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Research Article

Grammarly Feedback on EFL Learners' Writing: Feedback Precision and Student Perceptions

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Abstract: Grammarly has increasingly gained momentum as one of the most widely used automated essay evaluation platform. However, Grammarly's enhanced popularity is not accompanied by sufficient empirical evidence about its performance on EFL students' writing. The current study is, therefore, conceived to investigate the precision of Grammarly automated feedback in identifying the most common grammatical errors among EFL learners, namely *Determiners*, *Verb Forms*, and *Subject-Verb* agreement and EFL tertiary students' perceptions of this tool while incorporating it into their writing processes. Quantitative analyses of 99 students' argumentative writing reveal that Grammarly con-sistently exhibits a high level of precision across various error categories with a precision rate of 84.93%, with the detection of *Determiner* errors standing out as particularly accurate. Qualitative in-sights from eight semi-structured interviews showed that students acknowledged the benefits of Grammarly and exhibited confidence in this tool. However, some students also experienced a sense of detachment or identified constraints in the feedback they received. It is concluded that Gram-marly can support writing improvement, but it should be used alongside teacher feedback and in-struction. Main pedagogical implications include using Grammarly as a supplementary formative assessment tool and encouraging students to critically engage with automated feedback.

Keywords: Grammarly; automated feedback; feedback precision, student perceptions; formative assessment

1. Introduction

Thanks to recent developments in technology in the Fourth Industrial Revolution, EFL learners are now provided with automated writing evaluation (AWE) programs which can be helpful assistants in their learning journey. These programs score and generate feedback on the writing submitted to them using artificial intelligence created by computational linguistics to examine the writing at the lexical, syntactic, and discourse levels (Chen & Cheng, 2008). Users can thus preview the evaluation result by viewing the feedback and corrections provided by the system, and they can revise the text in light of its evaluation (Fahmi & Cahyono, 2021).

Among several AWE programs, Grammarly emerges as an outstanding AWE platform with a considerable number of over 30 million users daily all over the world. To provide intelligent writing suggestions, Grammarly's artificial intelligence combines human knowledge with cutting-edge machine learning and natural language processing to identify typos, missing punctuation, grammatical errors, and difficult-to-read sentences (Grammarly, 2023). Unlike many other AWE systems which only allow access through standalone web-based interfaces, Grammarly can be accessed through a browser extension, software plug-in, and various mobile devices (Ranalli & Yamashita, 2022). The multiple ways of accessing Grammarly enable it to deliver feedback both synchronously and asynchronously. On the one hand, previous research has shown that Grammarly has a positive impact on enhancing students' writing skills. On the other hand, despite its widespread use and popularity, Grammarly has been a subject of controversy, as there are empirical studies indicating some drawbacks of Grammarly that are worth contemplating, such as its imprecision (Lailika, 2019; ONeill & Russell, 2019) and its usability (Lailika, 2019; Koltovskaia, 2020; Ventayen & Orlanda-Ventayen, 2018).

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As the use of AWE tools such as Grammarly has become increasingly prevalent, there is a need to understand the performance of these tools in helping learners improve accuracy and fluency in EFL writing. Therefore, the current research aims to examine the precision of Grammarly in detecting grammar errors, with a narrow focus on the errors related to Determiners, Verb Forms and Subject-Verb agreement as they are among the most common errors made by Vietnamese EFL learners (Dan et al., 2017; Le, 2023). Empirical system-centric and user-oriented evidence about Grammarly performance can serve dual purposes: revealing critical understanding about the use of AWE programs for formative assessment purposes and contributing to the ongoing development and refinement of AWE tools like Grammarly, ensuring that they continue to meet the needs of students and educators in an ever-evolving technological landscape. Specifically, this study is conducted to seek answers to two research questions:

1. How precise is Grammarly in the detection of errors relating to Determiners, Verb Forms and Subject-Verb agreement?
2. How do EFL students perceive the use of Grammarly corrective feedback on Determiners, Verb Forms and Subject-Verb agreement errors in helping them improve their writing skills?

2. Literature Review

The following sections review the relevant literature about automated corrective feedback as part of the AWE programs, particularly focusing on feedback accuracy, feedback precision, and previous research on the accuracy of Grammarly as an editing tool in second language writing.

2.1. Automated Corrective Feedback Accuracy

The value of most AWE programs is hinged on their two common functions: their automated feedback and automated scoring. The automated feedback, especially automated corrective feedback (ACF), generated by AWE programs helps learners address language-related issues in their writing drafts. By identifying mistakes in grammar, punctuation, spelling, and writing conventions, ACF offers immediate feedback, allowing learners ample time to revise their drafts (Rahimi et al., 2025). Second, ACF provides consistent and accurate explanations of these errors, which teachers often find challenging due to time or resource constraints (Barrot, 2023). However, a drawback of using ACF is the absence of a human touch, its tendency to overcorrect, and its inability to consider individual differences (Ranalli, 2018).

The evidentiary argument backing AWE programs hinges on accuracy, which comprises two critical elements: *precision* and *recall* (Quinlan et al., 2009). *Precision* pertains to the rate of correctly identified errors by the AWE system confirmed by human annotators divided by the total errors flagged by the system. For instance, a precision rate of .73 for missing article errors indicates that 73% of the program's flagged missing-article instances were verified by humans as actual errors. On the other hand, *recall* is concerned with the coverage of errors identified by the AWE program compared to the total number of errors flagged by human annotators. For illustratiom, a recall statistic of .35 for fragment errors would mean that the program identified 35% of all fragment errors in a corpus, as confirmed by human annotators. There is a trade-off between precision and recall, where enhancing precision results in lower recall rates, and vice versa. Previous research on various AWE systems tends to focus on precision (Dikli & Bleyle, 2014; Hoang, 2022; Hoang & Storch, 2024; Lavolette et al., 2015), as identifying a grammatically correct con-struction as incorrect is deemed more harmful than failing to detect an error (Ranalli & Yamashita, 2022).

2.2. Grammarly's Performance on L2 Writing

Most previous research tends to focus on examining the accuracy of Grammarly automated feedback and evaluating how closely it aligns with human evaluations, with variable results. Sahu, Vishwakarma, Kori, and Thakur (2020) conducted a systematic evaluation of the five most popular grammar checking apps, namely, Grammarly, Ginger, ProWritingAid, LanguageTool, and After the Deadline. Training data were comprised of 500 sentences containing various types and sub-types of grammar errors to assess the performance of these apps. The erroneous sentences were fed into these five apps to examine their ability to identify each type of grammar error. The findings revealed that Grammarly achieved the highest overall accuracy rate of 44.4%. Similarly, Guo, Feng, and Hua (2021) examined the efficacy of Grammarly in identifying and correcting errors in 36 research papers produced by a

Chinese university's doctoral and undergraduate EFL students. Grammarly's overall flagging precision rate was recorded at 69% and the correction precision rate was 82%.

With a different approach, Ranalli and Yamashita (2022) evaluated Grammarly's detection of common L2 problem areas and its feedback-delivery timing, using Microsoft Word (also known as MS-NLP) as a benchmark. The findings showed that while Grammarly's overall precision rate for flagging was 88%, lower than Microsoft Word's precision rate of 92%, Grammarly's correction rate was slightly higher than that of MS-NLP, at 81% compared to 79%, respectively. The study also reported an increase in the number of features identified by Grammarly, from 250 to 400 features, within the two years between the project's initiation and the completion of the report. This development highlights the need for further research on Grammarly's performance, given its continuous refinement.

Overall, despite the growing popularity of Grammarly as an editing tool among Vietnamese learners of English, there is a dearth of research into this AWE platform in the Vietnamese EFL context. In particular, there is the need for more insightful research on the use of Grammarly as an proofreading tool that can help EFL learners address the grammatical issues of Deter-miners, Verb Forms and Subject-Verb agreement as these are prevalent mistakes frequently encountered among Vietnamese EFL learners (Dan et al., 2017; Le, 2023). In the current study, Grammarly's precision in detecting and correcting errors related to determiner, verb form, and subject-verb agreement will be investigated on a corpus of 99 texts written by Vietnamese EFL students and their perceptions of the feedback via semi-structured interviews. With a larger research scope on an under-researched population, this study aims to bring about valuable implications that better the learning and teaching of EFL writing skills.

3. Materials and Methods

This research employed both quantitative and descriptive qualitative approaches to examining Grammarly's precision and students' perceptions of its feedback. Quantitatively, text analyses were conducted by comparing human coders' feedback with that of Grammarly to assess the precision of this AWE tool. Semi-structured interviews were conducted with eight students to examine their emotions and attitudes towards the feedback they received. Data analysis involved both deductive and thematic coding to identify key patterns and themes, providing a comprehensive understanding of students' perceptions of Grammarly.

3.1. Research Participants

Thirty-three English majored students enrolled in an EFL writing class in 2023 participated in this research. The academic writing course focused on fundamental writing ideas and covered problem-solving and argumentative essays. Students' personal information was protected for confidentiality by the use of numbers (S1, S2, S3, etc) rather than students' real names to identify the writing of each student.

3.2. Data Collection

3.2.1. Grammarly

A free web-based version of Grammarly was used in this study. Grammarly provides feedback on spelling, punctuation, grammar, and conventions such as capitalization, spacing, and dialect-specific spelling in its free version. When a document is submitted to Grammarly, feedback for improvement is instantly generated. On the left side of the screen, the submitted paper is displayed with the errors highlighted in red, and on the right, direct feedback. Direct feedback includes the error kind (for example, incorrect verb form), a possible suggested correction, and an explanation. Users can choose whether to accept the suggestions by clicking on "accept" or "dismiss" as demonstrated in Figure 1.

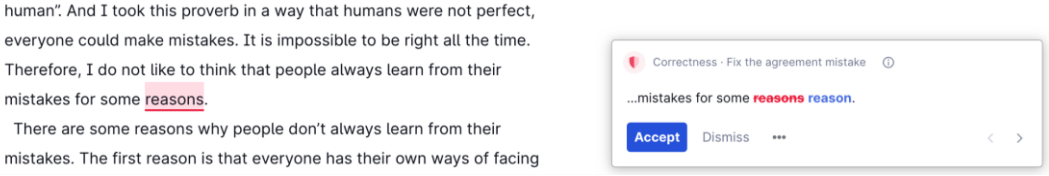

Figure 1. Screenshot of Grammarly feedback.

This study narrowly focuses on errors of Subject-Verb agreement, Verb forms, and

Determiners as flagged by Grammarly as "faulty subject-verb agreement", "incorrect verb form", and "determiner use (a/an/the/this, etc.)" respectively. Grammarly typically uses straightforward and descriptive error tags to identify issues. With three kinds of grammar issues on Determiners, Verb Forms and Subject-Verb agreement, Grammarly error tags designed sets of error messages for each kind to clearly indicate the specific grammatical issues that Grammarly has detected in the text.

Determiner errors. This research used the definition about determiners from Cambridge Dictionary (2024) - a determiner is a word used before a noun to indicate the specific instance of the noun being referenced. Determiners include these common types: Articles (a/an, the); Demonstratives (this, that, these, those): Possessives (my, your, his, her, its, our, their, x's (possessive 's)); Quantifiers ((a) few, fewer, (a) little, many, much, more, most, some, any, etc.); Numbers (one, two, three, etc.). In response to determiner errors, Grammarly generates the following error tags:

- Add an article

Example:
Original: "She went to store."
Revised: "She went to **the** store."

- Change the article/Correct article usage/Change the determiner/Correct determiner usage

Example:
Original: "A cat is sitting on those fence."
Revised: "A cat is sitting on **that** fence."

- Remove the article/Remove the determiner

Example:
Original: "She goes to the school."
Revised: "She goes to school."

Verb form errors. A verb form is a modification or variation of a verb to align with the context in which it describes an action carried out at a particular point in time (BYJU's, 2024). Main verbs in the English language exhibit five distinct forms (Cambridge Dictionary, 2024). In response to determiner errors, Grammarly generates the following error tags:

- Change the verb form/Wrong verb form/Change the form of the verb

Example:
Original: "She likes go to the store."
Revised: "She likes **going** to the store."

Subject-verb agreement errors. The agreement between the subject and verb in a clause, known as subject-verb agreement, is determined by the person and number of the subject (Cambridge Dictionary, 2024). In response to determiner errors, Grammarly generates the following error tags:

- Correct subject-verb agreement

Example:
Original: "He drink coffee every morning."
Revised: "He **drinks** coffee every morning."

3.2.2. Corpus of Non-Native English Essays

A corpus of 24,343 words from 99 students' writing texts was the primary data source for this research to investigate Grammarly's performance - its precision in detecting errors related to Determiners, Verb Forms and Subject-Verb agreement. Each of the participants was required to write three argumentative essays as a form of formative assessment for this writing course on three different topics, Healthy Life, Volunteer Work and School Uniform.

3.2.3. Semi-Structured Interviews

Eight students participated in a semi-structured interview which is comprised of seven questions aiming at investigating their affective engagement with Grammarly and its feedback, with additional follow-up questions to gain a more complete understanding of student's affective engagement with Grammarly's feedback when revising his or her writing and their perceptions about the usability and helpfulness of Grammarly. The list of guiding questions for the semi-structured interview includes:

1. *Is this your first time using Grammarly? If yes, what is your overall impression of Grammarly? If no, how long have you been using Grammarly? What do you like and dislike about Grammarly?*
2. *What do you think about Grammarly's feedback on the mistakes you made? Does Grammarly help you understand the specific reasons behind your mistakes?*

3. *Are you satisfied with the feedback provided? Why or why not?*
4. *How much time do you usually spend reviewing your writing? Does Grammarly help you save time when editing your work? Why or why not?*
5. *Would you consider using Grammarly in the future? Why or why not?*
6. *What do you think about Grammarly's usability? Did you encounter any issues while using Grammarly?*
7. *Is there anything else you would like to say about Grammarly?*

3.3. Data Analysis

3.3.1. Writing Corpus Analysis for Feedback Precision

The data analyzing procedure contained two main phases. Firstly, all of the Grammarly error tags on Determiners, Verb Forms and Subject-Verb agreement on student essays were extracted. Using this corpus of error tags, two human raters, one being the first author (Rater 1) and one a trained independent coder (Rater 2) verified whether each of the error tags is correct or incorrect. Both coders have had quite extensive experience teaching writing in EFL contexts, with proficiency being at the advanced level in English. Beforehand, the raters had a meeting to review the coding scheme and to gain an understanding of how Grammarly is programmed to flag and correct errors. Each rater compared Grammarly's result with his/her annotation. Both raters independently coded about 20 percent of the total error tags extracted. All differences were discussed, clarified, and corrected before Rater 1 proceeded with the remaining data.

As the research aims to evaluate the precision of Grammarly error tags concerning Determiners, Verb Forms, and Subject-Verb agreement in student essays, the coding scheme was reviewed by the second author before double coding took place. Four distinct categories applied: Correct Code, Incorrect Code 1, Incorrect Code 2, and False Positive.

Category 1: Correct Code (CC). This category includes instances where Grammarly accurately identifies an error in Determiners, Verb Forms, or Subject-Verb agreement and provides the correct suggestion for correction.

Example:
- Original Sentence: "The man go to the store."
- Error Tag: Subject-Verb Agreement
- Grammarly Suggestion: "The man **goes** to the store."

Category 2: Incorrect Code 1 (IC1). In this category, Grammarly correctly tags an error in Determiners, Verb Forms, or Subject-Verb agreement but provides an incorrect suggestion for correction.

Example:
- Original Sentence: "She needs an book."
- Error Tag: Determiners
- Grammarly Suggestion: "She needs **some** book."

Category 3: Incorrect Code 2 (IC2). This category involves cases where Grammarly incorrectly tags an error in Determiners, Verb Forms, or Subject-Verb agreement and provides an incorrect suggestion for correction.

Example:
- Original Sentence: "She feels very sad and depress."
- Error Tag: Verb forms
- Grammarly Suggestion: "She feels very sad and **depresses**."

Category 4: False Positive (FP). False positives occur when Grammarly incorrectly identifies an error in Determiners, Verb Forms, or Subject-Verb agreement where there is no actual error present.

Example:
- Original Sentence: "A cat is sleeping on the couch."
- Error Tag: Subject-Verb Agreement
- Grammarly Suggestion: "A cat **are** sleeping on the couch."

Cohen's kappa was calculated for measurement of the inter-rater reliability, which is the level of agreement between different observers' rating, coding, or evaluating the same phenomenon. Cohen's kappa was 0.82, and every difference between the two raters was discussed and resolved to reach agreement until they both agreed on the coding scheme. Then, coding of the remaining data was conducted by the first author.

3.3.2. Semi-structured interview analysis

Each interview was carefully transcribed to ensure that all verbal content, including pauses, hesitations, and emotional emphases, was captured accurately. The transcriptions were then organized according to each of the seven questions to identify patterns and themes in the students' perceptions of Grammarly feedback. Perceptions involve personal emotions and feelings, which are inherently subjective and difficult to measure consistently because students' emotional responses can vary widely based on individual differences, contexts, and experiences. Therefore, the current research employed the inductive coding approach to examine students' perceptions of the automated feedback because it allows the researcher to uncover unexpected themes and patterns in students' emotional responses (Jones, 2022).

4. Results

The total data collected consists of 99 writings and eight semi-structured interviews. The results are presented in the following order: the precision of Grammarly (RQ1) and students' perceptions of Grammarly feedback (RQ2).

4.1. Precision of Grammarly Feedback

On a dataset of 99 essays written by 33 EFL learners, Grammarly identified a total of 637 error codes across the three error types: 313 Determiner errors, 271 Verb form errors, and 53 Subject-Verb agreement errors. Out of these, 541 error identifications were correct codes, accounting for 84.93% precision of the total error flags. This finding suggests that Grammarly demonstrates a consistently high precision rate across error types, with Determiner errors being the most accurately detected. The findings of this research aligned closely with those of Guo, Feng, and Hua (2021), Koltovskaia (2020), and Ranalli and Yamashita (2022), showing minimal discrepancies. Furthermore, the remaining incorrect error categories – Incorrect Code 1 (IC1), Incorrect Code 2 (IC2), and False Positives (FP) – were determined to have percentages of 2.83%, 4.24%, and 8.00%, respectively. The precision results of Grammarly's error detection and correction performance are illustrated in Figure 2.

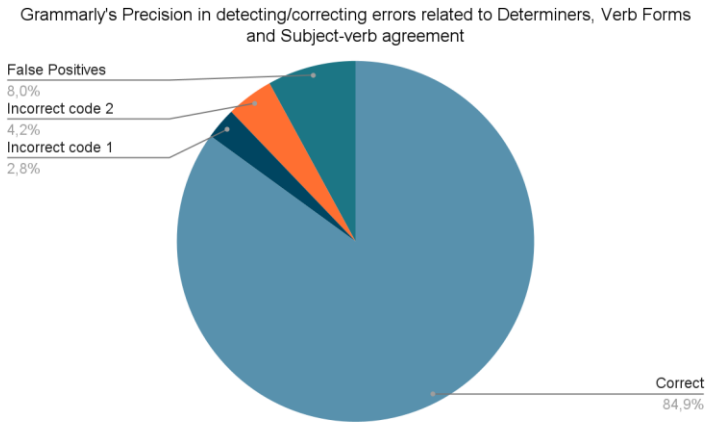

Figure 2. Grammarly's error-detection/correction performance results.

Across the distinct error categories, minimal deviation was observed. The precision analysis revealed that each of the three error categories exhibited a nearly identical precision rate of 84.9%, mirroring the overall precision rate of Grammarly that was previously mentioned. Detailed breakdown of precision rates by error type is presented in Table 1.

Table 1. Grammarly' precision by error type.

Error Type	CC (%)	IC1 (%)	IC2 (%)	FP (%)
Determiner errors	266 (84.98)	11 (3.51)	12 (3.83)	24 (7.67)
Verb form errors	272 (84.87)	7 (2.58)	11 (4.06)	23 (8.49)
Subject-verb agreement	45 (84.90)	0 (0.00)	4 (7.55)	4 (7.55)

Among the three types of errors, Determiners exhibited the highest precision rate. Out

of the 314 errors detected, 266 were correct codes, representing 84.98%. The remaining errors consisted of 11 IC1 instances (3.51%), 12 IC2 instances (3.83%), and 24 FP (7.67%).

Example:

- *Student text: The first reason is, cost for family.*

Grammarly's suggestion: …, cost for a family (IC2).

- *Student text: In my opinion, students should wear uniforms when in a school for the reasons as such.*

Grammarly's suggestion: …uniforms when in a school for the reasons…(CC).

Regarding Verb Form errors, precision rate was at 84.87% with 230 out of 272 errors correctly identified. Among the total errors, 2.58% were categorized as IC1 (n=7), 4.06% as IC2 (n=11), and 8.49% as FP (n=23). At 8.49%, false positives were notably higher, suggesting that Grammarly might sometimes misinterpreted the intended tense or form, especially in complex sentence structures.

Example:

- *Student text: It can caused missing lessons to catch up with other students.*

Grammarly's suggestion: it can caused be caused missing lessons… (IC1).

- *Student text: Specifically, most non-profit organisations and projects need the contribution of a lot of volunteers in the community.*

Grammarly's suggestion: …most non-profit organisations and project needs …(FP).

For Subject-verb agreement errors, precision was noted at 84.9%, indicating that 45 out of 53 errors were correctly identified. Noteworthy was the absence of IC1 errors. However, both IC2 errors and FP each constituted 7.55% of the total errors, with 4 instances recorded for each category out of the 53 errors detected.

Example:

- *Student text: Thanks to sports, it creates many chances for me to connect with many people and makes myself confidence.*

Grammarly's suggestion: …sports, it creates create many chances… (FP).

- *Student text: Wearing school uniforms are also a good way to spread our country's culture.*

Grammarly's suggestion: Wearing school uniforms are is also a good…(CC).

4.2. Students' Perceptions of Grammarly Feedback

By employing semi-structured interview questions, the research delved into students' emotional responses to Grammarly feedback when they use its corrective feedback for revision processes. Mixed sentiments were recorded among the students who can be categorized into two groups: one expressing positivity towards Grammarly (Positive Group with 6 students) and the other harboring negative perceptions (Negative Group with 2 students).

4.2.1. Positive responses to Grammarly

Six participants expressed their positive emotional responses to Grammarly after using its corrective feedback. During the interviews, these students identified several key advantages that contribute to the tool's perceived effectiveness. The most frequently cited benefit is the convenience Grammarly offers in the revision process. Participants noted that it significantly reduces the time spent on revisions by quickly identifying errors within seconds. This time-saving aspect was particularly valuable when working under tight deadlines. As one participant (S8) stated, "I don't have to spend a lot of time rereading and analyzing my writing; Grammarly can help me find all the errors in a short time."

Secondly, Grammarly's user-friendliness interface contributes to the positive reception among these learners. Students expressed appreciation for its aesthetically pleasing and user-friendly design. Participants S1, S4, and S5 all agreed that the intuitive interface enhances the overall user experience, making the tool accessible even for individuals with minimal technical expertise. Specifically, S1 and S4 remarked that "Grammarly's interface is easy to use," while S5 noted, "Grammarly's eye-catching interface and its provision of detailed error corrections – highlighting grammar points and offering specific suggestions – make this tool particularly helpful." Figure 3 shows the split screen where students can interact with Grammarly feedback and easily implement the revisions. On the left of the screen, students can see the automated scores for their writing, while on the right half, they can select one of the three options, "Review suggestions", "Write with generative AI", and "Check for AI text & plagiarism". If students select the first function, Grammarly displays a list of suggested corrections to improve the grammar, mechanics, and even the tone of their texts.

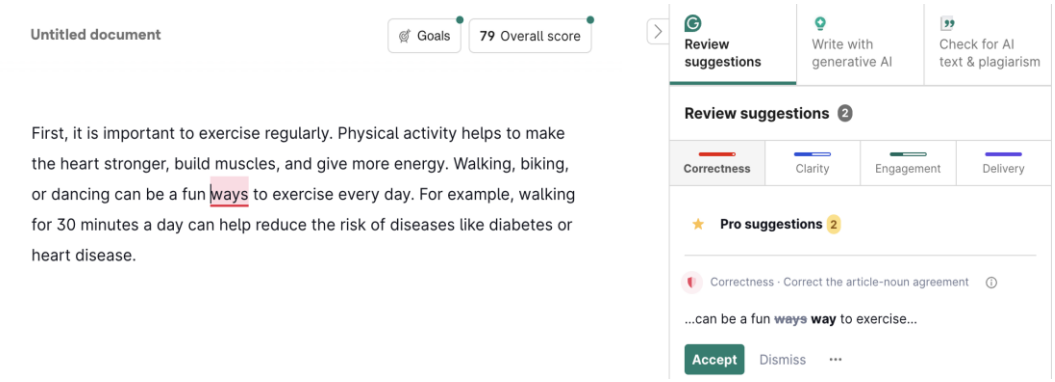

Figure 3. Grammarly's user-friendly interface with different options for revisions.

With the Pro version, Grammarly offers suggestions to enhance the clarity of expression (see Figure 4) and to improve readers' engagement via better word choices (see Figure 5).

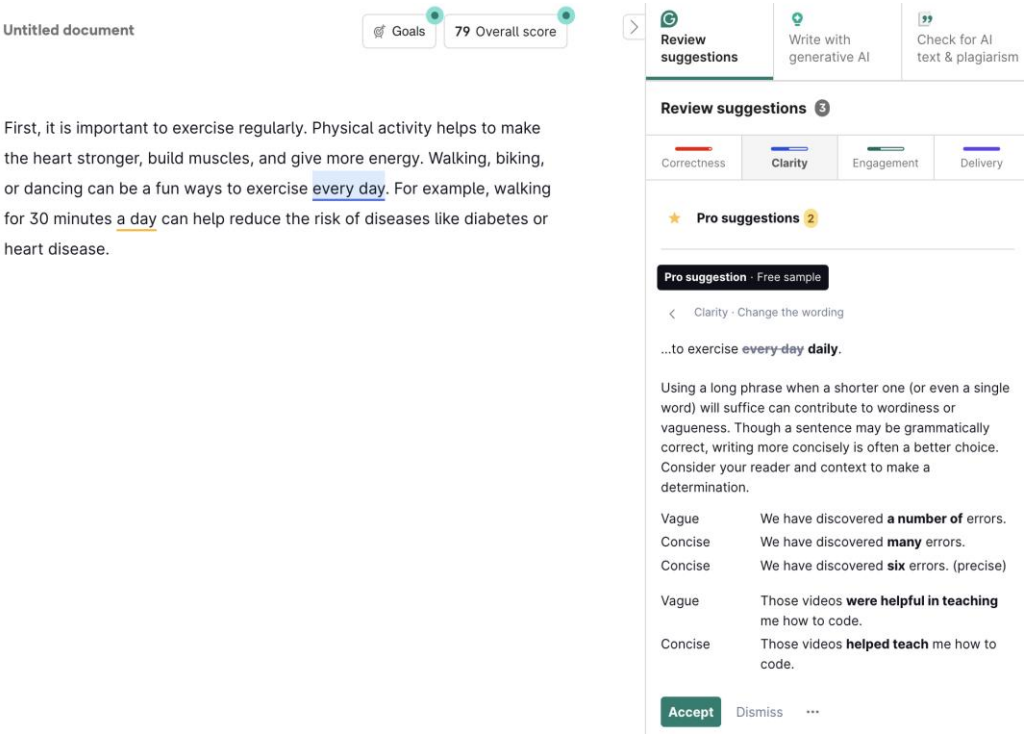

Figure 4. Grammarly's suggestion to enhance clarity with an alternative expression, followed by a detailed explanation.

Also showed in Figures 3-5, thoughtful functionality is another reason why these students praised this AWE platform. Errors were clearly underlined, and users were given the option to either accept or dismiss the suggested corrections. As S5 observed, "This feature encourages critical thinking, prompting students to consider each correction carefully before making a decision."

Adding to their positive reception of Grammarly feedback, these six learners reported their belief that Grammarly was accurate in over 80% of cases. This high level of trust contributed to its reliability as a tool for identifying and correcting errors, thereby enhancing students' confidence in using it as an educational aid. As one participant (S5) explained, "It not only corrects errors but also provides explanations." In addition, this feedback was instrumental in helping students "understand their mistakes, allowing them to learn and avoid repeating errors in the future" (S1). Such learning opportunities were highly valued, as they supported "the development of long-term writing skills" (S5).

A hint of reservation, however, was detected in the students' answers when they acknowledged that "no tool is perfect". They recognized the importance of exercising caution and refraining from relying solely on Grammarly for all corrections. In sum, these six students viewed Grammarly as a supplementary tool, "particularly useful for catching minor errors or

oversights." While appreciating its role in the writing process, they also emphasized the necessity of human review and the use of additional resources for comprehensive editing.

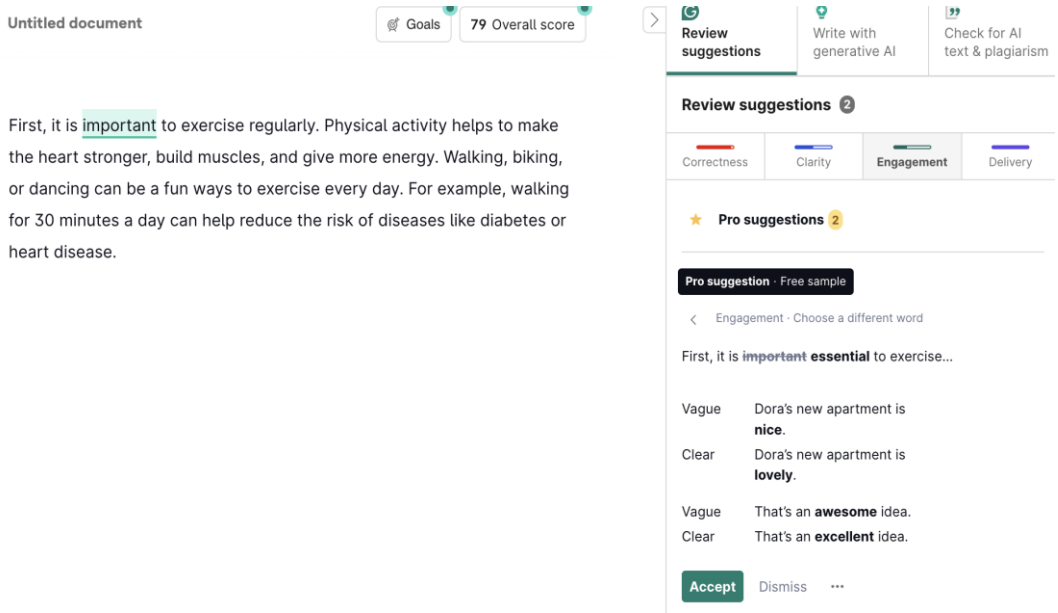

Figure 5. Grammarly's suggestion to enhance readers' engagement via a different word choice, followed by a detailed explanation.

4.2.2. Negative Responses to Grammarly

In contrast to the positive perceptions, two students expressed negative responses towards Grammarly. The insights provided by the two students in this group revealed areas where the tool might be improved for better user satisfaction.

Despite the fact that they acknowledged the advantage of Grammarly's ability to generate instant feedback, S2 and S4 identified several drawbacks of the tool. In the first place, they reported feeling "stressed" due to the overwhelming number of error flags presented simultaneously. This excessive amount of feedback could be distracting and may impede their ability to focus on more meaningful revisions. Added to the overwhelming amount of feedback, S2 and S4 also had difficulty understanding the rationale behind Grammarly's feedback, particularly regarding its "complex grammatical rules" and "lack of sentence analysis" (S4). This lack of clarity often led to confusion, which in turn resulted in their reluctance to implement the suggested revisions.

Resulting from the concerns above, a sense of scepticism about Grammarly's reliability was evident during the interviews with S2 and S4. They noted that they were reluctant to adopt Grammarly's suggested corrections, especially for important writing tasks. Moreover, a combination of stress, procrastination, and mistrust occasionally led to the lack of motivation to use Grammarly. S1's comment illustrated this point, "I won't use Grammarly because sometimes I'm lazy; I'll write and submit my paper right away. And I don't trust Grammarly completely. I think its precision is only about 65%, and there are errors that Grammarly corrects that I don't agree with."

5. Discussion and Conclusions

This study employed different data sources to investigate (a) Grammarly's precision in identifying errors related to Determiners, Verb Forms, and Subject-Verb agreement among EFL students and (b) EFL students' perceptions of Grammarly corrective feedback.

Compared to the widely accepted threshold precision of 80%, Grammarly performed satisfactorily on the essay corpus in the current research in terms of three error categories, namely Determiners, Verb Forms, and Subject-Verb agreement. For the most challenging grammatical aspects experienced among Vietnamese EFL learners, such precision statistics are good news for use of an AWE platform among those who aim to improve writing accuracy through regular practice but lack frequent access to teacher feedback. This finding also adds to previous literature, especially that from Ranalli and Yamashita's (2022) findings in terms of how Grammarly can correctly identified errors in L2 writing texts. In this research,

Grammarly precision level is much better than the findings reported in earlier research by Guo, Feng, and Hua (2021), Sahu, Vishwakarma, Kori, and Thakur (2020) where Grammarly was found to fall short of the 80% precision threshold. This marked difference can be explained in terms of recent refinements to the feedback mechanisms in this AWE tool with the addition of new features as well as the incorporation of artificial intelligence. In addition, Grammarly has been found to perform differently on different error types, and therefore, variable precision rates reported in different studies are highly likely.

The key findings from this research generally revealed that Grammarly demonstrated a high degree of precision in identifying errors related to Determiners, Verb Forms, and Subject-Verb agreement, highlighting its effectiveness as an automated writing evaluation tool for these frequently found error types among EFL learners. Although minimal variation was noted across these three different error categories, the uniformity in precision across the categories suggests a consistent performance of Grammarly in error detection within the study's scope. It is, however, important to emphasize that instead of replacing teacher feedback, Grammarly is meant to supplement other formative feedback sources and enhance writing skills. Therefore, students can better understand how to effectively integrate the tool into their writing process without becoming overly reliant on it. Therefore, EFL writing teachers can provide students with clear explanations of the grammar points highlighted by Grammarly's feedback. By helping students understand the reasons behind the suggestions made by the tool, educators can improve students' grasp of grammatical concepts and empower them to make informed decisions when revising their writing.

Findings for the second research question indicated that most students showed positive perceptions of Grammarly's feedback and appreciated the use of this AWE tool for making revisions to their writing. They highlighted the advantages of Grammarly and showed trust in this source of feedback. Some mixed feelings exist based on reasons related to the cognitve overload when processing several feedback points at the same time and limited understanding of Grammarly feedback language, replicating what was found in some earlier studies (Lailika, 2019; Koltovskaia, 2020; Ventayen & Orlanda-Ventayen, 2018). These shortcomings can be addressed with the writing teachers' structured process for integrating Grammarly into writing classes. This process could involve introducing this AWE to students, demonstrating how to use the tool, and providing guidance on how to interpret and implement Grammarly's feedback. By incorporating Grammarly as a regular component of writing assignments, teachers can create a systematic approach to enhancing students' writing skills through automated feedback during the writing lessons and also beyond the class hours. However, it is also im-portant to emphasize the role of Grammarly by highlighting that like any other tool, Grammarly is meant to assist and enhance writing skills instead of replacing all teacher feedback. Therefore, students can better understand how to effectively integrate the tool into their writing process without becoming overly reliant on it. By implementing these strategies, educators can facilitate the effective integration of Grammarly into writing instruction, promote students' autonomy in utilizing automated feedback tools, and foster a balanced approach to improving writing skills through a combination of technology-enhanced resources and traditional teaching methods.

While the study presents valuable insights, it is crucial to recognize its limitations. First, the fact that the research was carried out within a specific educational setting could potentially constrain the applicability of the results to broader learning contexts. Additionally, despite the researcher's efforts to select the best sample that is accessible for the current research, it may not fully capture the diverse perspectives and experiences of all EFL learners utilizing automated feedback systems. Last but not least, the research did not examine behavioral engagement aspects due to the limitations of time and effort from the author.

Future research in the realm of AWE for EFL learners could benefit significantly from several key recommendations. Firstly, expanding sample sizes to encompass a more diverse range of participants would increase the generalizability of findings and offer a broader perspective on the use of Grammarly. Secondly, a full analysis of student engagement of three aspects: cognitive engagement, affective engagement and behavioral engagement may be carried out to bring an all-round understanding of students' engagement with Grammarly feedback. Additionally, comparative studies among various feedback platforms, including Grammarly and others, could illuminate the strengths and weaknesses of different tools. Lastly, researchers can also incorporate teacher viewpoints to provide valuable insights into how educators perceive and integrate automated feedback tools into their teaching practices.

In conclusion, the study emphasizes Grammarly's effectiveness in assisting EFL students in bettering their writing by identifying and rectifying specific grammatical errors. It

is rec-ommended that such technology-driven tools like Grammarly be integrated in language in-struction to elevate students' writing skills and facilitate ongoing enhancements in English language proficiency.

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References

Barrot, J. S. (2023). Using automated written corrective feedback in the writing classrooms: Effects on L2 writing accuracy. *Computer Assisted Language Learning, 36*(4), 584-607. https://doi.org/10.1080/09588221.2021.1936071

BYJU's. (2024). Verb forms in English - Explore different forms with examples. https://byjus.com/english/verb-forms/

Cambridge Dictionary. (2024). Verb forms. https://dictionary.cambridge.org/grammar/british-grammar/verb-forms

Chen, C. F. E., & Cheng, W. Y. E. C. (2008). Beyond the design of automated writing evaluation: Pedagogical practices and perceived learning effectiveness in EFL writing classes. *Language Learning & Technology, 12*(2), 94-112. http://dx.doi.org/10125/44145

Dan, T. C., Duc, V. M., & Chau, P. T. H. (2017). An investigation into common mistakes in paragraph writing of the first-year English-majored students: A case study in Can Tho University, Vietnam. *Journal of Education Naresuan University, 19*(4), 308-330.

Dikli, S., & Bleyle, S. (2014). Automated essay scoring feedback for second language writers: How does it compare to instructor feedback. *Assessing Writing, 22*, 1-17. https://doi.org/10.1016/j.asw.2014.03.006

Fahmi, M. A., & Cahyono, B. Y. (2021). EFL students' perception on the use of Grammarly and teacher feedback. *Journal of English Educators Society, 6*(1), 18-25. https://doi.org/10.21070/jees.v6i1.849

Grammarly. (2023). Product features. https://www.grammarly.com/features

Guo, Q., Feng, R., & Hua, Y. (2021). How effectively can EFL students use automated written corrective feedback (AWCF) in research writing? *Computer Assisted Language Learning, 35*(9), 2312–2331. https://doi.org/10.1080/09588221.2021.1879161

Hoang, G. T. L., & Storch, N. (2024). How Do EFL Learners Process and Uptake Criterion Automated Corrective Feedback? Insights from Two Case Studies. *Iranian Journal of Language Teaching Research, 12*(1), 1-20. https://doi.org/10.30466/ijltr.2024.121420

Hoang, T. L. G. (2022). Feedback precision and learners' response: A study into ETS Criterion automated corrective feedback in EFL writing classrooms. *The JALT CALL Journal, 18*(3), 444-467. https://doi.org/10.29140/jaltcall.v18n3.775

Jones, S. (2022). Interpreting themes from qualitative data: Thematic analysis. *Eval Academy*. https://www.evalacademy.com/articles/interpreting-themes-from-qualitative-data-thematic-analysis

Koltovskaia, S. (2020). Student engagement with automated written corrective feedback (AWCF) provided by *Grammarly*: A multiple case study. *Assessing Writing, 44*, 100450. https://doi.org/10.1016/j.asw.2020.100450

Lailika, H. I. (2019). Students' peceptions of the use of Grammarly as an online grammar checker in thesis writing [Undergraduate thesis]. UIN Sunan Ampel Surabaya.

Lavolette, E., Polio, C., & Kahng, J. (2015). The accuracy of computer-assisted feedback and students' responses to it. *Language Learning & Technology, 19*(2), 50–68. http://dx.doi.org/10125/44417

Le, T. T. D. (2023). Grammatical error analysis of EFL learners' English writing samples: The case of Vietnamese pre-intermediate students. *International Journal of TESOL & Education, 3*(4), 1-14. https://doi.org/10.54855/ijte.23341

ONeill, R., & Russell, A. (2019). Stop! Grammar time: University students' perceptions of the automated feedback program Grammarly. *Australasian Journal of Educational Technology, 35*(1). https://doi.org/10.14742/ajet.3795

Quinlan, T., Higgins, D., & Wolff, S. (2009). Evaluating the construct-coverage of the e-rater® scoring engine. *ETS Research Report Series, 2009*, i-35. https://doi.org/10.1002/j.2333-8504.2009.tb02158.x

Rahimi, M., Fathi, J., & Zou, D. (2025). Exploring the impact of automated written corrective feedback on the academic writing skills of EFL learners: An activity theory perspective. *Education and Information Technologies, 30*, 2691–2735. https://doi.org/10.1007/s10639-024-12896-5

Ranalli, J. (2018). Automated written corrective feedback: How well can students make use of it? *Computer Assisted Language Learning, 31*(7), 653–674. https://doi.org/10.1080/09588221.2018.1428994

Ranalli, J., & Yamashita, T. (2022). Automated written corrective feedback: Error-correction performance and timing of delivery. *Language Learning & Teaching, 26*(1), 1-25. https://doi.org/10125/73465

Sahu, S., Vishwakarma, Y. K., Kori, J., & Thakur, J. S. (2020). Evaluating performance of different grammar checking tools. *International Journal of Advanced Trends in Computer Science and Engineering, 9*(2), 2227-2233. https://doi.org.10.30534/ijatcse/2020/201922020

Ventayen, R. J. M., & Orlanda-Ventayen, C. C. (2018). Graduate students' perspective on the usability of Grammarly® in one ASEAN state university. Asian ESP Journal, 14(7.2). https://www.asian-esp-journal.com/volume-14-issue-7-2-december-2018/