

"It Makes Me Aware": Undergraduates' Perceptions toward Using Automated Corrective Feedback Program (Grammarly) to Improve Their Writing Skills

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Abstract

This research aims to investigate undergraduate students' perceptions of using Grammarly's automated corrective feedback to improve their academic writing skills. A qualitative approach was used to thoroughly investigate their perceptions; therefore, online semi-structured interviews were conducted with ten Saudi EFL undergraduate students. To analyze the data, the researcher followed Braun and Clarke's (2006) approach to thematic analysis technique by using QDA Miner Lite program to code and theme the information. The findings revealed that the participants viewed Grammarly positively because it played a role in raising their awareness of their common writing issues, ensuring their writing confidence, and developing their grammar and sentence structures. The participants were also aware of Grammarly's limitations and considered them. This study suggests that new technologies (e.g., Grammarly) can bridge the gap between students' current abilities and what they need to be accomplished with the assistance of a more capable entity, which is known as the Zone of Proximal Development (ZPD), to take the students to the level where they are supposed to be.

Keywords: Grammarly, automated corrective feedback, writing skills, perceptions, Saudi EFL undergraduate students

INTRODUCTION

In the context of foreign language learning, academic writing might be challenging for most EFL undergraduate students. This can be interpreted as a result of the rare use of this skill outside of educational contexts. In Saudi Arabia, the challenges of academic writing are many, including limited vocabulary, a lack of grammatical skills, low motivation, and learning contexts (Ali and Ramana, 2018). Thus, providing feedback to students can assist them in improving their writing abilities. Feedback is typically thought to aid students in improving their academic writing skills and affect their learning and performance. It helps students to notice, identify, and avoid similar academic writing issues in the future. Students need feedback to enhance their writing

skills and help them proceed. Therefore, how students perceive the processing of feedback is crucial.

With the aid of technology, some EFL students are able today to use automated corrective programs to take advantage of their feedback and suggestion features, for example, Grammarly. Grammarly has 30 million daily active users (Lytvyn, 2022) due to its various features. It has been increasingly known among students, particularly undergraduate students who are studying in universities or colleges to check their essays, assignments, or papers. Therefore, these undergraduates probably need the assistance of technology to enhance their skills.

Different studies attempted to uncover the role of Grammarly's automated corrective feedback in improving students' writing skills. For example, Jayavalan, Razali, and Abu (2018) discover the effective use of Grammarly in a Malaysian public secondary school to assist students in writing narratives. According to Huang and Taylor (2020), English as a foreign language (EFL) teachers should give their students more chances to use Grammarly in the classroom in order to help them develop their English writing skills.

Statement of the Problem

Studies on writing in second language feedback, including computer-based feedback, have increased over the past few years (Zhang & Hyland, 2018). However, after reading some literature reviews and studies, the researcher found that few studies shed light on the use of Grammarly's automated corrective feedback program to improve students' academic writing in the Saudi context (e.g., Al-Ahdal, 2020; Bahanshal, 2021; Alsaweed, 2022; Sanosi, 2022). Moreover, in light of Haque (2022), "more and more studies need to be conducted on the role of online writing tools like Grammarly and Google Docs in improving EFL learners' English writing skills in the Saudi Arabia context" (p. 3242). Therefore, the objective of this study is to recognize the Saudi EFL students' perceptions of using Grammarly's automated corrective feedback to enhance their academic writing skills.

Research Question

This research aimed to determine how Saudi EFL undergraduate students perceived the use of Grammarly's automated corrective feedback to improve their academic writing skills. Therefore, the study attempted to answer the following question:

- 1- What are the perceptions of Saudi EFL undergraduate students toward using Grammarly's automated corrective feedback program to improve their academic writing skills?

Significance of the Research

Although Grammarly has been the focus of various studies nowadays, there has not been much investigation into studying Grammarly's automated corrective feedback, specifically, in the Saudi context and, generally, undergraduates' perceptions. Hence, shedding some light on how EFL undergraduate students perceived Grammarly to improve their academic writing skills can inspire other students to take advantage of using it to enhance their academic writing skills. In terms of the pedagogical implications,

it is predicted to add value to EFL teachers, instructors, and curriculum designers by incorporating it into some activities in writing classrooms. It may also imply that using Grammarly in writing classes is a good strategy for helping EFL students improve their writing abilities and autonomy, as well as assisting teachers in reducing their workload inside writing classrooms. Therefore, the researcher assumes that the significance of this study originates from the fact that it may help EFL learners and teachers to be aware of the benefit of using Grammarly to develop writing skills.

Definition of Key Terms

Grammarly

It is an online tool that can be used to check for a variety of errors, such as typos and punctuation problems (Fitriana & Nurazni, 2022).

Perceptions

It "refers to opinion, perspective, thoughts, and belief about something" (Ummah, 2022, p. 9).

Feedback

In education, it refers to remarks or other details that students receive from their teachers or other people regarding their performance on assignments or tests (Richards & Schmidt, 2010).

REVIEW OF LITERATURE

In this section, the literature review is divided into four themes: Vygotsky's (1978) zone of proximal development and scaffolding theory, feedback, automated writing evaluation (AWE), and an introduction to Grammarly with a review of previous studies.

Vygotsky's (1978) Zone of Proximal Development (ZPD) and Scaffolding Theory

Sociocultural theory is based on the theories of Russian psychologist Lev Vygotsky (1978), who claimed that learning occurs when an expert interacts with a beginner to help him or her understand a new concept or idea (Ellis, 2015). As stated by Vygotsky (1978), the zone of proximal development (ZPD) refers to "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through adult guidance or in collaboration with more capable peers" (p. 86).

Moreover, Vygotsky (1978) suggested that "the zone of proximal development furnishes psychologists and educators with a tool through which the internal course of development can be understood" (p. 87). He believed that, because of this, the zone of proximal development enables us to define the children's near future and their dynamic developmental condition, taking into account both what the child has previously accomplished and what is still evolving. For Vygotsky, "learning is a highly social process, and a student can learn better if guided by peers or adults or aided through different mediums, such as books, discussions, online information sources, or projects where

students can study, explore and develop new ideas" (Leong, Hassan, Isa, Ab Jalil, 2018, p. 182). Research and practical experience on scaffolding imply that technology can effectively support procedural tasks or offer set suggestions for metacognitive processing (Sharma and Hannafin, 2007).

Furthermore, this work is framed by Vygotsky's (1978) zone of proximal development (ZPD) and scaffolding theory, which led to the investigation into how online automated corrective feedback programs help students improve their writing skills. In other words, according to Vygotsky's (1978) zone of proximal development, students take part in a task but are unable to complete it without assistance from modeling, coaching, and other resources like technology (Polly and Byker, 2020). As a result, a student can gain knowledge and information under the guidance of others who have more experience, as well as with the aid of technology and tools. In this case, Grammarly's automated corrective feedback program can be a tool to guide students when they are given writing assignments or tasks.

Feedback

The importance of receiving feedback is stressed in writing classes. Feedback is information on one's performance or knowledge given by an agent (such as a teacher, peer, book, parent, self, or experience) (Hattie and Timperley, 2007). Moreover, Wiggins (2012) pointed out that feedback is knowledge about how we are doing in our efforts to accomplish a goal. According to Qassemzadeh and Soleimani (2016), feedback relates to the learning activity, the learning process, and the management of the learning by the learners. They also added that feedback can be provided in a variety of ways, including orally, in writing, or using other technical methods.

On the other hand, computer-based methods are a common complement or substitute for teacher feedback on language (Cavaleri and Dianati, 2016). For example, Liao (2016) acknowledged that higher-performing writers are better served by automated feedback because they have the metacognitive procedures necessary to develop grammatical accuracy over the long term (as cited in Oneill and Russell, 2019). Notably, in recent years, there has been a significant increase in research on the impacts of automated writing evaluation (AWE) in the field of foreign language writing.

Automated Writing Evaluation (AWE)

Automated writing evaluation (AWE) systems analyze written texts and generate output that translates to comprehensive scores assessing writing quality and feedback intended to facilitate improvement (Cotos, 2018). According to Parra and Calero (2019), Automated Essay Scoring (AES), Automated Writing Evaluation (AWE), or Automated Essay Evaluation, as they are known, are cutting-edge computer programs utilized in various situations, including the educational system, to provide writing students with evaluation input.

A unique AWE capability converts student writing into enhanced input, with automatic feedback highlighting and describing any errors (Cotos, 2018). Parra and Calero's (2019) results of the pre-test and post-test showed that after utilizing the AWE tools, the

learners' writing performance greatly improved. In addition, Cotos (2018) suggested that engagement with such very significant information for the learners will encourage their attention to form and meaning, and Parra and Calero (2019) pointed out that new trends in computer technology, such as computer AWE tools, have improved language learning, language instruction, and language assessment. Also, their findings corroborate earlier research findings that processing technology is used not only for holistic scoring but also for purposes of writing evaluation. As a result, iterative feedback and immediate analysis of adjustments offer opportunities for practice that result in improved output and assumption verification (Cotos, 2018). Stevenson and Phakiti (2019) discovered a good deal of evidence that AWE feedback had a positive impact on texts produced using AWE, even though this is a contrarian issue.

Grammarly

What is Grammarly?

Grammarly primarily concentrates on grammatical error correction (GEC) to assist students with their writing (Lytvyn, 2022). Grammarly is an online program that may be used to look up a variety of mistakes, including misspellings and punctuation issues. Grammarly includes a wide range of features, including checks for spelling, grammar, plagiarism, and writing style. The user can check for basic and sophisticated grammar mistakes, alliteration, fragments, etc. using the grammar and punctuation tool (Fitriana and Nurazni, 2022).

According to Nova (2018), Grammarly provides both a free and a premium checking option for its grammar-checking procedure. With Free-Grammarly, users can check any online writing for 150 different sorts of errors, including significant ones in grammar and spelling, while Premium-Grammarly provides improved software to check for over 400 checks and features, such as vocabulary enhancement recommendations, plagiarism detection, and citation recommendations (Nova, 2018).

Review of Grammarly's Previous Studies

In the context of the role of Grammarly, many researchers have attempted to investigate it by using different methods (e.g., Jayavalan, Razali & Abu, 2018; Ghufon & Rosyida, 2018; Huang & Taylor, 2020; Zhang, Ozer & Bayazeed, 2020; Fitriana & Nurazni, 2022).

To investigate Grammarly in-depth, Jayavalan, Razali, and Abu (2018) used a quasi-experimental approach, in which the data was gathered for research through pre- and post-tests, which were then analyzed using paired sample T-tests. This study included 60 people who were divided into two groups: experimental and control. According to the study, Malaysian students' narrative writing has shown positive results from the research's intervention, which is Grammarly, especially in terms of grammatical elements such as subject-verb agreement, sentence structure, spelling, and punctuation. The findings of the paired sample t-test revealed a difference between the experimental group's pre-test and post-test scores. The research's conclusions include information on the use of Grammarly in a Malaysian public secondary school to assist students in writing narratives.

In addition, Ghufron and Rosyida (2018) sought to determine whether using Grammarly was more helpful than teacher corrective comments at minimizing students' writing errors in EFL. The study's findings showed that students who had their work checked by Grammarly had a significant reduction in errors when compared to students who had their work checked by a teacher. Grammarly has been demonstrated to be more effective in reducing mistakes in vocabulary use, language use, and writing spelling and punctuation.

Moreover, Huang and Taylor's (2020) second finding in their case study related to how students feel about utilizing Grammarly. Results indicated that when given writing assignments, students tended to favor utilizing Grammarly. This could be attributed to students receiving fast feedback after submitting writing drafts, which allowed them to immediately identify any errors. The authors believed that to help students improve their writing skills in English, EFL teachers should provide them with more opportunities to incorporate Grammarly into the classroom.

Also, participants in Zhang, Ozer, and Bayazeed's (2020) study stated that they prefer Grammarly because it is quick, easy, convenient, and accessible and because it provides helpful feedback and explanations. Furthermore, participants appreciated Grammarly's benefits, such as how simple it is to use and how useful suggestions increased their writing confidence.

By employing a questionnaire and interviews, Fitriana and Nurazni (2022) in the interviews asked the participants different questions to find answers to their research questions. Each participant discussed how they found Grammarly, and they all agreed that Grammarly helped them learn on their own. The fact that Grammarly helps the study's participants write with better grammar was acknowledged by all participants. Because participants can also view Grammarly's automatic correction, they become aware of the words that have grammatical errors and can therefore reconsider their word choices. The participants demonstrated that Grammarly is adept at spotting minor errors like the improper usage of the article a or an.

On the other hand, each participant discussed how they felt about using Grammarly and the problems they encounter. The participants mentioned that when they use Grammarly to verify their writing, the corrections they receive occasionally change the meaning. In addition, some participants questioned Grammarly's correction, and before applying it, they read their writing again to make sure it was accurate. In the questionnaire, 46.7% of the participants strongly agreed that using Grammarly support media to check grammar in writing is highly helpful in EFL environments where English is not used for regular speech. Moreover, Grammarly is useful for learning since it contains all the features.

METHODOLOGY

In this research, the researcher attempted to describe and analyze the undergraduates' perceptions of using Grammarly's automated corrective feedback to improve their writing skills. Based on the research question generated in this current research, the qualitative methodology was applied to describe and examine the research problem. The

next section included a discussion of the rationale for selecting a qualitative approach for this investigation.

Applying the Qualitative Approach

Qualitative research "is an inquiry approach useful for exploring and understanding a central phenomenon" (Creswell, 2014, p. 10). To understand and describe the students' experiences, a qualitative methodology is extremely helpful when there is limited information available on the phenomena being studied (Brown, Stevens, Troiano, and Schneider, 2002).

As reported by Hignett and McDermott (2013), "qualitative researchers are interested in how people make sense of their world and how they interpret and experience different events" (p. 2). Thus, the use of a qualitative research approach was appropriate for this research since it enabled the researcher to conduct in-depth interviews with the participants and discover more about how they viewed using Grammarly to improve their academic writing skills. The following section thoroughly discussed the research's method.

Method of the Research

Because of the interest in investigating students' perceptions, it was appropriate to employ interviews in this study to collect appropriate data. Richards and Schmidt (2010) defined an interview as "a conversation between an investigator and an individual or a group of individuals to gather information" (p. 298). By using the interview method, researchers can control the conversation's path of investigation (Creswell, 2009), which is one of the interview's advantages. Another benefit is that participants might describe specific personal details or experiences that may open new horizons for the study during the interviews. Also, Mackey and Gass (2022) suggested that hearing the participants' own words is advantageous in interviews. Therefore, interviewing students to gain their perceptions was, again, the appropriate method for the researcher to understand and investigate them in depth.

In particular, semi-structured interviews were conducted, which is a type of interview where the researchers utilize written lists of questions as a guide but can elicit additional information (Mackey and Gass, 2022). Specifically, one-to-one interviews were used in this research. It means that during the interviews, a single study participant is interviewed at a time by the researcher, who records their responses (Creswell, 2014).

Interview Questions

As mentioned earlier, the researcher conducted a one-to-one semi-structured interview with open-ended questions. According to Mackey and Gass (2022), open-ended questions and responses are a common method of gathering information in interviews. Therefore, by conducting semi-structured interviews, the primary questions were prepared, and further questions were asked during the interview if there is any need. In addition, the researcher used an interview guide that contained a list of important and related topics and issues that she also wanted to shed light on to help her investigate their perceptions. As Richards and Schmidt (2010) suggested that "an interview guide helps the interviewer make sure that the important topics have been covered during the interview" (p. 298).

Regarding the interview questions, the researcher prepared them to provide some answers to the study's research question. She adopted and modified questions numbers 3, 7, and 8 from Ummah's (2022) study, and questions numbers 4 and 6 from Aidil's (2021) research, with some modifications to fit the participants' understanding and the study's purpose.

For the sake of interviewees' flowing ideas, the researcher divided the interview and interview questions into four sections: demographic information questions, Grammarly automated corrective feedback usage questions, experiences and opinions of using Grammarly automated corrective feedback questions, and lastly, a free question for participants to add any last thoughts to their earlier talks (see Appendix A). Therefore, all the sections led them to share their perceptions accordingly.

The Process of Preparing the Interview Questions

Since it is important to thoroughly prepare the interview questions, the researcher tried to develop questions that had clear structures and well-defined goals. First, she began developing the questions after considering the research question and the study's aim. In detail, after creating the initial draft of the questions, the researcher forwarded them to two of her colleagues who are specialists in applied linguistics to ensure that the questions were well-structured and understandable. They offered suggestions, and their thoughtful comments were taken into account as the second draft was written. Additionally, to ensure the clarity of the interview questions and prevent any misunderstandings, the researcher reached out to an undergraduate student in the same major and university as the researcher's study sample to provide her with the interview questions so the student could check them to ensure the validity of the study's conclusions. Therefore, the student gave her view, which demonstrated that everything was likely obvious.

Participants

The participants of the research were ten undergraduate Saudi EFL female students at a Saudi University who are majoring in English language and translation, ranging from 19 to 25 years old. All the interviewees have experience using Grammarly for more than a year, except for two students whose experiences are less than a year (see Table 1).

Table 1. Demographic Information about the Interviewees

	Age	Level in college	Duration of using Grammarly	Version (i.e., free or premium version)
Interviewee 1	21 years old	9	3 years	Free version
Interviewee 2	21 years old	9	3 years	Free version
Interviewee 3	20 years old	4	2 years	Free version
Interviewee 4	22 years old	12	4 months	Free version
Interviewee 5	22 years old	6	1 year	Free version
Interviewee 6	22 years old	12	5 years	Free version
Interviewee 7	22 years old	12	2 years	Free version
Interviewee 8	25 years old	11	3 years	Free version
Interviewee 9	19 years old	1	6-7 months	Free version
Interviewee 10	23 years old	12	3 years	Free version

To meet the study's purpose, the selection of the participants was based on three criteria: First, participants should be undergraduate students who are studying in the English language and translation department. Participants should major in English language and translation because they typically study more writing courses than other majors, and, at higher levels, they take courses that require lengthy essays and other assignments in English. However, due to the limited opportunities for writing practice outside of the classroom in a context where foreign languages are being learned, students who specialize in English language and translation may find it challenging to write for academic purposes. Second, participants should have experience with and knowledge of using Grammarly's automated corrective feedback program. Third, participants' willingness to be interviewed to share their perceptions and experiences.

Data Collection

The interviews were held between January 4 and January 15, 2023. The interviews were conducted online via Zoom Meeting, and it was only audio, since no need for gestures or facial expressions. After signing the consent form, each participant was interviewed individually. To concentrate more, the researcher tried to plan each participant's day separately. She scheduled each participant for a particular day. Then, the participant was invited to join the interview once the researcher sent them the link to the Zoom session. The researcher tried to establish a rapport with the participants by speaking Arabic with them about a variety of subjects, such as the current weather, their upcoming examinations, and upcoming activities for the weekend.

Furthermore, it was ensured that none of the participants would have any problems with recording the interview. Following that, the researcher started reading and displaying each question individually using PowerPoint presentations so that the participants could also read the questions. All the participants gave the opportunity to select the interview's language. With the exception of one participant, who wanted to speak in Arabic, all of the interviews were carried out in English. The interviews lasted between 15 and 25 minutes. In fact, all quotations included in this research have been verbatim transcribed from the participants' spoken words.

Data Analysis

After finishing the interviews, the recordings were saved in a private folder. Then the data went through the process of transcription and coding the interviews. In analyzing the data, the researcher applied Braun and Clarke's (2006) approach to the thematic analysis technique, which is "a method for identifying, analyzing, and reporting patterns (themes) within data" (p. 4). As shown by Braun and Clarke (2006), there are six steps that were followed, which are: Becoming familiar with the data, creating first codes, identifying themes, examining themes, naming and defining themes, and starting writing.

Transcribing

The researcher transcribed the data using Microsoft Word. She followed some guidelines to ensure that the participants' interviews were accurately transcribed:

- 1- The researcher listened several times to the recordings to familiarize herself with the data. Also, before and after transcribing an interview, she listened to the recording to make sure.
- 2- Only one participant preferred to speak in Arabic; as a result, the researcher sent her the translation to ensure its accuracy.
- 3- Using member checking, which is considered by Creswell (2009) as an important strategy. It is used to assess the validity of the qualitative findings by asking participants whether they feel the final report, or particular descriptions or themes, are accurate (Creswell, 2009). Therefore, the researcher sent the final report back to all the participants for the sake of validity, and no changes were required.

Coding

In the coding process, QDA Miner Lite program was used to aid the researcher to code and organize the data. This program can be used to analyze textual information like open-ended comments, interviews, and news transcripts. It offers features such as analysis of code frequency using a bar graph, a pie chart, and tag clouds, as well as the possibility of adding notes (or memoranda) to coded cases, segments, or the entire project.

The code phase was performed after transcribing and becoming familiarized with the data. Data was coded in two stages: general coding, where the sentence was initially assigned to its broad category. Then, the sentence was given a specific category as part of the coding process.

FINDINGS

Drawing on the interviewees' answers, some Saudi EFL undergraduate students' perceptions toward Grammarly's automated corrective feedback program were presented by dividing it into four themes: Students' selection of Grammarly's free version, students' considerations of Grammarly's automated corrective feedback as an aid in developing writing skills, students' views of Grammarly's automated corrective feedback as a teacher with lessons, and students' awareness of the automated corrective feedback programs' shortcomings.

Some Saudi EFL Undergraduate Students' Perceptions Toward Grammarly's Automated Corrective Feedback Program

To answer the research question, the researcher discussed four themes that she discovered during the interviews in investigating how Saudi EFL undergraduate students perceive the role of Grammarly's automated corrective feedback in developing their writing skills.

Students' Selection of Grammarly's Free Version

As shown in Table 1, all the interviewees have been using the free version of Grammarly. All of them believed that the features of the free version are enough for them, as interviewee 1 stated, "I just need the free one to just check the little mistakes, spelling,

and grammar. So, I haven't ever tried the premium." Also, interviewee 4 demonstrated that "I use the free version because all the features of the free version are good for me, and I don't need anything from the premium one."

Furthermore, the findings illustrated that all the interviewees used Grammarly's automated correction feedback for academic writing purposes, courses that require writing essays or long assignments, writing on social media (e.g., WhatsApp), and also for other purposes besides academic ones (see Table 2).

Table 2. Interviewees' Usages of Grammarly

	Interviewee's quote
Interviewee 1:	"I have used it in writing and also in reading because you know we are asked to reformulate our answers so I used it in grammar and writing most of the time."
Interviewee 2:	"I use it for almost every subject."
Interviewee 3:	"Often in writing but in the other courses I don't need it. Because the other courses require short sentences and I can write them."
Interviewee 4:	"Actually, at the start of my major, I had a lot of writing courses so I did not use it at that time because I want to develop my writing skills. For me, I did not want to use any other programs. But in the last two semesters, it became very academic it needs a lot of work, coherence, and cohesion, so I need something to ensure that my writing is good."
Interviewee 5:	"I use it in academic writing because when I had that course, I found that I need it, I need something to help me. Because at that course I wrote so many assignments and essays so it was helpful," she also added, "I use it also for messages and emails."
Interviewee 6:	"In subjects that need research and paragraphs. You know we usually use informal English, so when we need to write a paragraph, we should use formal English. But we sometimes mixed them unintentionally that's what I use Grammarly for."
Interviewee 8:	"I used to use it in all my subjects."
Interviewee 9:	"Every time I want to write and I use it on Instagram, WhatsApp, and everywhere because it is also on my keyboard."
Interviewee 10:	"I used it in writing subjects and back then I used it a lot because I need to write paragraphs and essays."

As shown above, interviewees used Grammarly for academic and non-academic purposes. Moreover, interviewee 4 believed that there is *a stigma* associated with using Grammarly among students who major in English language and translation as she described, "I think using Grammarly is hard to admit to the other person that you are using Grammarly. Because they would see you or think of you that you are not perfect in English."

Also, she added that "I saw people judge other people because they use Grammarly and because they use automated feedback." In the end, she concluded her argument by saying that "Grammarly helps us by revising after us, so it is not the idea of whether you do not know English or not, just for only for revision."

Students' Considerations of Grammarly's Automated Corrective Feedback as an Aid in Developing Writing Skills

From the participants' points of view, they thought that the features provided by Grammarly played a role in helping them overcome writing difficulties and develop other writing skills. The participants provided several reasons for how Grammarly helped them by correcting or providing feedback. The categories, frequencies, and interviewees' quotes are presented in Table 3.

Table 3. Distribution of How Grammarly Helped the Interviewees

<i>Grammarly</i> helps them by:	%	Interviewee's quote
Raising students' awareness of avoiding the same mistakes in the future.	75%	E.g., "it makes me aware of other mistakes in the future."
Ensuring and providing confidence in students' writing.	56%	E.g., "when I used Grammarly I feel confident and my writing is correct so I sent it to the professor and I don't feel shy about it because I made sure it is correct."
Developing grammar and sentence structures.	56%	E.g., "It really helps me to notice when I can use past in the past progressive because it was really confusing for me, but now it is clearer than before." "It focuses on sentences and the structure of sentences so it helps me a lot."
Providing several synonyms for a word.	47%	E.g., "I always look for more academic synonyms of a word. And it is really helpful in this area."
Giving fast feedback and correction	37%	E.g., "it was a helpful source when I want something fast."

In detail, the majority of the participants (75%) believed that Grammarly raised their awareness of making mistakes in the future, as interviewee 4 discussed, "When I read the feedback so I know when I have the same mistake in the future, I'll know why it is a wrong choice so I'll change it. It is really helpful."

Also, 56% of them assumed that Grammarly ensures their confidence and also provides confidence in their writing, as interviewee 10 shared, "I think the most advantage is that it gives you more confidence in your writing."

Some of the participants (56%) believed that Grammarly plays a role in developing their grammar and sentence structures, such as interviewee 10 stated: "to check and to make sure that my grammar is correct."

Moreover, 47% of the participants thought that Grammarly provided alternative synonyms for the word while writing, according to interviewee 5, "especially in my vocabulary... when I want to add something new or new adjective it helps me, and it gives suggestions for it."

In addition, 37% of the interviewees believed that the quick feedback and corrections that Grammarly provides are beneficial. Interviewee 1 mentioned that "it helps me to maintain my speed in writing, like putting my thoughts without worrying about such mistakes."

Finally, interviewee 8 concluded, "And I remember in level 1 I got an A+ in writing because I use it," which indicated that students may use it to aid them in achieving high grades.

Students' Views of Grammarly's Automated Corrective Feedback as a Teacher with Lessons

As mentioned above, the majority of the participants (75%) indicated that Grammarly helps them learn from their writing mistakes and raise their awareness. Relating to this, interviewee 4 stated that "I truly wish that I had used it before because it would guide me to the areas that I'm weak at," she also added, "It opens my eyes to my mistakes which were basic mistakes but I did not pay attention to them."

Consequently, while interviewees were sharing their perceptions and experiences, the researcher observed that Grammarly provides feedback that can be taken as lessons, as the participants believed. In light of this, interviewee 6 admitted this fact by sharing that: "I learned from my mistakes that Grammarly correct for me and I keep it in my mind because I do not want to do the same mistakes again." Also, interviewee 7 indicated that "every time Grammarly tells you that you have this error, you will focus next time on that error, so you won't do it again."

Given that all the interviewees mentioned that they spend most of their time learning through Grammarly's automated corrected comments, it is assumed that Grammarly serves as a teacher. All in all, interviewee 8 said, "[Grammarly] more than a teacher."

Students' Preferences of Grammarly Feedback over Their Teachers' Feedback.

When it comes to the role of Grammarly from undergraduate students' perspectives, five participants preferred to get their writing feedback through Grammarly instead of their teachers.

In Table 4, the reasons for the interviewees' preferences for Grammarly's automated corrective feedback with the quotes are listed.

Table 4. Reasons behind Students' Preferences for Grammarly's Feedback over Teachers

Reasons	Interviewee's quote
To meet their teachers' expectations	E.g., "Because personally teachers that I had have high expectations of me so I was avoiding any mistakes or writing, I was trying to make it perfect in order to think yeah that student is great, her writing skills are amazing.... <i>Grammarly</i> no it is a program, it would not judge me, it would not harm me, and I would benefit from the feedback more."

Less nervous when using Grammarly	E.g., "Because I feel nervous when my teachers give me feedback."
No threat assessments on Grammarly	E.g., "I like Grammarly feedback because there is no marks. Teachers may give you less marks."
Getting familiar with using Grammarly	E.g., "Because I use it a lot and I saw how it corrects the sentences."
Disliking comments made by others	E.g., "Because I don't like to get remarks on my writing."

Students' Awareness of the Automated Corrective Feedback Programs' Shortcomings

Based on the data, the interviewees showed their awareness of Grammarly's automated corrective feedback program's shortcomings. 65% of them indicated that sometimes Grammarly overcorrects words or sentences while they are correct. As interviewee 1 pointed out, "I notice something recently even though when I write a correct 100% grammatical sentence it tells me to change it even though both of the options are correct." Also, interviewee 3 said, "Grammarly sometimes corrects you even you are correct."

Additionally, an overwhelming reliance on Grammarly, according to 47% of them, is not positive. In other words, interviewee 1 believed that "actually bad for me to rely completely on just a machine because relying on a machine.... like we won't memorize how words spell actually." Besides this, 19% of the interviewees believed that overusing Grammarly could have an impact on their spelling, as interviewee 10 believed that "maybe to the spelling because you just use Grammarly and auto-correction, without do not worry about the spelling, so when you write using an actual pen, you'll realize that you don't know how to spell."

Finally, it is worth noting that interviewee 2 mentioned that she does not trust Grammarly, even though she likes it: "to be honest I love using it for writing works. I know it includes a lot of errors so I did not trust it at all. And I give it another look, to make everything appropriate and to make sure."

DISCUSSION

Students who participated in the interviews shared their perceptions, ideas, opinions, beliefs, and experiences about using Grammarly to improve their academic writing skills. Relying on the previous analysis, it provides an answer to the research question, which is: What are the perceptions of Saudi EFL undergraduate students toward using Grammarly's automated corrective feedback program to improve their academic writing skills?

In light of Vygotsky's (1978) zone of proximal development (ZPD), scaffolding theories, and based on interviewees' perceptions, this study emphasizes how technologies can bridge the gap between students' current abilities and what they need to be done with the assistance of a more capable entity, which is known as the Zone of Proximal Development (ZPD) (Vygotsky, 1978), to take the students to the next level in where they

supposed to be. In other words, automated corrective programs like Grammarly help students complete an assigned task by giving them feedback and additional information, including writing style, grammar, synonyms, punctuation, and context use. Therefore, students are scaffolded by using Grammarly to provide them with feedback and suggestions to enhance their academic writing skills as well as their output. Hence, the students were able to understand the value of such a formative program through its support, direction, identification of problems and mistakes in their writing, and suggestions for improving the ideas. The findings contribute to understanding the scaffolding theory from a sociocultural perspective (Vygotsky, 1978). This is similar to Jayavalan, Razali, and Abu's (2018) findings.

Relying on this theory, interviewee 7 compared her current situation to her former experiences, believing that Grammarly had helped her along the way. As a result, she now uses it less frequently as it takes her to a higher level: "It becomes less and less how many mistakes they get in the app." Thus, Grammarly can be a means and a guide to help some Saudi EFL undergraduate students in developing their writing skills, since it offers features for users to correct, give alternatives, and provide feedback.

Moreover, students' positive experiences of using Grammarly were manifested in their answers during the interviews, they believed that Grammarly played a key role in developing their writing skills, as interviewee 4 demonstrated that, "also my writing skills, in general, have improved." This finding is consistent with several studies (e.g., Jayavalan, Razali & Abu, 2018; Ghufroon & Rosyida, 2018; Huang & Taylor, 2020; Zhang, Ozer & Bayazeed, 2020; Fitriana & Nurazni, 2022). Similarly, interviewee 7 concluded that "If you're really trying to learn, not only academic writing but even to improve yourself, you'll really get used to using it. It is really useful."

In particular, similar to Fitriana and Nurazni's (2022) findings, 56% of the interviewees believed that Grammarly's automated corrective feedback helps them enhance their grammar and sentence structures in academic writing.

Moreover, Fitriana and Nurazni (2022) shed light on the automated corrective feedback, saying that by taking advantage of this feature students "can know the word that has a mistake in structure, so they can re-think again to use the appropriate word" (p. 20). As well, in this study, interviewee 5 pointed out that she reads the feedback because "when I have the same mistake in the future, I'll know why it is a wrong choice so I'll change it. It is really helpful."

Five of the participants preferred to use Grammarly rather than their teachers to receive writing feedback. Based on the interviewees' experiences, there are reasons behind students' preferences for Grammarly's feedback. These include the desire to meet teachers' expectations, the fact that Grammarly is comfortable to use, the lack of threat assessments in Grammarly, becoming accustomed to using Grammarly and disliking other people's remarks. Also, Grammarly helps participants increase their confidence and this finding is identical to Zhang, Ozer, and Bayazeed's (2020) results. According to the results of the current study, integrating Grammarly into writing classes can benefit students.

Yet, as previously said, some undergraduate English language and translation majors may be hesitant to acknowledge using Grammarly due to the concern of being criticized, according to interviewee 4. Also, interviewee 3 believed that Grammarly would be more helpful for students in other majors and departments. She shared, "I think [Grammarly] mostly benefits students in other majors. I believe it will help them."

On the other hand, it is interesting to note that all interviewees in this study were aware of Grammarly's shortcomings. 65% of the participants believed that Grammarly overcorrects words or sentences even when they are correct, 47% of them claimed that it's not a good thing to heavily rely on Grammarly, and 19% thought that using Grammarly excessively might have a negative impact on their spelling. This is compatible with Fitriana and Nurazni's (2022) findings.

As a result, when considered collectively, the results of this study significantly enhance the understanding of Grammarly's role nowadays and students' perceptions toward using it in Saudi Arabia. The findings yielded by this research suggest that integrating Grammarly in writing classes is a smart move for helping EFL students improve their academic writing and autonomy to write effectively.

Furthermore, Grammarly gives users feedback by highlighting errors so students may notice, read them, and fix their writing, which benefits students' writing skills. Importantly, it gives indirect feedback, which helps many students who prefer not to get direct feedback from others. Also, Grammarly paves the way for students to develop their formal and academic style as interviewee 6 demonstrated: "You know we usually use informal English, so when we need to write a paragraph, we should use formal English. But we sometimes mixed them unintentionally that's what I use Grammarly for."

CONCLUSION

The purpose of this study was to find out how undergraduate students perceived the use of Grammarly's automatic feedback program in order to develop their academic writing skills. To accomplish this, the study was based on a qualitative methodology to explore student perceptions by following Braun and Clarke's (2006) approach to thematic analysis technique and by using QDA Miner Lite program to code the data. The results indicated that Saudi undergraduate students perceived Grammarly's automatic feedback positively in general.

While conducting the interviews, the interviewees showed that Grammarly helped them to develop their academic writing skills, raising their awareness of avoiding making the same mistakes in the future, ensuring and providing confidence in their writing, developing grammar and sentence structures, and providing alternative synonyms for the word. This result is in line with several studies (e.g., Jayavalan, Razali & Abu, 2018; Ghufon & Rosyida, 2018; Huang & Taylor, 2020; Zhang, Ozer & Bayazeed, 2020; Fitriana & Nurazni, 2022).

Although the study showed some Saudi undergraduate students' perceptions about using Grammarly to improve their academic writing skills, it has some limitations. The first limitation is the number of interviewees who took part in the interviews due to the

researcher's limited time to complete the paper. Another limitation is that the study was conducted exclusively in one university in Saudi Arabia; consequently, it would be interesting to investigate the perceptions of more undergraduate students attending various universities in Saudi Arabia. Finally, the current research is only limited to females. Thus, it would be fascinating to compare how males and females perceive using Grammarly to improve their academic writing skills.

Suggestions and Recommendations

The research's conclusions suggest that teachers could occasionally use Grammarly's automated corrective feedback in their lessons as a strategy of self-correction with the help of technology. Also, students are recommended to take advantage of Grammarly's features and learn from them by reading the feedback and rethinking the errors. Taking into consideration that Grammarly is a program with both advantages and disadvantages, students should be aware of its drawbacks and work to overcome them.

There are some recommendations to take into account in future studies. First, future researchers may consider using other instruments, such as pre- and post-tests, to confirm the results of the paper. It is also suggested that a longitudinal study be conducted to assess its long-term effects.

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Appendix A

Interview Questions

Demographic Information Questions:

- 1- What is your age?
- 2- What level are you in?

Grammarly Usage Questions:

- 3- Do you use Grammarly's free or premium versions? Why?
- 4- How long have you been using Grammarly?

Experiences and Opinions of Using Grammarly Feedback:

- 5- Could you please share your experience of using Grammarly's automated corrective feedback (in writing and other courses)?
- 6- Have you noticed any changes or improvements after using Grammarly's automated corrective feedback (for example, your grades, skills, or understanding), and if so, what?
- 7- What do you think are the *advantages* of Grammarly's automated corrective feedback based on your experience?
- 8- What do you think are the *disadvantages* of Grammarly's automated corrective feedback based on your experience?

Anything you want to add regarding Grammarly's automated corrective feedback that will help my research?