

Evaluating Grammarly's Impact on EFL Students: Perceptions and Proficiency-Based Engagement

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Abstract

This study investigates students' perceptions and usage of Grammarly, an automated writing evaluation (AWE) tool, among English as a Foreign Language (EFL) students at different proficiency levels. Focusing on six university students with different English proficiency levels, the research examines how Grammarly influences their grammar awareness, autonomy in writing, and engagement with corrective feedback. The study reveals that higher-proficiency students tend to reflect critically on Grammarly's suggestions through screen recordings and semi-structured interviews. In contrast, lower-proficiency students often accept corrections without complete comprehension. Findings suggest that, while Grammarly enhances grammar awareness and provides instant feedback, it may fall short of supporting holistic language learning, particularly for lower-level students who may require teacher guidance to internalize grammatical concepts fully. The study highlights Grammarly's potential as a complementary tool in EFL writing instruction. It underscores the need for integrated approaches that combine AWE tools with pedagogical support to maximize learning outcomes.

Keywords: Grammarly, AWE, EFL Writing, Grammar Awareness.

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1. Introduction

In recent decades, there has been a great tendency to use automatic writing evaluation (AWE) systems in EFL writing classes (Chen & Cheng, 2008; Link et al., 2022; Sun & Fan, 2022; Parra & Calero, 2019). Although AWE systems have been under development for many years, advances in artificial intelligence (AI) technology have rapidly improved the design of AWE systems (Chen & Cheng, 2008). Engaging natural-language processing, machine learning, or other computational methods, AWE systems provide students immediate scores on their writing quality and qualitative feedback to increase their accuracy in terms of grammar, vocabulary, mechanics, style, and organization (Dizon & Gayed, 2021; Ranalli et. al, 2017). Some popular AWE systems in EFL writing classes include Criterion, Write & Improve, MyAccess!, Whittlers, iWrite, and Grammarly (Dizon & Gold; 2023; Hockly, 2019; Zhang, 2021).

AWE systems have been shown to improve students' motivation for self-learning and writing autonomy by providing them with the chance to practice their writing skills independently without any limitations and receive feedback for self-revision (Chen & Cheng, 2008; Wang et al., 2013). This aspect of AWE systems goes hand in hand with learner autonomy and individualized assessment, two of the critical concepts suggested in the CEFR for raising skillful language users (Cotos, 2014). It also benefits teachers by giving them extra time to focus more on higher-level

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concerns (e.g. content, organization) rather than lower-level concerns (e.g. grammar, mechanics) in assessing their students' writing skills. On the other hand, these systems have been criticized in some respects as well. To illustrate, Chen and Cheng (2008) suggested in their study that when students use an AWE system autonomously without any human feedback, it may restrict their learning of writing and cause frustration because students may have difficulty understanding and applying the provided feedback appropriately. Hence, it is a controversial issue among language instructors whether or not to allow students to use these systems to enhance their EFL writing skills (Bailey & Lee, 2020).

As one of the most popular AWE programs, Grammarly can be enjoyed by students at different language proficiency levels, giving individualized feedback within seconds (O'Neill & Russel, 2019). Although launched in 2009, Grammarly was not very widely popular until the Beta version was launched in 2018, and it became a browser extension in late 2022. When it was first launched, the creators aimed to design the software in a way that only corrects grammar mistakes; however, in recent years, the company has started to improve the software to provide more complex suggestions while avoiding plagiarism (Rudnicka, 2023). With the free version of Grammarly, students can correct spelling mistakes, detect punctuation errors, and give suggestions for the wrong usage of words, while with the Premium (paid) version, they can deal with more complex tasks like re-writing sentences and detect plagiarism aiming the author to be understood by a target audience (Fitria, 2021). That is to say, Grammarly aims to facilitate students' writing processes with respect to their proficiency level, writing purpose, and specific writing needs.

In this regard, Koltovskaia (2020) asserts that such tools can be effective only if there is active student engagement and proper guidance, and they might not be well-used by lower-proficiency users of the English Language, as they might not be able to process the information and truly benefit from the corrective feedback that Grammarly provides. In this regard, Fahmi and Cahyono (2021) argue that teachers can overcome this obstacle by differentiating their approach when guiding high and low-level students to use the software. However, it is true for all language levels that once they receive immediate feedback from Grammarly, their awareness of the grammar rules and the overall text structure increases, while combining peer feedback and teacher comments with Grammarly feedback can be the best solution (Huang et al., 2020). Therefore, in order to use Grammarly effectively, teachers need to provide their students with the necessary guidance, training or interaction, and students need to raise their awareness of how to make use of this tool according to their proficiency level and specific writing needs.

2. Literature

The scrutiny of the related literature presents different studies investigating the use of Grammarly from different perspectives. To start with, there are some studies focusing on students' perceptions of Grammarly, the effect of using Grammarly on enhancing students' writing skills and effective ways of incorporating Grammarly as an instructional tool into writing classes (e.g. Calma et al. 2022; Ebadi et al., 2023; Huang et al., 2020).

To start with, Huang et. al (2020) examined the effectiveness of using Grammarly in an EFL writing class with English major students for 16 weeks. Through pre-test, post-test and a questionnaire, they aimed to reveal the effect of using Grammarly on students' writing performance and students' attitudes towards using Grammarly. According to the results, students were pleased with using Grammarly to revise their texts and their writing skills promoted through the intervention. In this respect, Grammarly is also perceived as an effective tool to integrate into writing classes to promote students' writing skills and reduce teachers' workload.

Dewi (2022) also aimed to find out students' perceptions of the effectiveness of using Grammarly in editing their drafts with 75 EFL students in a writing class. The data collected through interviews and questionnaires showed students' positive perceptions of using Grammarly by identifying its advantages such as realizing errors in grammar, punctuation, spelling and word choices. It can be also used easily regardless of time and place, helps students to diminish their errors in their texts and promotes students' vocabulary. Grammarly is also criticized by students in some aspects because its free version has limited features for revision but its premium version is expensive for students as well. The other point was that Grammarly can only be used online and there is no option for offline use.

In addition, Calma et al. (2022) investigated the usefulness of Grammarly to support students' written work using one hundred 2000-word group reports of postgraduate business analysis students. While the results showed the positive effects of Grammarly on promoting students' writing skills, it is also suggested that the feedback provided by Grammarly can serve as more than an error-detection tool and can be used more strategically in three ways. First, Grammarly and teacher-provided feedback should not be considered independent of each other. They should be used as a complementary tool since educational technologies like Grammarly have not progressed far enough to take the whole assessment responsibility from the teachers. Hence, teachers still have critical and formative roles in guiding their students in the writing process. Second, Grammarly can be used as a self-assessment tool by asking students to assess their drafts as a pre-class activity and this can be followed by a small group in-class activity in which students review the feedback provided by Grammarly. Third, Grammarly can be embedded in the assessment design by asking

students to discuss dimensions and sub-dimensions provided by Grammarly and then providing instructional guidance through exemplars and offering solutions for addressing them.

Besides, Ebadi et al. (2023) divided the English major participants into three groups in their study as receiving both Grammarly and teacher feedback (Group 1), receiving Grammarly feedback (Group 2) and receiving teacher feedback (Group 3) to examine the effect of Grammarly feedback on students' writing errors. The results of the data gathered through pre/post tests, interviews and questionnaires suggested to incorporate Grammarly into writing classes as an assistant tool. However, the higher performance of the Grammarly and teacher feedback group (Group 1) in the post-test was also revealed.

There are also some studies focusing on the use of Grammarly with students in different English proficiency levels. To illustrate, in the study conducted by Anastasia et al. (2024) with lower proficiency level students, it is aimed to find out students' experiences and perspectives on using Grammarly. It is shown that lower proficiency EFL students are mostly product-oriented and demonstrate low cognitive engagement with the feedback provided by Grammarly. Except for one participant, all the participants accepted the suggestions without paying much attention and focused on increasing their overall score. On the other hand, the participants were satisfied with the guidance of Grammarly to enhance their written works.

However, in another study conducted with higher proficiency level university students, Thi et al. (2022) investigated the students' engagement with the automated and teacher-provided feedback for over a 14-week semester. Considering the teacher and Grammarly feedback, they determined the highlights of feedback and analyzed students' revision practices. The results revealed that even though Grammarly provides more grammar and mechanics-focused feedback, the students mostly regarded teacher-provided feedback in their revisions. In this respect, it is indicated that the need for evaluating accuracy and issues related to clarity and conciseness might affect students' Grammarly feedback uptake, so they accept its suggestions selectively. The other attention-drawing result of the study was about students' proficiency level. As they are higher proficiency level students, it is predicted that they might need more meaning-focused feedback and Grammarly feedback might be insufficient to provide scaffolding in their writing process.

Moreover, Koltovskaia (2020) explored the students' engagement with automated written corrective feedback (AWCF) with two ESL college students. Students' engagement with AWCF provided by Grammarly was investigated in behavioral, cognitive, and affective aspects. The findings revealed the students' different levels of engagement with AWCF. While one of the participants showed more cognitive engagement by critically questioning AWCF, he showed little effort to confirm the accuracy of AWCF which led to moderate changes in his written work. The other participant; on the other hand, demonstrated greater reliance on AWCF which resulted in limited cognitive engagement with AWCF but similarly caused moderate changes in his draft. In thought, it was argued that Grammarly can be used for a variety of purposes in various ways as mentioned above. However, in order to see how it is actually used in practice, there is a need to delve into the theoretical foundations of this software.

Automated Writing Evaluation (AWE), the concept behind tools like Grammarly, is a currently trending topic worldwide as it is quite hand in hand with the idea of learner autonomy and individualized assessment, which are two of the critical concepts suggested in the CEFR in creating skillful language users (Cotos, 2014). It has been argued that the use of AWE increased students' writing motivation and contributed to their self-efficacy in writing; however, further research shows the connection between AWE and various educational elements like self-assessment, state test performance, classroom participation, and overall writing improvement is needed (Wilson & Roscoe, 2019). While attention to Grammarly, one of the leading AWE programs, is increasing daily, it is studied infrequently (Yang, 2018). So far, no previous study has been concerned with the perceptions of students with different English Language proficiency levels regarding Grammarly. This study aims to reveal the differences between the perceptions of two groups of students with different English proficiency levels regarding the aforementioned software. It is hoped that this study will be helpful for teachers in deciding how to instruct and make use of the software with students at different language levels. The research questions of this study are as follows:

1. What are students' perceptions regarding Grammarly?
2. Is there a significant difference between the perceptions of students with different English Language proficiency levels regarding Grammarly?

Both of the research questions were answered through the thematic analysis conducted on screen recordings and audio recordings of the participants' interviews.

3. Method

This is a qualitative study because the research questions of this case study can be answered by two ways qualitative data collection: screen recordings and interviews.

1.1. Participants

Participants of this study were 3 students studying at İstiklal University, Department of Translation and Interpreting, and 3 Students studying at Başkent University, Program of Machinery, aging between 18 and 23. As one of the researchers works in Kahramanmaraş and one in Ankara, the participants were selected according to the convenience sampling method. Convenience sampling is a type of non-probability sampling that selects participants who meet specific criteria, such as easy accessibility, availability, and physical proximity to a given location (Etikan et al., 2016). Ackoff (1953) argues that convenience sampling is often used as it is an inexpensive and less time-consuming way of finding the participants and helps overcome some research limitations. Also, a study using the convenience sampling method can have high internal validity once the data is properly analyzed and the results are trustworthy (Andrade, 2021). Thus, the 6 participants of this study were selected according to their easy accessibility while they were also required to not use Grammarly before. The participants in Baskent University have lower English proficiency levels (between A1-A2) according to CEFR (2001) classifications, as their major is not a language-related program. On the other hand, participants at İstiklal University have a high level of English Language proficiency as they study in the Translation and Interpreting Department, and they all are at least on the C1 level as the level for completing the obligatory preparatory program for language-major students is C1 at İstiklal University.

1.2. Data Collection

This research aimed to find: (i) students' overall perceptions regarding Grammarly, and (ii) if there is a significant difference between the perceptions of students with different English Language proficiency levels regarding Grammarly. The data of this qualitative study was collected in two steps: screen recordings of students' tasks, and semi-structured interviews. For four consecutive weeks, the researchers asked students to write an essay including 100-150 words, regarding some predetermined topics. The writing topics are shown in the following table:

Table 1: Writing Prompts according to Weeks

Week	Writing Prompt
Week 1	Introduce yourself and your family
Week 2	Write about your daily routine
Week 3	Describe your house
Week 4	Write about your last holiday

The difficulty level of the tasks was determined with A1 level students from Baskent University in mind, as they were able to produce texts only in some particular less-advanced subjects. For this step, the students were asked to complete these four writing tasks using Microsoft Word. Yet, they were especially asked not to use any type of dictionary or additional software while writing their tasks. After one student completed a particular task, the researcher asked him/her to download Grammarly to his/her computer and open a Zoom Meeting. In the Zoom sessions, the researchers asked students to share their screens and upload/copy-paste that week's task on Grammarly. Once the tasks were uploaded, the researchers started to remain silent and left participants alone to see how they used the software. While the participants were handling this step, the researchers started screen recording, so that it was possible to conduct thematic analysis on the video scripts.

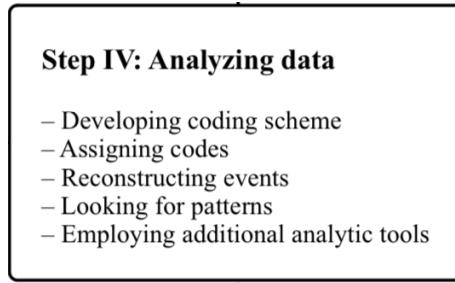
As the second step of this research, the researchers conducted semi-structured interviews with all 6 participants once every participant had completed all of the tasks. The interview questions were checked by a university professor holding a Ph.D. Degree in English Language Teaching to ensure reliability issues. In order to make sure that the students understood the interview questions well, the interviews were conducted in the participants' mother tongue, Turkish. The questions were as follows: While the screen recordings were recorded one by one after each task, the interview was conducted at the end, thus, the data collection phase of this study was done in six weeks in total. In order not to violate any ethical issues, the screen and interview recordings will be kept in a locked digital file on the researchers' laptops and will be deleted after five years. Below, you can see the table that summarises the research design:

Table 2: Research Design Summary

Research Type	Case Study
Participants	6 People (1 Female + 5 Male)
Sampling Technique	Convenience Sampling
Data Collection Tools	Screen-Recording & Semi-structured Interview
Time Frame	4 Weeks

1.3. Data Analysis

As the first step of the data analysis, the researchers used a website working with artificial intelligence to transcribe the video recordings into text format. Then, the transcripts were analyzed thematically as thematic analysis is a highly accessible method for developing and analyzing a qualitative dataset (Braun & Clarke, 2022, p.52), while it also moves beyond describing the explicit words and sentences in the data, aiming to describe both the explicit and implicit ideas (themes), allowing more researcher involvement (Guest et. Al., 2012). In the video and audio transcription analysis procedures, the researchers have used the following sequence suggested by Nassauer and Legewie (2019):

Figure 1: Steps of Data Analysis

(p. 4)

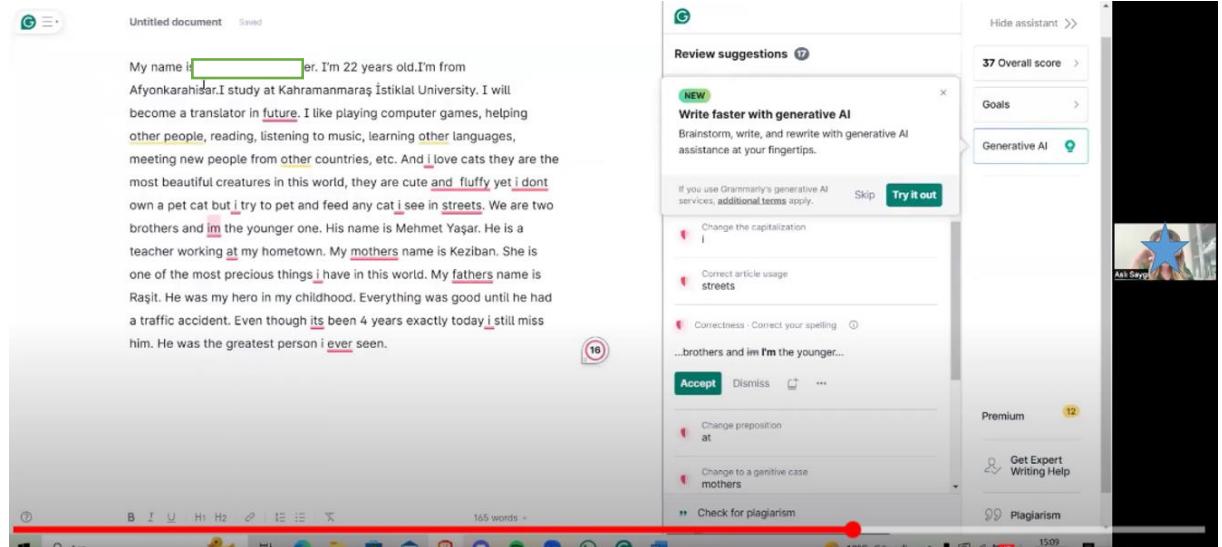
In this inductive data analysis, the researchers used “multiple methods triangulation”, as the data was collected via two different sources, and “multiple researchers” triangulation as the research data was analyzed by two different researchers (Natow, 2020).

4. Findings

For this section, in order to give information regarding the participants while keeping their identities confidential, the researchers gave pseudonyms to the participants. The three participants with C1-level proficiency were named John, Sarah, and Harry, while the participants with low levels of proficiency were named Jack, William, and Arthur. Furthermore, the videos of the participants in the screen recordings were blurred by the researchers for the same reason.

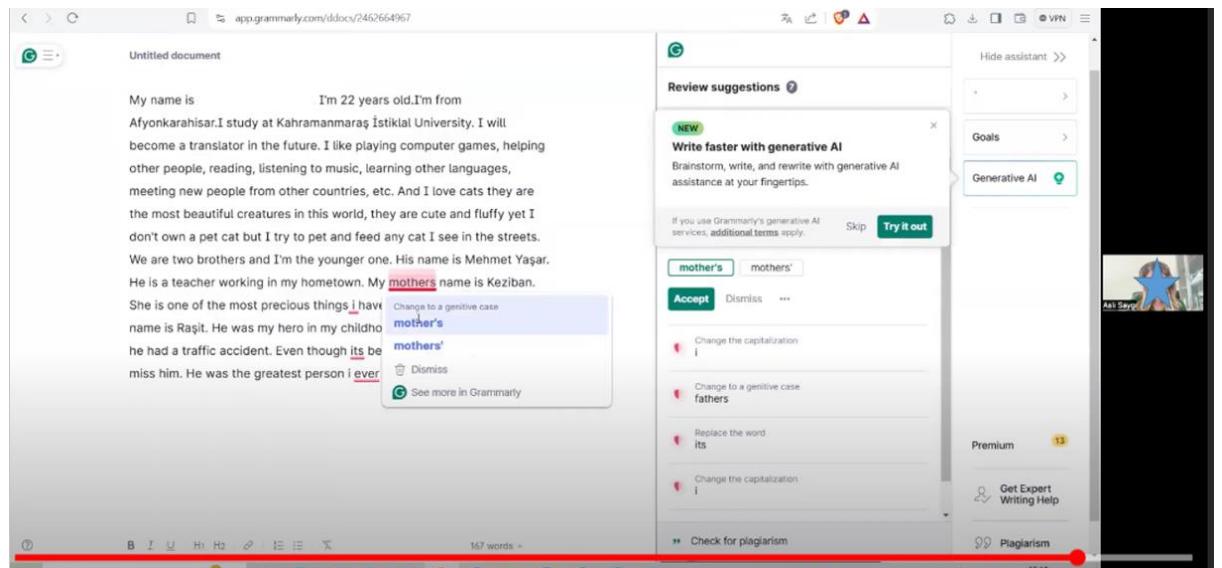
4.1. Results from the C1 Level Group:

4.1.1. John's Case:



John is a C1-level student studying his first year at the Department of Translation and Interpreting. He did not study a preparatory year and directly started studying his first year as he scored above 70 out of 100 in the proficiency exam of the department. This is a screenshot from the screen recording of our first participant John, after he completed his first task. From the screenshot, it can be seen that his mistakes are mostly regarding the capitalization of the letter "i", lack of the necessary articles, and case. In this recording, we observed that when Grammarly has only one suggestion, the student prefers directly clicking on Grammarly's suggestion without checking if the suggestion is true or not. However, once Grammarly suggests more than one correct option, as shown in Figure 2 below, John pays great attention to the suggestions and employs his own critical thinking to find the correct form. See Figure 2 below:

Figure 2: Grammarly Suggesting Multiple Options



In the second, third, and fourth tasks, John kept following the same attitude and directly clicked on the correct suggestion. Also, John continued making the same errors regarding capitalization. The following figures are some shreds of evidence:

Figure 3: John Making the Same Errors Regarding Capitalization

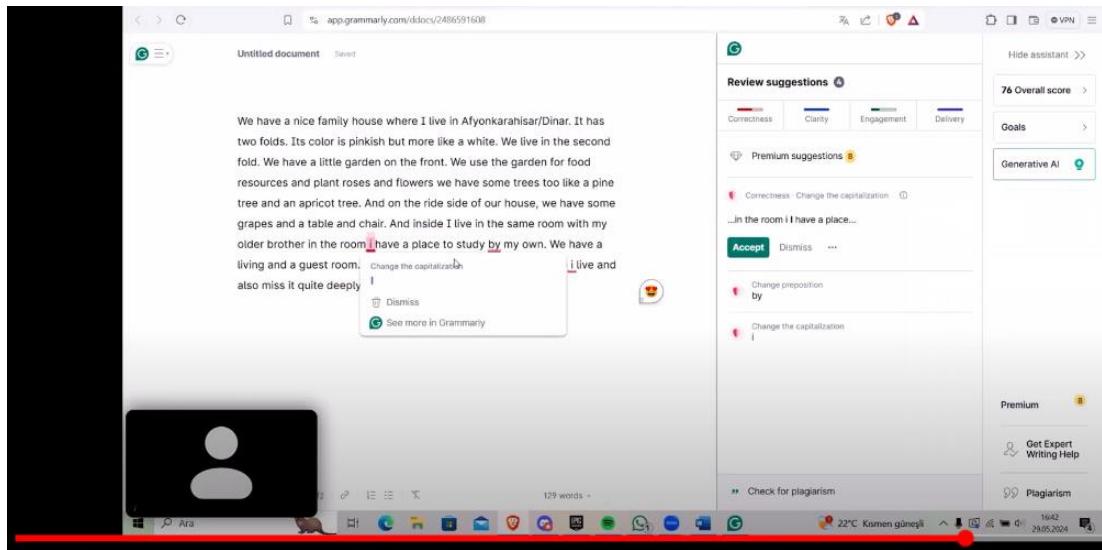
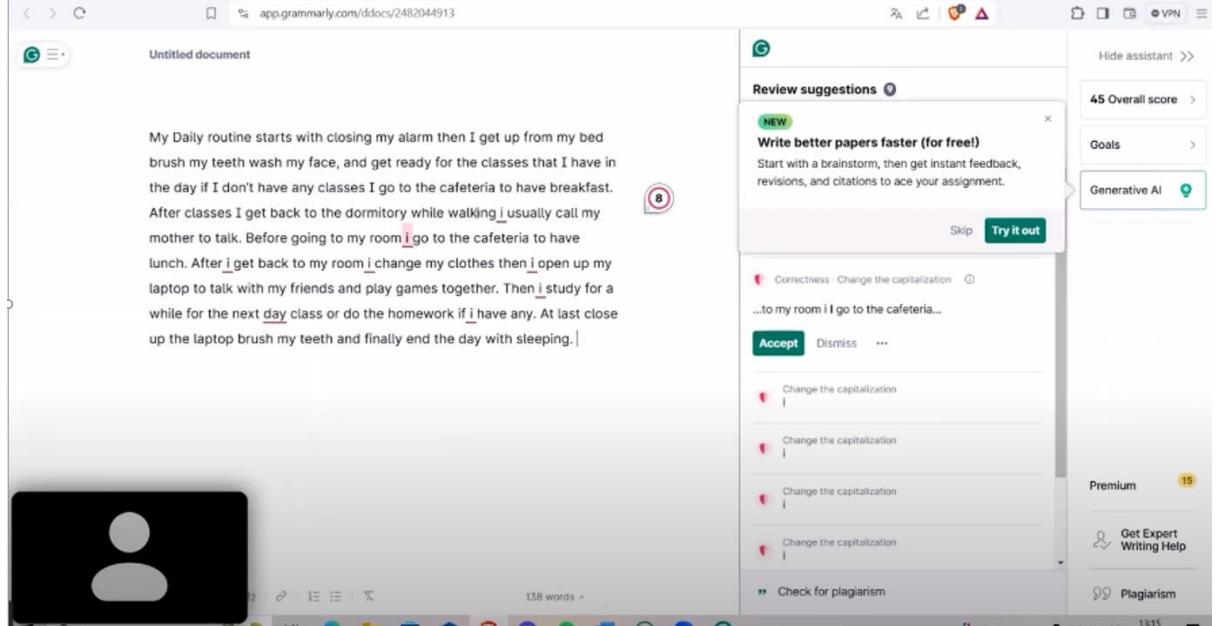


Figure 4: An Excerpt from John's Last Task



Regarding whether Grammarly affects his grammar learning, John made the following quote in the interviews:

“Teacher, when I am doing a writing, it is nice that Grammarly keeps giving suggestions. I mean... I keep forgetting to write the “i” letter in the capital form. It works because the software constantly keeps warning me about that. Or, for example, I make mistakes regarding the use of apostrophes... so it’s good for me.”

Also, regarding whether Grammarly's suggestions are always correct, John stated that sometimes there can be problematic suggestions. He added that although he excerpts pieces from published and well-known articles,

Grammarly sees it as incorrect. Overall, he believed that Grammarly is useful for assignment writing and general writing, and included that he started using it very often after he participated in this research.

4.1.2. Sarah's Case:

Sarah, just like John, is a C1-Level first-year student studying in the Translation and Interpreting Department. She has studied a preparatory year, so it is her second year at the university. See the following figure for a general view of Sarah's most prominent writing errors.

Figure 5: General Overview of Sarah's Errors

For the first task, Sarah's mistakes were mostly related to extra spacing between words, and she was quite gingerly regarding Grammarly's suggestions. Sometimes she gave reactions out loud such as: "Ooh was it like that? Yeah, for sure it is..." Namely, she has truly realized her mistakes while clicking on the suggestions. For all four tasks, she spent a great amount of time thinking about her mistakes and why she did them in the way she did. However, we have seen that in the following tasks, she kept making the same mistakes related to spacing. Namely, while she spent time thinking about Grammarly's suggestions, actually she did not learn from her mistakes and took the suggestions permanently. The following Figure from Task 3 serves as a piece of evidence that she kept making the same mistakes after the first task:

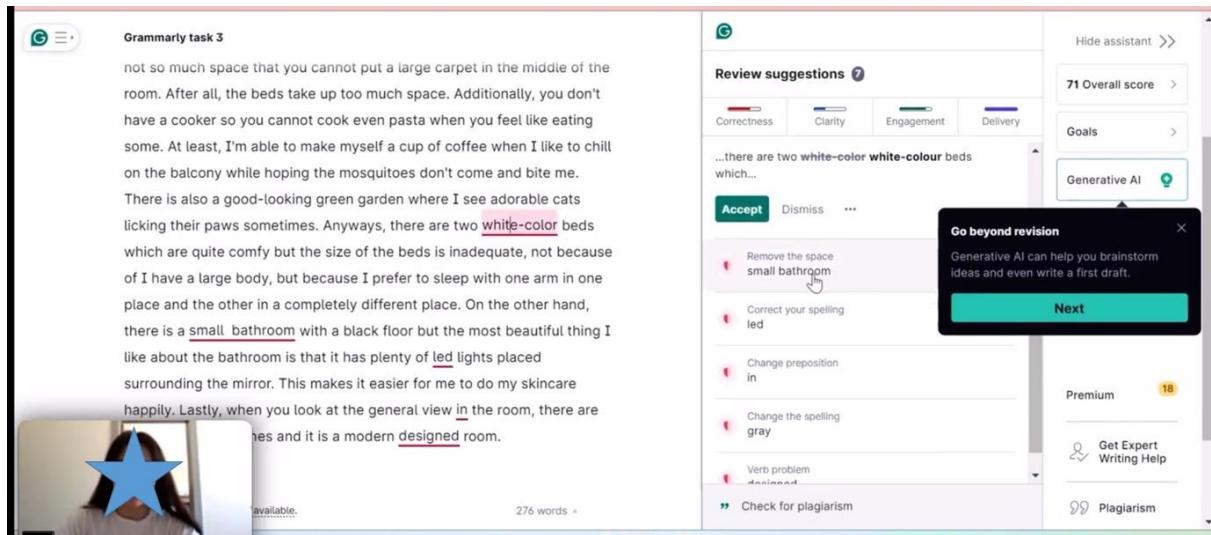
Figure 6: Evidence for Sarah Making the Same Mistakes

Also, during the interviews she made the following quote:

"I think Grammarly makes me learn whether my sentence structure is correct or not. It makes me realize when my sentence is incorrect. I mean, it doesn't teach me anything, but it makes me realize my mistake so that I can look back and study that particular topic once again... It is quite easy to use and it offers me more than one suggestion, that's what I like about it... All of Grammarly's suggestions are applicable and plausible, it does not suggest anything wrong. However, even when I write something correctly, sometimes it shows it as incorrect. That's the lack of it"

In the screen recordings of Sarah, we have seen that, even though she has written the correct spelling of the word “color” in her last assignment, as Grammarly is not an accent-sensitive software, it suggested her to change her spelling to “colour”, as the way it is spelled in American accent and the participant started doubting about what she knew to be true. See the following example:

Figure 7: Grammarly Accent Sensitivity



4.1.3 Harry's Case:

Harry had some issues regarding the verb form, and capitalization similar to John. It can be seen from his cursor movements that he considers the suggestions rather than directly clicking on them, see the figure below:

Figure 8: Harry's Errors General Overview

Hello my name is I am 20 years old and i will introduce my family today. I have 1 brother and 1 sister. I am the oldest son in the family. My little brother emre is 15 years old he is a high school student. My little sister özlem is 8 years old. She loves to paint leaves and other colorful things. My mom coocks perfectly, i love her sarma she is the best. I love sarma more than every food not only my mom's but also other good sarma coocker's sarma. It is my favorite food. When i was 14 i have learned how to drive a car. My dad taught me. I have been in Kahramanmaraş for 20 years. Once, in the e state, i saw that my grand grand grandfather used to live in the same distict of onikişubat like me. I still live in there just like how my grandfather did it centuries ago. All my family is from Kahramanmaraş. When i was 18 i got my driver licence with my mom she done very high score in the written test but when she came to the driving test she failed few times. even though we started in the same time i got my licence before she gots it. My mom didn't want me to bring pet into the house but after i bring my rabbit she loved it later. Because my havuç is a very handsome and cute rabbit. He loves carrot havuç who has this name. My dad also has a rabbit when he was

However, although he made fewer errors overall in the following tasks, just like the other participants, he kept making the same capitalization mistakes. See the following figure from Harry's week 3 assignment:

Figure 9: An Evidence for Harry's Making the Same Mistakes

Hello my name is I am going to describe my house to you. Lately, I am in a student hostel. But I am going to my house every weekend. my house is in Kahramanmaraş. It has 3 floors. First the ground floor there is a Office. And a garage. There is basement under the gound floor but its entrance is at the other side of the house. There are different trees around my house. A little lemon tree in front of the Office and that lemon's flowers are smells so nice. I love that smell. There is a stream 200 meters away from the house and you can hear the sound of the water. But there is a road infont of the house. You can hear car sounds and engine sounds which is something i don't like. There is the roof at the top of my house. I live with my family. My mom, dad, and 2 siblings. I m the oldest brother in the house. I have one sister and one brother. Currently my brother and sister stays in there. I am not staying at home i stay in a student hostel because i don't want to study collage at my family

Although Harry kept making the same mistakes in his upcoming tasks, during the interviews he stated that Grammarly makes him learn Grammar efficiently. Besides he stated that he started using Grammarly not only for his academic writing tasks but also when writing e-mails and searching on Google. He made the following quote:

"Grammarly extension is always running on my laptop in the background. When I am searching something on Google, when I am writing a text message or when I am doing something on Word, Grammarly corrects it immediately offering suggestions. There is a red "I" button near my desktop, saying that I made a mistake."

However, when he was asked if he thinks all of Grammarly's suggestions are correct, he said that he wasn't sure, and stated that he could not remember if Grammarly had suggested something wrong, yet, he did not compare Grammarly's suggestions with what he has written on his assignments. As a general comment, Harry included that he used to see Grammarly ads online, but he never paid attention or attempted to download them as he thought it was unnecessary. However, once he used it, he realized that it was useful. In general, although two of these students have

realized their mistakes in every task, and spent some time applying the suggestions that Grammarly has made, none of them could make their learning permanent as all three of them kept making the same mistakes.

4.2. Results from the A1 Level Group:

4.2.1. Jack's Case:

As an A1-level student, Jack was very careful about revising his paragraphs regarding the suggestions of Grammarly. He always reread the sentences, tried to understand the sources of his mistakes and thought deeply to decide whether to accept the suggestions. The figure below shows the suggestions of Grammarly for his first paragraph:

Figure 10: Jack's Errors General Overview in Task 1

For the first task, the suggestions were related to changing the noun form, fixing the agreement mistake and using the comma. In this respect, Jack meticulously reviewed his mistakes and accepted all suggestions. However, we have realized that the free version of Grammarly provided no feedback for the sentences “I take nature walks and picnics in my free time” and “I don’t smoke beer and vine.” These sentences were also not underlined to get feedback using the premium version depending on preference.

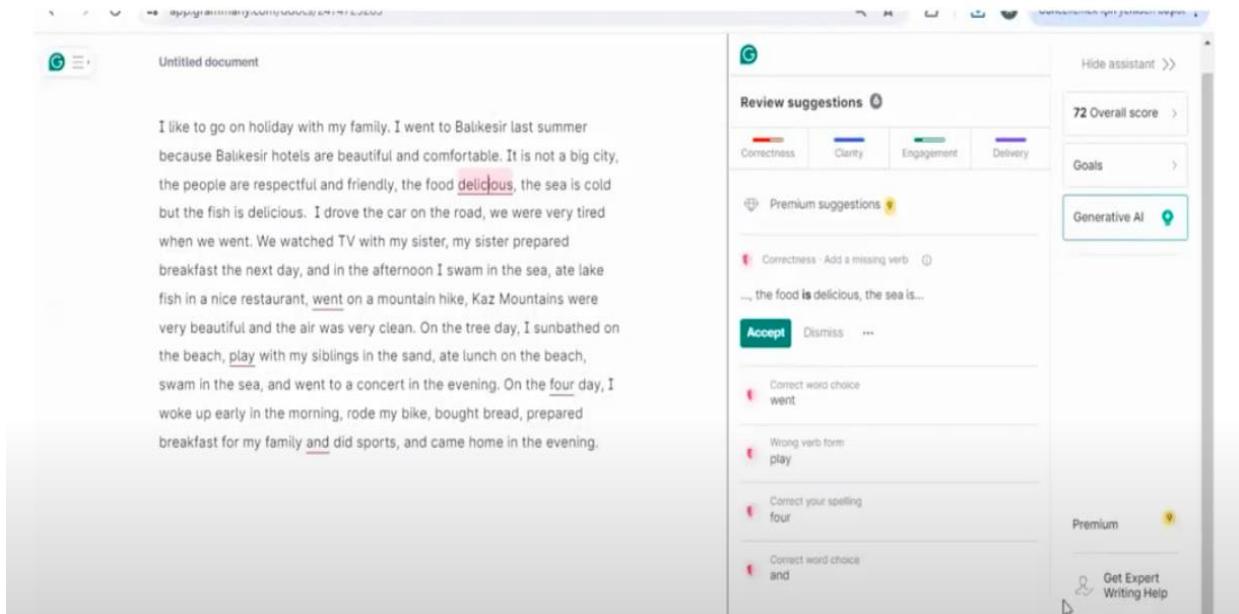
Figure 11: Grammarly Gives no Suggestions for Some Sentences

In the second task (see Figure 11), while writing about his daily routine, Jack aimed to mention that he sometimes goes to school by walking/on foot. Grammarly corrected this sentence as “I go to school sometimes on a / the walk and sometimes by bus”. Namely, the corrected version of the sentence still needs revision. In another sentence, Jack wrote about his favorite course, Materials Technology. Since he wrote the sentence as “... my favorite class material technology”, Grammarly predicted that his favorite class material is technology and corrected the sentence in this way, but Jack’s aim was to mention Materials Technology as a course name. Jack could not identify this detail and accepted the suggestion.

Figure 12: An Excerpt from Jack’s Task 3

In the third and final task, Jack repeated the mistake of using commas and singular/plural forms of the nouns similar to his first task. He also missed out adding ‘and’ while sequencing his activities in his last task as in his second task (see the Figure 13). Although he spent time in identifying and internalizing the source of his mistakes through the suggestions of Grammarly in the former tasks, he had difficulty in applying this knowledge in his following tasks. In addition, in the last task, while Grammarly suggested correcting ‘on the four day’ as ‘on the fourth day’, it did not detect and give any suggestions for ‘on tree day’ because of Jack’s spelling mistake as it can be seen below.

Figure 13: Grammarly Gives No Suggestion For A Sentence



On the other hand, when he completed his tasks, Jack thought that Grammarly affected his grammar learning positively and he is more aware of his grammar mistakes. He stated in the interview that :

“Grammarly helped me to understand my punctuation errors. I realized that using punctuation marks in English is different from Turkish in some aspects. It also corrected my spelling mistakes, subject-verb agreements and word forms. For example, I realized I forgot to use the possessive ‘s’ in my sentences. I think the suggestions of Grammarly is generally correct and makes my sentences better. However, sometimes I wrote the sentences or words in the wrong way so it predicted the meaning differently as an artificial intelligence based software.”

He also added that Grammarly was easy and practical to use so he will use it by himself to practice his writing skills. However, he also indicated that using Grammarly to pre-check his assignments can be more beneficial for him because he thinks he still needs teacher feedback.

4.2.2. William’s Case:

As shown in the figure below, William’s mistakes were mostly related to verb forms, using singular/plural forms, adding extra space and spelling in his first task. He carefully reviewed the suggestions. William dismissed the two suggestions of Grammarly. One of them was about changing the verb form of ‘make’ into ‘making’. The other one was about changing the word form of ‘nice’ into ‘nicely’. In the interview, he mentioned that after dismissing the suggestions, he did not think or investigate why grammarly gave such suggestions for these sentences.

Figure 14: William's Errors General Overview in Task 1

Review suggestions

85 Overall score

Correctness Clarity Engagement Delivery

Premium suggestions 3

Correctness - Change the form of the verb

...are travel, make **making** collections...

Accept Dismiss ...

Fix the agreement mistake

film

Fix the agreement mistake

puzzle

Change the word

nice

Add a space

.My

Correct your spelling

house wife

Fix the infinitive

ride

Premium Advanced suggestions

Get Expert Writing Help

In his second task, his mistakes were again related to spelling, verb/word forms and using singular/plural forms. His overall score was 85 when he first uploaded his paragraph to Grammarly. After accepting the suggestions of the free version, his overall score became 91. However, different from the first task, he also reviewed the underlined parts for the premium version, tried to correct sentences and checked whether the yellow line would disappear or not. By trying, he corrected his two different punctuation mistakes and deleted an unnecessary preposition. Hence, he increased his score to 94 by making inferences from the underlined parts for the premium version.

Figure 15: William's Overall Score for Task 1

Review suggestion

94 Overall score

Correctness Clarity Engagement Delivery

Premium suggestions available:

Correctness - Punctuation, Grammar

Engagement - Variety

Get Premium Dismiss

Premium Advanced suggestions

Get Expert Writing Help

In his third task, William dismissed the suggestion of Grammarly for adding the comma. However, similar to his first task, he dismissed the suggestion and did not check whether it was correct or not. He checked the underlined parts for premium users as well for his third task but he did not make any changes. In the interview, he indicated that Grammarly provides students with a great chance to practice their writing skills independently. The suggestions of Grammarly were correct to a significant extent but students should check how its suggestions affect the meaning. For this reason, he mentioned that even though it is a perfect tool for students to practice independently, it will be more beneficial to students if it is combined with teacher feedback. He explained that:

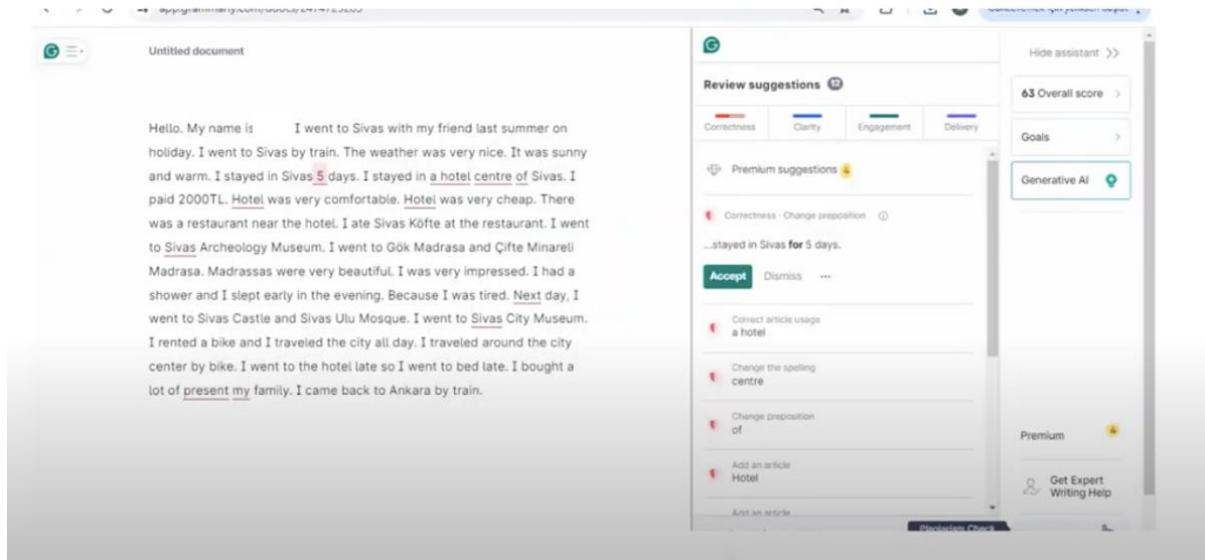
“In my third paragraph, I aimed to mention that my toys are on the wardrobe because they are not inside of it but Grammarly suggested deleting the preposition ‘in’ and writing ‘on’ instead, so I dismissed it.”

Also, he mentioned that he increased his awareness about some issues:

“With the help of Grammarly, I became aware of the use of articles like a, an, the. I never use ‘the’ while writing. If I give an example, Grammarly showed me that I should write ‘the laptop is on the desk’ rather than ‘laptop is on the desk’. I also sometimes forgot to add a/an in my sentences”.

In his last task, as in Jack’s case, Grammarly corrected his sentence but the sentence would still be grammatically incorrect with its suggestion. William dismissed the suggestions of Grammarly for replacing the preposition ‘a’ with ‘the’ and writing ‘center in Sivas’ rather than ‘center of Sivas’. Regardless of accepting or dismissing the suggestions, the sentence needs revision because the correct version should be ‘I stayed in a hotel in the center of Sivas.’ since William aimed to write it in this way (See the Figure 16).

Figure 16: An Excerpt from William’s Last Task



4.2.3. Arthur’s Case:

In his first task, Arthur’s mistakes were mostly related to adding a space and changing the noun form. Arthur accepted all the suggestions of Grammarly and he was relatively quicker than the other A1-level participants. Similar to Jack’s case, although Grammarly corrected William’s sentence grammatically in his first task, the meaning of the sentence was still far from what he aimed to write. To clarify, William wrote ‘She is ready university’ and Grammarly corrected it as ‘She is ready for university’. However, William aimed to mention she, his sister, is preparing for the university entrance exam. As he wrote the sentence in a wrong way by trying to translate the sentence from his native language, the prediction of Grammarly was also wrong. However, he did not deeply think about the suggestion and directly accepted it. See the Figure below:

Figure 17: An Excerpt from Arthur's Task 1

Hello, my name is I am eighteen years old. I am from Turkey. I am a student at Baskent University. My hobbies are playing computer games, reading books, playing football, swimming, traveling and listening to music. I have a small family. There are five of us: Me, my father, my mother and my sisters. We live in a beautiful apartment in Ankara. My father name is Adem. He is fifty-two years old and his job is textile. He is from Ankara. My mother name is Nezaket. She is forty-two years old and her job is a housewife. She is from Ankara. My sister name Edanur. She is twenty-seven years old and her job is a nurse. She is from Ankara. She is married and has six month old daughter. They live in Samsun. My sister name is İlayda. She is seventeen years old and a student. She is from Ankara. She is ready university. We nice time together on weekends. I love my family. We are very happy together.

Review suggestions (10)

- Correctness: Premium suggestions (7)
- Clarity: ...my sisters. We live in a...
- Engagement: Accept Dismiss
- Delivery: Change noun form father
- Change noun form mother
- Add a space .She
- Change noun form sister
- Add a missing verb Edanur
- Add a hyphen six month old

Overall score 62

Goals 3 of 4 set

Generative AI

In his second task, his mistakes were generally related to changing the wording and correcting the verb. In the second task, a similar situation was observed as in his first task. Although he wrote about his daily routine, Grammarly made a wrong prediction while correcting the sentence. Arthur wrote 'Tomorrow, I make ready my bag school and view my phone in bed at 11.45 pm.' In this sentence, he means he packs his school bag for tomorrow and spends time on his phone in bed. However, because of his way of forming the sentence, Grammarly's suggestion was also far from what he actually meant.

In his third task, Arthur kept making the same mistakes as in his first task in terms of using possessive 's and adding a space. In the third task, he dismissed some suggestions of Grammarly such as 'three room apartment' to 'a three-room apartment' and 'many decoration' to 'many decorations' even though they were correct. After completing the task, he did not investigate and try to learn why Grammarly gave such suggestions (See the Figure below)

Figure 18: An Excerpt from Arthur's Task 3

There is a beautiful house of ours in Ankara. We live in an apartment with my family. Our house is three rooms apartment. When house is open the first thing you see is the kitchen. The kitchen is of medium size. There is a wooden table set, a fridge, a cooker and there are many kitchen cabinets. The kitchen there is a large balcony next to it. There are many flowers, oven and tables. When you enter the house, there is a large living room on left. There are comfortable chairs, a large TV and many decoration in the living room. When you enter the house on right is my room, my sisters room, my parents room and bathroom. My room is tidy and medium size. I have a desk, a computer, a bed and a clothes cabinet. My sisters room has a desk, a bed, a clothes cabinet and large armchair. There is balcony next to it and there are bicycles and belongings there. My parents room is no different from our room.

Review suggestions (10)

- Correctness: Premium suggestions (7)
- Clarity: ...house is three rooms three-room apartment.
- Engagement: Accept Dismiss
- Delivery: Add an article house
- Change preposition The
- Fix the agreement mistake oven
- Correct article usage left
- Add a comma and
- Change to a plural noun decoration

Overall score 41

Goals 3 of 4 set

Generative AI

As in his previous tasks, Arthur wrote 'We stayed one a week' to indicate he stayed there for a week. Due to the form of his sentence, Grammarly corrected it as 'once a week'. His attitude towards accepting or dismissing the suggestions was still the same in his last task. Although Grammarly suggested him to write 'historic building' rather than 'history building', he dismissed both suggestions. These sentences were not underlined to get feedback using the premium version as well. Additionally, while he wrote 'Bizans great buildings', Grammarly corrected it as 'Bisan great buildings', but the correct version should be 'Great Byzantine buildings'. Also, he dismissed the suggestion quickly for the last sentence even though it needs revision. See the Figure below:

Figure 19: Grammarly's Suggestions for Arthur's Last Task

After completing all his tasks, Arthur indicated that:

"The suggestions of Grammarly showed me how to write my sentences in a better way. For example, it shows me some words that fit my sentence better to convey the intended meaning or shows me how to form my sentences in a proper way using the structure there is/there are. I think my writing skills have improved in each paragraph in time thanks to Grammarly"

He thought Grammarly mostly gives correct suggestions but sometimes even if its suggestion is correct, he dismisses the suggestion because he thinks its suggestion changes the meaning and what he wrote is correct. He also added that Grammarly is a quite useful tool to improve his awareness of his grammar mistakes and it affected his grammar learning positively in this way. He also thinks that students in his level can use grammarly independently to practice their writing skills, however, it would be better if the process was also supported by teacher feedback.

5. Limitations of The Study

This study has some potential limitations. One of them was the scarcity of studies regarding Grammarly, as it is a relatively new software. Besides, as the study was conducted with 6 participants in a short period of time, the participants were able to do four writing tasks only. However, if they were able to do more tasks, we could have more detailed information regarding whether the learning was permanent or not. Finally, the sample size was relatively small, which might affect the generalizability of the results.

6. Discussion

This in-depth case study aimed to find students' overall perceptions towards Grammarly, and if there is a difference between the perceptions of students with different proficiency levels regarding Grammarly. One of the most significant findings of this research was that our interpretation of the notion of "learning" as teachers is quite different from students' interpretation. Learning, although defined in various ways, can be broadly defined as "changes in behavior that result from experience or mechanistically as changes in the organism that result from experience." (De Houwer

et. al., 2013, p.631). However, when we asked our participants if they had “learned” a piece of grammar thanks to Grammarly, their answers were not about the permanent things they have learned but rather about their “realizations” of their mistakes in a particular task. For example, they answered this question as: ‘Yes, I have learned my punctuation and spelling mistakes’, and started to give context-specific examples although what we asked was something more permanent. In this regard, the well-known study of Morton and Saljo (1976) argue that, if students think of learning solely as memorizing and reproducing the given information without employing reflection, and meaning-making, it is less likely that they will truly organize concepts regarding learning. In other words, what students seem to understand from the notion of “learning” is a short-term action, although it is much more complex than that, being an “ubiquitous and ongoing activity, though often unrecognized as such” (Lave, 2009, p.201) and what the participants know to be true about “learning” is actually what Grammarly made them realize. Another interesting finding of our study apart from this misconception of learning is that although a majority of the participants have directly clicked on the suggestion given by Grammarly, higher-level participants started reflecting on it when the software made more than one suggestion to a particular mistake. However, lower-level students tended to pick one of these suggestions randomly as they were not proficient enough to decide which suggestion suited the best for the given context. Besides, the lower-level students have declared that although Grammarly corrects their mistakes and creates an accurate sentence form-wise, it fell short of giving the meaning that participants desired to give. In a research conducted by Astuti and Sumarni (2023), the researchers similarly stated that Grammarly’s overcorrection is a significant problem as “Grammarly might have proposed modifications that, although technically accurate, strayed from the writer’s original meaning” (p.44). Although the students realized that it was not the meaning they would like to give, they could not rearrange the sentence as they had limited proficiency, thus, the text’s overall coherence was corrupted. The comments of the high-proficient group regarding Grammarly’s suggestions were quite similar. Although they could achieve the correct form and meaning thanks to Grammarly, most of them argued that it is not always correct with its suggestions, or they did not check whether it is correct or not. One of the participants argued that although her spelling was correct, the software constantly tried changing it as the spelling of the word was different in another accent. Even though the users can select their dialects in the browser extension form of Grammarly, it does not work well on the application form when students directly copy and paste their texts, sticking only to the American English variety and keep offering suggestions. In this regard, Zinkevich and Ledeneva (2021) suggest that, while this writing tool can offer significant help to students, it overlooks context and adopts a formal stance toward written texts. Thus, teachers should be very cautious and double-check Grammarly’s suggestions, remembering that just as humans can make mistakes, so can Grammarly.

As for some favorable perceptions regarding Grammarly, all of the students have indicated that it was quite easy to use and the tool is manageable without teachers’ instruction. Besides, some students have added that they started to use the software not only for their academic writing tasks but also when they are writing emails, text messages, journals, etc. In a similar vein, in a study conducted by Dewi (2022), it was found that numerous benefits of Grammarly were discovered by users, including help in identifying grammar, punctuation, spelling, and word choice errors, reducing writing mistakes, and enhancing vocabulary and writing skills while the participants also added that Grammarly is easily accessible for students at any time and any location. In addition to these, the lower-level participants of this study have indicated that they feel a sense of accomplishment once they see that their overall score given by Grammarly keeps rising after each task. Thus, we can say that using the software had a motivating effect on the lower-level participants, while higher-level participants did not even realize that Grammarly was scoring their writing, because their particular mistakes were much more important to them as their overall scores were already high.

A final remark that we would like to make regarding this study is that the participants from the less-proficient group argued that, for lower-level learners of English Language, Grammarly is not adequate on its own, and teachers’ guidance and instruction is needed for sure. Johnson et. al. (2019) highlights the significance of teacher feedback by arguing that high-quality writing can be produced by seeking feedback and guidance from highly experienced instructors. In a similar vein, Dikli and Bleyle (2014) argue that, although automated evaluation systems can help write tasks, teachers need to be aware of the fact that these systems are not without limitations, and they should inform students beforehand regarding the limitations they can face while using this software.

7. Conclusion

In conclusion, this study provides valuable insights into the perceptions and impacts of Grammarly on students with different proficiency levels. Despite the software’s potential to enhance grammar awareness and provide immediate feedback, the findings indicate a discrepancy between students’ realizations of their mistakes and their ability to internalize and permanently learn from these corrections. Higher-proficiency students demonstrated better

engagement and reflection on Grammarly's suggestions, while lower-proficiency students often accepted suggestions without fully understanding their appropriateness. This highlights the necessity for supplementary guidance and structured integration of Grammarly in educational settings to maximize its benefits. The study's limitations, such as the small sample size and the short duration, suggest that further research is needed to explore long-term effects and broader applicability. Overall, while Grammarly proves to be a useful tool, it should be used in conjunction with various teaching methods to support holistic learning and writing development.

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