based on the interview session, the students revealed some suggestions that might be a fresh idea for Grammarly to develop. The features that need to be added to Grammarly are such as a tool for paraphrasing, a tool for grammar check using a camera lens, adding

enriching vocabulary features, enabling working offline, checking grammatical structure mistakes in the video form, and making add-in features to Google Docs and Microsoft Word. The statement shows that constant use of Grammarly helps improve the quality of writing as users are provided with sentence suggestions, alternative vocabulary, correct grammar, and suggestions on redundancy.

D. Conclusion

This study used a mixed-methods approach to examine the impact of Grammarly on the quality of thesis writing. It combines quantitative data collected via surveys from 42 students with qualitative insights obtained from interviews with lecturers. The survey indicates a strong endorsement of Grammarly's usefulness in thesis writing, namely for correcting grammatical mistakes, with a significant agreement on its significance and efficacy. Nevertheless, several constraints are recognized, such as the need for more extensive functionalities beyond the free version and difficulties in usability and reliance, which might impede the development of autonomous proofreading abilities.

Lecturer interviews highlight the significance of Grammarly in reducing grammatical mistakes, thereby improving the lucidity of students' thesis writing. The researchers advise against excessive dependence on Grammarly, highlighting the intricate nature of writing abilities that the application is unable to comprehensively tackle, including the nuanced comprehension of context and advanced structural coherence. Although Grammarly has the benefits of providing prompt grammatical criticism and being user-friendly, there is apprehension about the potential misalignment between its recommendations and the intended meaning or details of academic communication.

The study highlights the efficacy of Grammarly in optimizing grammatical corrections and improving the efficiency of the thesis writing process. It advocates for the incorporation of this tool into a comprehensive educational framework that fosters language proficiency, critical thinking,



and self-editing abilities. It is recommended that schools include Grammarly in a curriculum that emphasizes comprehensive writing abilities to avoid excessive reliance on automated feedback.

Subsequent research should explore techniques for actively analyzing Grammarly's input, directing students towards purposeful improvements in their writing. Furthermore, there is a need for the creators of Grammarly to enhance the program in response to this criticism, perhaps expanding its suitability for a wider range of academic writing intricacies. It is advisable to use longitudinal studies to assess the enduring effects of Grammarly on writing competence, with a specific focus on its contribution to the development of autonomous writing abilities and the incorporation of intricate feedback.

Furthermore, investigating the efficacy of Grammarly in various academic environments would provide a clearer understanding of its worth in different fields of study and writing styles. In short, Grammarly is a valuable tool for thesis writing. However, its greatest advantage is realized when used in conjunction with conventional writing teaching methods that prioritize the cultivation of a wide range of writing abilities.

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