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Research Paper

## Effects of Teacher vs. Grammarly Feedback on Iranian EFL Learners' Writing Skill

Hoda Sistani<sup>1</sup>, Omid Tabatabaei<sup>2\*</sup>

<sup>1</sup>M.A., English Department, Najafabad Branch, Islamic Azad University, Najafabad, Iran  
*Hodasistani87@gmail.com*

<sup>2</sup>Associate Professor, English Department, Najafabad Branch, Islamic Azad University, Najafabad, Iran  
(Corresponding Author)*tabatabaeiomid@yahoo.com*

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### Abstract

Among four language skills, the task of writing is one of the most complex and demanding cognitive processes. Also, feedback is necessary for teachers during their careers to improve their students' self-confidence. So, the present study aimed to explore the impact of feedback provided by Grammarly Software compared to teachers' feedback on the writing ability of Iranian EFL learners. Through the nonrandom sampling method, 60 intermediate male and female EFL learners were selected, then they were randomly assigned to two main groups: the experimental and control group. In ten sessions, the participants were administered the Oxford Placement Test (OQPT), Pretest of Essay Writing, the Grammarly software program, a Posttest of Essay Writing, and an attitude questionnaire. The data gathered from the comparison of the pretest and posttest revealed that the experimental group members outperformed those in the control group, meaning that the Grammarly software program positively affected the EFL learners' writing ability. The results might have implications for language teachers, learners, and materials developers.

**Keywords:** Automated writing feedback; Grammarly; L2 learners; Second language writing

**تأثیر بازخورد معلمان در مقابل بازخورد نرم افزار گرامرلی بر مهارت نگارش دانشجویان ایرانی زبان انگلیسی**  
پژوهش حاضر به بررسی تأثیر بازخورد معلمان در مقابل بازخورد نرم افزار Grammarly بر مهارت نگارش زبان آموزان ایرانی از زبان انگلیسی پرداخته است. بدین منظور 60 نفر از زبان آموزان سرح متوسط آموزشگاه به عنوان شرکت کنندگان در این پژوهش انتخاب شدند. از ابزارهای گدآوری داده های پژوهش حاضر از آزمون تعیین سرررح آزمون ارزیابی نگارش زبان انگلیسی و پس از همگن سازی سرح زبان آموزان توسط آزمون OQPT بمنظور اطمینان از اینکه همگن از مهارت ب اب در نگارش ب خوردار خواهند بود زبان آموزان بصورت تصادف در دو گ و 30 نفر آزمایشر و تنت ل ق ا ر گ فتند. قبل از آموزش زبان آموزان پیش آزمون نگارش گ فته شد. سرس ط د جلسه زبان آموزان در تلاش نگارش آموزش دیدند و بازخورد نوشته های خود را از طریق ن م افزار Grammarly و معلم در دو گ و نت شد دریافت ت دند. پس از پایان دور به زبان آموزان پس آزمون نگارش داد شد تا از نظ خجهای نگارش مورد ب رس ق ا ر بگی ند. در نهایت نیز ب سرشنامه ای به شرت تنتندگان گ و آزمایشر داد شد تا دیدگا و درک آنان نسبت به روش بازخورد توسط ن م افزار Grammarly را بیان کنند. داده های جمع آوری شد از مقایسه پیش آزمون و پس آزمون نشان داد ته اعضای گ و آزمایشر بهت از گ و تنت ل عمل ت دند به این معن ته ب نامه ن م افزار Grammarly ب توانای نوشتاری زبان آموزان انگلیسر تأی مثبت داشرت. نتایج ممکن اسرت پیامدهای ب ای معلمان زبان آموزان و توسرعه دهندگان مواد داشته باشد.

**کلمات کلیدی:** بازخورد نگارش خودکار - بازخورد گرامرلی - بازخورد معلم - نگارش انگلیسی به عنوان زبان خارجی

## Introduction

The task of writing is one of the most complex and demanding cognitive processes among the four language skills. A writer can use writing to create knowledge and express his or her thoughts on paper (Weigle 2002). As Weigle states, it "encodes internal ideas into written text." Hyland and Hyland (2006) defines writing as "words, clauses, and sentences organized according to a certain system of rules" (p. 51). He also views writing as "the ability to compose texts and to understand contexts and readers.

Teachers and learners are engaged in face-to-face teaching and learning activities, particularly L2 writing (Qassemah & Soleimani, 2016). During the L2 writing process, learners plan, draft, revise, and edit (Bitchener & Ferris 2012). Traditional views of learning have been altered to include blended learning (Fitria, 2021), which combines online and face-to-face learning to support language learners in achieving better language proficiency.

Because of having less exposure to English on a daily basis, Iranian English learners lack proficiency in the English language, particularly when developing texts in English. Due to a lack of emphasis on it in English classes, many high-level students struggle to write properly. It is important to know how to organize grammar and vocabulary into different sentences and paragraphs, even if you know both. Thus, providing feedback to students to improve their writing skills is important in an EFL context. Many L2 teachers struggle with giving feedback to their students; they are unsure what type of feedback they should give or which aspects of grammar to emphasize. In order for students to realize their writing problems and errors, teachers provide them with corrective feedback (Lyster & Ranta, 1997).

However, important considerations are how students' writing errors are corrected, how teachers help students focus on their errors, and how they are given autonomy in correcting them. Feedback is necessary for teachers during their careers as teachers. In order to achieve success, learners need feedback to boost their self-confidence. Throughout his or her teaching career, every teacher is interested in knowing how he or she is doing. Hence, learners must be provided with some clues in order to reach the course's main objective. According to Sheen (2010), students learn more by identifying their errors through corrective feedback. As a result, learning something begins with noticing it. Therefore, students can benefit from corrective feedback by recognizing their mistakes. Students implement their effective explanations after receiving corrective feedback from teachers.

Traditionally, feedback was offered by the teacher who used to correct all student errors and provide individualized feedback. But, nowadays, with improved technology and the increase in internet use, computerized feedback provided by automated writing evaluation (AWE) software has exerted an increasing influence on writing instruction (Hirvela, 2005; Tuzi, 2004; Warschauer & Ware, 2006). The automated writing evaluation (AWE) program, normally known as computer-created feedback, has increased attention in writing research in recent years. AWE systems provide quantitative and qualitative feedback. Wang, Shang, and Briody (2013) mentioned that AWE systems are more consistent and objective than human raters. These systems integrated into classroom writing instruction have crucial effects in terms of the manner and teachers' role in the L2 language writing class .

Ranalli (2018) stated that using AWE tools by teachers directs them to provide Automated Written Corrective Feedback (AWCF). Specifically, AWCF makes teachers focus less on sentence-level grammar and more on higher-level features such as content and discourse. Moreover, AWCF enables learners to improve the quality of L2 writing by providing computer-generated feedback on the quality of written texts .Unlike traditional teacher feedback approaches, AWE can be used independently, giving students direct feedback. AWE is used in L2 classrooms to increase the ability of students to provide written corrective feedback (WCF),



creating a new term: automated written corrective feedback (AWCF). Evidence from both L1 and L2 Classroom research shows that automated feedback can improve the quality of L2 students writing across students' drafts (Stevenson & Phakiti, 2014).

Nowadays, learners are born in the digital age and are familiar with technology and use it from an early age. So, through various developments of technology in human life, the way of learning is something away from traditional teaching. Regarding this view, teachers should adopt various teaching methods and techniques in their classes to improve students writing and give them corrective feedback. In traditional language teaching, some teachers use the inductive mode to educate students. They criticize and provide comments directly on their work. They applied corrective feedback. Nowadays, by using technology in the curriculum, Brown (2002) states that the environment of classes is learner-centered and more active than before.

In addition, sometimes EFL students are confused by the grammar, choice of words, spelling, or ambiguous sentences they face in their writing process. Besides, the teachers must be able to make the students participate in this global written English-language culture. As can be seen, a challenging area in the field of AWF is the way in which EFL teachers integrate AWE feedback in the writing classroom. Besides, participating the students in written English-language culture as well as providing opportunities for authentic foreign language interaction through technology in EFL writing classes is crucial. As a result, the analysis of direct vs. indirect corrective feedback will facilitate better writing accuracy and check the content and the organization of the students' EFL writing .

In this case, to deal with the problems that confront students in EFL writing classes, the teachers can use sophisticated software to check students' grammatical errors, spelling, vocabulary usage, punctuation, and even plagiarism. Thus, this study intends to examine the effectiveness of Grammarly in reducing the errors made by the students in terms of grammar, vocabulary usage, and mechanics (spelling and refer to the problem of writing in EFL content).

Feedback on second language writing is widely acknowledged to offer significant learning benefits, providing writers with a sense of audience and what readers' value in a text (Goldstein, 2005). Feedback is also essential when the learners want to expand their learning. Most learners are not provided with well-being feedback in their classroom settings. Therefore, because of the important role of feedback in our learning and the significance of developing the empirical natures of the learners, it is helpful to determine if feedback provision by CALL-based and teachers can improve the learning performance of Iranians. Thus, this study focused on a new alternative tool, Grammarly Software, which provides writing feedback for students and helps them to improve their writing quality. Grammarly is an AI-based automated writing feedback program that was first released in July 2009. It can offer language use (grammar checking), vocabulary usage (diction), and mechanics (spelling and punctuation).

### Literature Review

Automated writing feedback (AWF) is electronic feedback generated by computers, as Stevenson and Phakiti (2019) define it. Recent technological advancements have made the computer a medium for teachers and students to exchange feedback through e-mails, wikis, and chatrooms for testing and classroom writing. Feedback is provided quantitatively and qualitatively by automated writing evaluation (AWE) systems. Wang, Shang, and Briody (2012) described AWE systems as more consistent and objective than humans. They play an important role in the manner and the role that teachers play in L2 language writing classes when they are integrated into the classroom.

Founded in New York City, Grammarly is a Ukrainian-born, American-based cross-platform writing assistant that fixes spelling, grammar, punctuation, clarity, engagement, and delivery errors. In order to find an appropriate replacement for the error it locates, Artificial Intelligence

(AI) is used. As well as customizing the style, tone, and language, users can also choose the context in which their message will be delivered. An automated feedback program such as Grammarly can be used in EFL writing classes. Using this online proofreading service, you can use it to identify grammatical errors in documents. It also offers spelling, punctuation, synonyms, and plagiarism detection corrections. EFL writing can be corrected by Grammarly for students and teachers. The reason is that Grammarly is capable of identifying punctuation and spelling errors, as well as providing several alternatives for misspelled words, recognizing fragments, and offering verb forms.

A tool such as Grammarly is used in class to assess a student's progress, raise their awareness, and progress through a course. For writing activities, the teacher needs to give students feedback on their writing skills, especially for grammar, because grammatical errors are the most common writing errors. It may be difficult for the lecturer to give detailed grammatical feedback on students' papers (Daniels & Leslie, 2013), or they may lack the confidence to explain complex grammar rules. A teacher or student should find an innovative solution to this problem in regards to corrective feedback on Grammar in particular. Grammarly is a helpful tool because it provides students with corrections for their writing and allows them to reflect on their errors. In order to balance face-to-face activities, Grammarly might be the answer. A feedback program like this can help writers correct grammatical, stylistic, and other errors in their writings (Saddler, 2004).

So far, a number of studies have investigated the effects of various type of feedback on spoken and written English. In this section, some of the existing literature of reviewed. In Chang, et all's (2021) study, Grammarly was used to evaluate the performance of English language students when writing in English as a second language, as well as their acceptance of this new technology. Students from two classes in China were asked to submit essays for analysis. The experimental group was given Grammarly, and the control group was given traditional instruction without Grammarly. A study conducted by Grammarly revealed that students appreciated its AI-based instant grammar correction. Additionally, Grammarly's disadvantages, as well as future teaching strategies, were discussed.

Perdana, Manullang, and Masri, (2021) examined how the use of Grammarly affected academic writing through the experience of reviewing papers. In light of this, they have reviewed a wide range of literature and listened to other academics' experiences published in several international journals. An exploratory phenomenological approach was used to gather data through descriptive qualitative content analysis. In order to verify their validity and reliability, they used a coding analysis system to assess the content and text. The researchers also took into account Indonesia's pandemic protocol and public restrictions when conducting this study. According to the findings of this study, Grammarly online is an appropriate tool for EFL writers since it improves the quality of their writing and helps them reduce their errors.

Using Grammarly and teacher feedback on students' writing, Fahmi and Cahyono (2021) explored the student perceptions of Grammarly. A study of 26 undergraduate students enrolled in English for Specific Purpose (ESP) writing course concluded that the students perceived both Grammarly and teacher feedback positively. It was also found that the English proficiency level of students had no impact on their perception of Grammarly and teacher feedback.

Hidayatun et al. (2021) analyzed how Grammarly as an online feedback tool helped students gain insights into their metalinguistic consciousness in L2 writing. Data and information collected from twenty participants' questionnaires and suggestions were analyzed. Based on the findings, participants report that the online feedback tool simplifies their composing process in terms of grammatical awareness. This means that online grammar could help them develop a metalinguistic perception of L2 writing. As a result of this study, language teachers and teacher



educators could use this tool in teaching and learning to increase students' metalinguistic awareness and autonomy.

A survey was also conducted by Lailika (2019) to determine students' perceptions of Grammarly's use as an online grammar checker. Fifty-four students from the English Teacher Education Department completed two open-ended and closed-ended questionnaires to evaluate whether Grammarly helped them identify grammar errors. As a result of the analysis, Grammarly has been found to be useful for students and provides direct and indirect feedback on their thesis writing. Grammarly Software was selected as a tool for providing Automated Ghuftron and Rosyida (2018) investigated the use of Grammarly Software in reducing students' errors in EFL writing compared to teacher corrective feedback. Based on the results, they concluded that the use of Grammarly Software in EFL writing positively contributes to reducing errors made by the students in terms of vocabulary usage (diction), language use (grammar), and mechanics of spelling and punctuation.

Written Corrective Feedback (AWCF) by Qassemzadeh and Soleimani (2016) to bring innovation into the educational environment. The study compared the effectiveness of this software versus teachers' feedback on EFL learners learning passive structures. In the pretest and posttest, a teacher's effect on learning passive structures was greater than the impact of Grammarly Software, and conversely, Grammarly Software's impact on delayed posttest scores was greater than the impact of a teacher.

Stevenson and Phakiti (2014) reviewed research into the effects of computer-generated feedback on students' writing quality. As mentioned, AWE is a form of computer-generated feedback that gives them feedback as they write. AWE feedback appears to have a modest effect on the quality of texts students produce using AWE, but little evidence suggests that it leads to a more general improvement in writing ability. It is also unclear whether learners engage with automated feedback during revision. Therefore, the following questions were posed in the present research:

1. Is there any statistically significant difference between feedback provided through Grammarly Software and teacher-provided feedback in the academic writing of Iranian EFL learners?
2. How do EFL students perceive the feedback provided through the Grammarly Software program?

### **Methodology**

This research applied the quantitative approach with a quasi-experimental design to gather and analyze the data with a pretest, and posttest design for experimental and control groups.

### **Participants**

Sixty EFL learners (30 females and 30 males), studying at a language institute (Nasle Farad Language Institute) in Najafabad, Esfahan, participated in this study. Their age ranged from 15 to 20 years, and most of them were high school students. An Oxford Quick Placemat Test (OQPT) was administered to select students at the same proficiency level. Students were randomly divided into two groups; 30 students were employed as a control group and the other 30 students formed the experimental group.

### **Instruments**

Researcher-made writing tests, OQPT, Grammarly and a questionnaire were employed as the instruments to gather the data.

### **Essay Writing Pretest and posttest**

Before the treatment, an essay writing pretest was designed and administered to the students. In fact, the participants were asked to write an essay the topic of which was chosen from Practical English Writer. The topic was about whether governments or families are responsible for children's mental health. As making subjective judgments was inevitable, two raters checked the test and then the inter-rater reliability was estimated to be .89. To ensure the validity, also, three experts examined what the test measured, and how well it did so. At the end of the treatment, the researcher also designed an essay writing test. The topic of this essay was: People are usually encouraged to get married before the age of 30, as it is best for individuals and society. Do you agree or disagree? Before administering the test to the students, the researcher checked the instrument's validity and reliability as mentioned in the pretest section. In order to obtain reliable results, two raters who were Ph.D. candidates of TEFL rated the writing essays and the internal consistency was calculated to be .93.

### **Grammarly**

Grammarly is a Ukrainian-origin American-headquartered cross-platform cloud-based writing assistant that reviews spelling, grammar, punctuation, clarity, engagement, and delivery mistakes. It uses Artificial Intelligence (AI) to identify and search for an appropriate replacement for the error it locates. It also allows users to customize their style, tone, and context-specific language.

### **Questionnaire**

The final instrument was a questionnaire designed by Fahmi and Cahyono (2021) to investigate the perception of the students on the feedback of Grammarly. The questionnaire consisted of 10 statements constructed in the form of a Likert scale with five options: strongly agree, agree, no option, disagree and strongly disagree. The 10 statements were intended to know the students' perception of four aspects: the practicality of Grammarly use (3 statements), the Grammarly feedback (4 statements), and the teacher feedback (3 statements). In order to check the validity of the questionnaire, it was proofread by three Ph.D. holders in TEFL. For the sake of reliability, a pilot study was carried out and through Cronbach's alpha, the reliability index was identified to be .86.

### **Procedure**

The study started at the beginning of the term of 2021-2022 academic year. Through non-random sampling, 60 intermediate males and female EFL students were selected, and Oxford Quick Placement Test (OQPT) was administered to them to check their proficiency. Next, they were randomly assigned to two main groups: the experimental and the control group. Each group consisted of 30 students. A pretest essay writing was administered to both groups. Then, the two groups were exposed to different treatments for 10 sessions. The students in the experimental group were taught by using Grammarly Software. At first, they introduced to what Grammarly Software is. After that, they were trained on how to use the software in order to correct the errors they face in terms of grammatical errors, vocabulary usages, spelling, and punctuation. After making the students understand how to operate Grammarly Software, they were asked to use it in an EFL writing course. The teacher had no active role in the process of the writing correction. And finally, the students submitted their writing manuscripts as a portfolio to the teacher.

In the control group, the students were exposed to the teacher's indirect corrective feedback. They were asked to write a text and then, submit the manuscript to the teacher. The teacher checked the students' writing and found the errors in terms of grammatical errors, vocabulary usages, spelling, and punctuation. Then, the corrected writings were returned to the students to

decode the teacher's corrective feedback and revised their work based on the teacher's notes. And finally, the final draft of the writing was sent to the teacher.

In the last session of the treatment, an essay writing test, as a posttest, was administered to the students. The test was in the form of an essay writing test. Both groups took the test in the specified time. In the final phase of the study, a questionnaire designed by Fahmi and Cahyono (2021) was given to the participants of the study to describe their perception of the feedback provided by Grammarly Software.

## Results

### Results of the First Research Question

Table 1 shows the descriptive statistics related to the performance of the experimental group before and after the treatment.

**Table 1**  
*Descriptive Statistics Before and After the Treatment*

		N	Range	Minimum	Maximum	Mean	Std. Deviation
Experimental Group	Pretest	30	7.00	4.00	11.00	7.1500	1.92696
	Posttest	30	8.00	8.00	16.00	12.1500	2.10950
Control Group	Pretest	30	7.00	1.00	8.00	6.5500	1.93037
	Posttest	30	11.00	1.00	12.00	6.5500	3.51650

Table 1 demonstrates that the mean scores of EG members in the pretest and in the posttest are 7.15 and 12.15, respectively. As the mean score shows, the EG performance on the test has greatly improved. In addition, the CG mean score in the pretest and posttest are 4.6 and 6.5, respectively. The performance of the CG demonstrates a minor improvement in terms of their mean score from the pretest to the posttest. In order to find whether the difference in terms of the performance of the groups from the pretest to the post-test is significant or not, *paired sample T-tests* were run and the data is shown in Table 2.

**Table 2**  
*Inferential statistics for the paired sample T-test*

		Paired Differences	t	df	Sig. (2-tailed)
		95% Confidence Interval of the Difference			
		Upper			
Pair 1	EG pretest – EG Posttest	-4.00429	-10.510	19	.000
Pair 2	CG Pretest – CG Posttest	-.73075	-3.347	19	.009

As it is evident in Table 2, the difference between the performance of EG is significant .000 ( $p < .05$ ). This shows that the participants in the EG significantly improved in terms of their performance from the pretest to the posttest. While the EG performed significantly different, the difference of the CG from the pretest to the posttest in their performance is not significant .009 ( $p > .05$ ).

The final step in addressing the second research question was finding the extent of the difference between the performance of the two groups (EG and CG). The following Table 3 shows the descriptive statistics between the two groups in their posttests.

**Table 3***Mean scores and the standard deviations of the two groups*

	Groups	N	Mean	Std. Deviation	Std. Error Mean
Posttest	EG	30	12.1500	2.10950	.47170
	CG	30	6.5500	3.51650	.78631

Table 3 presents the mean score of the EG doubles the mean of the CG (12.15 vs. 6.5). As it is evident from the table, the EG outperformed the CG in terms of their performance on the posttest. To find whether this difference is significant or not, an *Independent Sample T-test* is run. Table 4 illustrates the data.

**Table 4***Results of Independent Sample T-test on Writing Post tests*

	Levene's Test for Equality of Variances		t-test for Equality of Means								
	F	Sig.	T	f	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference			
								Lower	Upper		
Posttest	Equal variances assumes	4.950	.032	6.107	.000	38	.000	5.60000	.91695	3.74374	7.45626
	Equal variances not assumes			6.107	.000	31.107	.000	5.60000	.91695	3.73014	7.46986

Following what the table illustrates, there was a significant difference between groups at the p-value of .000 ( $P < .005$ ). The findings indicated that the two groups performed differently in their posttest results and the higher mean score in favor of the EG is indicative of the impact of treatment on their better performance in the writing test.

### Results of the Second Research Question

To answer the second research question, the responses to the questionnaire items were analyzed as depicted in Table 5. It should be mentioned that only 21 out of 30 EG members were willing to respond to questionnaire items.

**Table 5***Results of the Perception Questionnaire*

No.	Statements	Strongly agree	Agree	No opinion	Disagree	Strongly disagree	Mean
1	I enjoyed learning writing and receiving feedback through Grammarly software.	7	8	6	0	0	4.04
2	I think the feedback provided by the software is really useful.	5	6	7	2	1	3.57



3	I believe I'll have better writing performances on the upcoming writing tests.	5	9	5	1	1	3.76
4	I feel more confident to write now that I know the micro-skills of writing.	3	6	8	2	2	3.28
5	I am willing to use more of similar writing software programs.	4	7	3	6	1	3.33
6	If I become a teacher someday, I'll definitely introduce my students to such programs.	5	6	6	4	0	3.57
7	I think electronic programs are really useful for the improvement of skills.	3	5	9	2	2	3.23
8	I am happy to learn how to perform on a writing project.	6	7	8	0	0	3.90
9	I recommend the use of such programs to other learners.	6	9	6	0	0	4.00
10	I think I am able now to complete writing projects accurately and confidently.	3	8	6	4	0	3.47

In the questionnaire illustrated in Table 5, all the mean scores of the questionnaire items were above 3.00 (which is the average value of the choices where strongly agree receives 5.00 and strongly disagree receives 1.00). This indicates that the EG learners agreed with all the questionnaire items, which were all positive comments about the use of Grammarly software for EFL learners. The highest mean scores out there belonged to items # 1 ( $M = 4.04$ ) and 9 ( $M = 4.00$ ) through which the learners expressed that (a) they enjoyed writing and receiving feedback through Grammarly software, and (b) they recommended the use of such programs to other learners.

### Discussion

The current study was conducted to explore the effect of Grammarly Feedback vs. Teacher Feedback on Iranian EFL Learners' Writing skills. In addition, there was an attempt to investigate any significant difference between feedback provision through Grammarly Software and teacher on academic writings of Iranian EFL learners. The data analysis found that there was a significant difference between using Grammarly feedback and the teacher's feedback in L2 learners' writing achievement. Put it simply, Grammarly software had a significant effect on the academic writings of Iranian EFL learners. In a fairly similar line, Benali (2021) verified AWE's prominent role in improving writing quality. Benali also highlighted research on the usefulness of AWE and identifies four benefits. Benali further emphasized that studies on the utility of AWE have shown four advantages. Automated feedback can improve student writing, advance learning, foster learner autonomy and motivation to write, and lessen the workload on instructors.

Moreover, the outcomes of this research are in line with the studies conducted by Chang et al., (2021). They argued the advantages and disadvantages of using AI-based writing feedback called Grammarly in expanding the writing skills of EFL students. They applied Grammarly to one experimental group and the traditional instruction without Grammarly intervention to the control group. The results of their study showed that the students appreciated the AI-based instant

grammar correction given by Grammarly. Further, the disadvantages of Grammarly and future teaching strategies in EFL writing classrooms were provided.

By providing opportunities for multiple drafts, AWE systems can also provide students with formative feedback, helping them recognize their mistakes and weaknesses to improve their writing skills (Chen & Cheng, 2008). Additionally, Chen & Cheng (2007) argue that these systems foster learner autonomy by providing student writers with the opportunity to practice, write, evaluate and revise an extensive number of essays. Further, research indicates that immediate feedback can improve students' writing (Stevenson & Phakiti, 2014). Students can be motivated to practice writing when they receive fast responses and feedback from these machines (Cheng, 2017). It is also thought that AWE programs are helpful for teachers since they can use that time to teach students about different aspects of writing instead of being occupied with grading students' essays and giving feedback (Stevenson & Phakiti, 2014).

Based on the results of this study, the most relevant conclusions are: Firstly, students' linguistic accuracy might not have improved solely due to the AWE system. Students' linguistic accuracy and the ability to highlight and correct their errors may have been improved as a result of the instructors' use of different strategies and instructional methods to implement this system in the classroom (for example, requiring their students to achieve a minimum automated score before submitting their papers). Students' writing improvement may also result from the teaching and learning processes and not necessarily from implementing these systems (Warschauer & Ware, 2006). A key strength of the research lies within the fact that the study used a control group to measure and compare any potential improvement in the students' writing outcomes.

Regarding how the experimental group perceived the feedback provided by Grammarly, the statistical evidence showed that the experimental group had a favorable view of using Grammarly. They enjoyed writing and receiving feedback through Grammarly software and recommended using such programs to other learners.

Considering the EFL learners' attitude, the findings of the present study are also in accordance with Chen and Cheng's (2008) views asserting that AWE feedback can be perceived favorably. However, they highlighted that AWE feedback could not replace teacher and peer feedback, which caused EFL learners' frustration and limited their writing learning. However, it is said that AWE can be exploited as a supplement to teacher and peer feedback (Chen & Cheng, 2008). Therefore, we could come to the result that the overall findings of the present study support the findings of previous studies proving that the AWF can potentially raise EFL learners' motivation to be aware of their writing problems and address them appropriately (Dikli & Bleyle, 2014).

Based on feedback messages they obtained from AWE systems, Wang and Li (2020) did a research to examine changes in the quality of students' use of text evidence from the first draft to the revised draft. Data were collected qualitatively by analyzing students' essays across the first and second revised drafts. Learners also completed a survey about their perceptions of the effectiveness of eRevise upon submitting their revised draft. eRevise was the AWE system used in their study and was designed to rate responses, provide feedback to students on Response-to-Text-Assessment, and assess students' ability to reason about texts in their writing. The data analysis revealed that the students held positive views toward using eRevise. This study confirmed the claims that AWE systems can provide writing assistance for students and that automated multiple drafting can improve the essay's quality, organization, and content of the essay. The research mentioned indicated that student writers have favorable opinions of using AWE systems. Additionally, they demonstrated how AWE might enhance students' compositions' organization, content, and accuracy.



### Conclusion

According to the study's findings it can be claimed with high certainty that using Grammarly software significantly affects the writing of participants. As a result, the proper use of new technologies, such as computers and related equipment, especially software, is important in learning and teaching and helps improve the teaching and learning process. Using computers and software makes the learning environment more comfortable for children and students and makes them learn and correct their writing without any stress or concern. In this digital age, without a doubt, most learners prefer to use computers and software to learn English writing; for them, the class with the computer and the use of the software is more efficient. All teachers should try to use different software, especially Grammarly software, for teaching to have an attractive class with positive feedback.

This exploratory study investigated students' perceptions regarding Grammarly as a complementary instructional tool to teach and support writing from sources. It was the first step in the possible implementation of the use of AWE within an EFL academic writing course. As in previous research, participants had positive perceptions of Grammarly and found it useful in addressing shortcomings in their grammar knowledge, word usage, style, and writing mechanics. Students found Grammarly to be a beneficial instructional tool that can help avoid plagiarism and writing from sources. Next is to look at how this kind of Grammarly use affected students' revisions by looking at the writing samples collected in the study.

According to the discussion above, the effectiveness of AWE tools depends on the efficient and judicious use of AWE systems. First, because all learners using AWE tools receive the same errors and explanations regardless of their language proficiency, L1, or background, teachers can compensate for this limitation by assisting their students in understanding errors that are beyond their level of comprehension, allowing them to take advantage of the feedback (Woodworth & Barkaoui, 2020). Second, human feedback can compensate for AWE's lack of sociocultural, communicative, and dialogic aspects. When modifying and starting new drafts, students and teachers may communicate about meaning continually, enabling them to "achieve the goal of writing for effective communication in terms of form and meaning" (Chen & Cheng, 2008, p. 108).

In addition, teachers need to know when, why, and how to use AWE systems based on their learners' goals and needs. A learner writing for a real audience may need more human feedback, but another learner who struggles with fossilized grammatical errors may need more practice using automated feedback. Finally, AWE program designers today offer various systems with different options, and even if it is not the teacher who selects the appropriate AWE tool for the learners, it is the teacher's role to guide the learners to make the best use of these tools to achieve better learning outcomes based on their specific needs.

### Pedagogical Implication

The current research has some implications for teachers, researchers, AWE program developers and policymakers, and writing pedagogy. It can also help language teachers to provide corrective feedback for students' writings and see its effect on motivating students to answer teachers' comments on their writings. In this way, they can reduce grammatical errors in subsequent writing. The most beneficial function of using Grammarly software is that the class is less tedious, and the learners are more motivated to participate in classes. Reviewing the literature highlighted the role of students' engagement with these tools in improving the quality of their essays. Thus, a valuable future line of inquiry needs to examine the factors driving students to engage or disregard automated feedback.

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## Biodata

**Hoda Sistani**

**Omid Tabatabaei** is an associate professor of applied linguistics and the head of the English Department at Najafabad Islamic Azad University, Iran. He has published several articles in domestic and international journals and presented them at various conferences. Moreover, he has authored books on ELT and assessment. His areas of interest are language assessment, teaching theories and skills, psycholinguistics, and research methodology.

Email: [tabatabaeiomid@phu.iaun.ac.ir](mailto:tabatabaeiomid@phu.iaun.ac.ir)



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