



**Impact of Etherpad-based Collaborative Writing Instruction  
on EFL Learners' Writing Performance,  
Writing Self-efficacy, and Attribution: A Mixed-Method Approach**

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**Abstract**

The present study examined the comparative effects of Etherpad-based writing instruction and face-to-face writing instruction on EFL learners' writing quality and writing self-efficacy. It also aimed at finding the learners' attitude towards the influence of Etherpad and their reason for success/ failure in this writing course. To this end, ninety students were selected through convenience sampling and randomly assigned to one of the two instruction groups. In addition to an IELTS writing task, Self-efficacy in Writing Scale (SWS) was administered. During the course, the students received instruction on writing an argumentative essay. After the treatment, the SWS and another IELTS writing task were given. Subsequently, a semi-structured interview was conducted with twenty Etherpad-based learners to find their attitudes towards the reason for their success/ failure and the effectiveness of Etherpad. The results revealed that the Etherpad-based group significantly outperformed the face-to-face group in the writing posttest and demonstrated a higher level of writing self-efficacy. The interview data showed that the students attributed their success to both internal and external factors. Whereas, they ascribed their failure to internal factors rather than external ones. It was also revealed that the students found Etherpad as a predictor of their success in writing performance.

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## Introduction

Writing is a fundamental skill required for any academic success (Kellogg & Raulerson, 2007). However, it has been one of the complicated and daunting skills acquired by foreign language learners (Belkhir & Benyelles, 2017; Setyowati & Sukmawan, 2016). Writing skill is challenging because it requires lexical and grammatical knowledge (Yavuz-Erkan & Saban, 2011) and imposes extraneous cognitive load on the language learners during the process of planning, composing, and revising (Tynjala, Mason, & Lonka, 2001). Besides, the other challenging factor in conventional writing classes is the existence of anxiety (Lee, 2001). Indeed, limited time, the presence of teacher, and the feeling that teacher is monitoring all the time increase the learners' anxiety which in turn predicts low quality of writing performance (author, 2017).

With the advancement of computer technologies, some researchers suggested that online collaborative writing tools, such as Etherpad, Google Docs, Weblogs, might act as a suitable replacement for conventional face-to-face writing classes (Dunlap, 2005; Tunison & Nunan, 2001; Zhang & Zou, 2021). Some researchers attributed the effectiveness of online writing environments to their less anxious-making nature, which reduces the learners' writing apprehension (author, 2017; Tananuraksakul, 2014) and increases their level of writing self-efficacy, which is a key contributor to learners' better writing performance (Schunk & Pajares, 2010).

In writing classes, learners may have different levels of writing self-efficacy, which result in different writing performance (Wong, 2005). For example, highly self-efficacious students try to master challenging tasks and have a strong commitment to their interests in the writing tasks; also, they recover quickly from disappointments. In contrast, "inefficacious students avoid challenging or difficult tasks because they think these tasks are beyond their capabilities, fall back on previous personal failures and negative outcomes, and quickly lose confidence in their personal abilities" (Hetthong & Teo, 2013, p. 157). Having realized that low writing self-efficacy negatively affects writing performance, researchers and practitioners have become more interested and sensitive to this phenomenon (Pajares, 2003; Yavuz-Erkan & Saban, 2011; Zhang, 2018).

Besides students' low self-efficacy beliefs, there are other reasons for the low quality of students' writing performance that are worth considering. How individuals perceive their failure, namely their attributional beliefs, is one of the most important factors influencing the students' future writing performance (Williams, Burden, & Al-Baharna, 2001). Although there are some studies (Bouchaib, Ahmadou, & Abdelkader, 2018; Soriano-Ferrer & Alonso-Blanco, 2019) investigating the learners' attributional causes in the face-to-face class, the scant literature has explored the perceptions of online learners towards the causes of their success or failure. Also, there is a lack of research investigating the online learners' attribution to find out whether there are the exact causes in the online environment as those in Weiner's (1986) model. Moreover, the studies on writing self-efficacy have mainly been conducted in western countries, while it has received little attention in the Iranian EFL context. In addition, a large body of research (Chea & Shumow, 2014; Hetthong & Teo, 2013; Zhang, 2018) has examined

learners' writing self-efficacy beliefs in conventional classes. However, studies examining the learners' self-efficacy in an online learning environment are scarce.

To fill the above-mentioned lacunae, the present study aimed at investigating whether there is any statistically significant difference between the writing performance and writing self-efficacy of EFL learners who are exposed to Etherpad-based writing instruction compared to their counterparts receiving face-to-face writing instruction. Also, the secondary purpose of this study was to find the learners' attitude towards the effects of Etherpad on their success or failure in the writing course. In addition, it aimed to find out the attitudes of the Etherpad-integrated learners towards the causes which lead to their success or failure in writing performance.

## **2. Literature Review**

### ***2.1. Etherpad in the EFL Writing Classes***

With the advancement of computer technologies, many EFL teachers implement online tools in their classes to improve students' specific language skills and collaborative skills (Razak, Alakrash, & Sahboun, 2018). Recently, an online tool that has inspired collaboration in EFL writing classes is Etherpad which is "a free, web-based word processor, text editor which allows real-time collaborative writing" (Corneli, 2010, p. 3). Etherpad provides multiple students with the opportunity to work online on the same document simultaneously (Liu, Liu, & Liu, 2018; Zhang & Zou, 2021).

Some studies have revealed the pedagogical implications of using Etherpad for learning and teaching writing skills (Ayan & Seferglu, 2017; Corneli & Mikroyannidis, 2010; Leeder & Shah, 2016). For instance, Ayan and Seferglu's (2017) study revealed the effectiveness of Etherpad in improving the learners' writing performance and their knowledge of vocabulary and grammar. In the same vein, Corneli and Mikroyannidis's (2010) study concluded that Etherpad plays a key role in facilitating new ways of communication and improving learners' writing performance by providing them with the opportunity to work collaboratively and synchronously.

### ***2.2. Online Learning and Self-efficacy***

Self-efficacy has received the attention of several researchers studying the educational applications of online environments (Kuo, 2010; Rachels & Rockinson-Szapkiw, 2018; Zheng, Young, Brewer, & Wagner, 2009). Some studies have highlighted the deployment of online technologies to increase learners' self-efficacy. For example, Zheng et al. (2009) focused on how an online environment can be used to improve EFL learners' self-efficacy.

Many studies have indicated a positive correlation between ESL/EFL learners' self-efficacy and writing performance (Chea & Shumow, 2014, Holmes, 2016; Yavuz-Erkan & Saban, 2011; Zhang, 2018). If learners believe in their capability to fulfill a writing task, they will most probably try harder to overcome the difficulties faced during the task. Thus, it is more likely that learners with high self-efficacy, get more involved in challenging tasks and pursue their goals without considering their difficulties (Bandura, 1986, as cited in Kim, Wang, Ahn, & Bong, 2015). On the other hand, learners with low self-efficacy consider difficult tasks, especially new ones, as threats that should be avoided because they fear failure. Therefore, low efficacious learners fail to make sufficient efforts to fulfill the tasks (Bandura, 1997).

### ***2.3. Attributions for Success and Failure in ESL/EFL Contexts***

Attribution is defined as beliefs held by individuals to interpret and explain the causes of their success and failure (Weiner, 1985). Many attempts in the literature have been made to explore the language learners' attributional beliefs in learning English (Bouchaib et al., 2018; Genc, 2016; Lei & Qin, 2009; Soriano-Ferrer & Alonso-Blanco, 2019). Lei and Qin (2009) conducted a study to analyze the attitude of Chinese EFL learners towards their success and failure in English language learning. The finding of their study indicated that Chinese EFL learners assigned their success to effort, confidence, teacher, and practical use. In contrast, they considered lack of effort, lack of confidence, lack of practical use, test-oriented learning, and lack of support as the reasons for their failure. In the same vein, Genc (2016) examined causal attributions of EFL learners for their accomplishment and failure in an English language class. The results of their study revealed that EFL learners considered interest, ability, effort, luck, and the teacher's influential role as the effective factors leading to their success. Moreover, Bouchaib et al. (2018) explored the causal attributions of 113 EFL students studying at three high schools in Morocco. They observed that external factors, such as class atmosphere and teaching method, were the most endorsed attributions for success in foreign language learning.

## **3. Methodology**

### ***3.1. Participants***

Through volunteer and convenience sampling, 90 BA TEFL students from two public universities, namely University of Golestan and Gonbad Kavous University, were chosen to participate in the study. They were between 19 and 25 years of age ( $M = 21.37$ ). The students were all Iranian, with Persian as their mother tongue. The researcher had access to the sophomore students and selected those who had the same level of writing proficiency (as determined by an IELTS writing test) to participate in this four-month study. All of the other students participated in regular classes, and their scores were not considered in this study. Subsequently, these participants were randomly assigned to one of the two groups (Etherpad-integrated group and face-to-face group).

### ***3.2. Instrumentation***

The instruments used comprised IELTS writing tasks, a writing self-efficacy questionnaire, and a semi-structured interview.

#### ***3.2.1. IELTS Writing Tasks***

In this study, the participants were requested to compose some writing tasks that required writing persuasive discourse. These writing tasks, in which the participants were asked to write several argumentative essays, were taken from the IELTS General Writing task. These were as follows:

Task 1: the topic revolved around environmental problems. It was used for both homogenizing the students and measuring their writing proficiency level.

Tasks 2, 3, 4, and 5: their topics revolved around culture and travel, exercise and health, traditional vs. modern diet, and protection of endangered species, respectively. These tasks were given to the students to provide comments on each other's L2 written production.

The last writing task (the impact of media on teenagers) was carried out at the end of the semester. It was given to the students to measure their L2 written production.

### *3.2.2. Self-efficacy in Writing Scale (SWS)*

The students' self-efficacy in writing was measured using the scale developed by Yavuz-Erkan and Saban (2011). This scale measured the learners' self-efficacy in EFL writing on a four-point Likert scale asking the students to determine whether they agreed or disagreed with the statements querying about their writing ability. The reliability was calculated and the results indicated that it had a reliability of .93.

### *3.2.3. The Semi-Structured Attributional Interview*

To find the answer to the qualitative research question of this study, a semi-structured interview was conducted. The questions of this semi-structured interview were provided by the researcher after going through different causal attributional questionnaires, such as the Attributional Style Questionnaire (ASQ) and the Language Achievement Attribution Scale (LAAS) developed by Peterson et al. (1982), and Hsieh (2004) respectively. To ensure the content validity of the interview questions, five experts (i.e., three instructors of qualitative research and two instructors of computer-assisted language learning) evaluated these questions. As a result, the interview consisted of 5 questions that dealt with the learners' attitude towards the effect of Etherpad on their success or failure in writing; in addition, these questions provided evidence regarding the causes that the Etherpad-based students attributed to their success or failure in writing performance.

### *3.3. Procedure*

In this study, data collection was conducted successively in two phases, i.e., quantitative and qualitative. To answer the quantitative research questions, the following steps were followed. At the outset, to comply with ethical requirements, a consent form was given to a group of EFL students from the University of Golestan and from Gonbad Kavous University. Those who agreed to take part in the study were given a sample IELTS writing test to ensure the homogeneity of the participants in terms of L2 writing proficiency. Also, a Self-efficacy in Writing Scale (SWS) was administered to all participants in order to determine their self-efficacy in writing. Ninety students who had the same level of writing proficiency were assigned to one of the two groups (group 1: Etherpad-integrated/ group 2: face-to-face group).

The following steps were taken for each of the groups (EIG/ F-T-FG):

#### *Group 1: Etherpad-integrated group (EIG)*

Step 1: To make sure they knew how to work with the Etherpad environment, the participants in this group were firstly provided with two extra instructional sessions in the laboratory in which Etherpad and the related options were introduced; then, the students were asked to work with a sample activity in the presence of the instructor.

Step 2: During the course, the Etherpad-based group published their essays, received their peers' comments, and communicated with the teacher via the Etherpad chat facility. The teacher divided the students of the Etherpad-based class into groups of five students to organize peer assessment on their respective written assignments. Additionally, the teacher offered constant support and assistance through the text, video, audio chatting feature in

Etherpad. Subsequently, they revised their essays based on comments and submitted them via the Etherpad platform.

Step 3: At the end of the treatment, another sample IELTS writing test and Self-efficacy in Writing Scale (SWS) were administered to all of the students in order to determine their L2 written production and their self-efficacy after the treatment.

Step 4: After gathering the data from the quantitative part of the study, the researchers started the second phase. In the qualitative phase, a semi-structured interview was conducted with 20 students having high/low writing scores to find the students' attitude towards the influence of Etherpad as a writing instructional environment from an attributional perspective. The interviews were all recorded and transcribed word by word for analysis.

#### *Group 2: Face-to-face group*

Step 1: During the course, the learners were instructed to write their essays and share their drafts with their peers to receive assessment comments. They were organized into groups of 5 students in order to provide comments on their peers' essays.

Step 2: Finally, another sample IELTS writing test (Task 2) and Self-efficacy in Writing Scale (SWS) were given to the learners.

#### *Comparison between the two groups:*

There was no difference between the two groups (EIG/ F-T-FG) in terms of the procedure followed. They were only different in terms of instructional environment (Etherpad/ Face-to-face). The experiment comprised one session per week, each lasting 90 minutes, throughout a period of four months. Moreover, all groups were taught by the same instructor (the researcher of the present study) to remove any possible interactional effect related to the teachers' different individual or methodological characteristics.

## **4. Results**

### **4.1. Quantitative Phase**

To ascertain whether Etherpad-integrated instruction and face-to-face instruction differentially influence EFL learners' writing quality, the learners' post-test writing scores were gathered and analyzed (Table 1).

**Table 1.** *Descriptive Statistics of Post-test Writing Scores of EIG and F-T-FG*

	N	Mean	Minimum	Maximum	Std. Deviation	Variance
Etherpad	45	17.56	15	19	.982	.964
Face-to-face	45	16.34	14	18	1.035	1.072
Total	90	16.95	14	19	1.174	1.379

As shown in Table 1, the mean writing performance of learners receiving Etherpad-based instruction was 17.56, that is, higher than the mean score of the face-to-face learners (16.34). An independent sample T-test was conducted to detect whether the difference between the mean scores was statistically significant (Table 2).

**Table 2.** An Independent Sample T-test of Post-test Writing Scores of EIG and F-T-FG

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Writing performance	Equal variances assumed	.022	.882	4.833	88	.000	1.219	.252	.715	1.723
	Equal variances not assumed			4.833	87.826	.000	1.219	.252	.715	1.723

As indicated in Table 2, there is a statistically significant difference between the post-test writing scores of Etherpad-based learners and face-to-face learners;  $t(88) = 4.833$ ,  $p = .000$ . Therefore, it is reasonable to conclude that the two groups showed dissimilar performance after receiving different writing instruction models; in fact, Etherpad-based learners outperformed face-to-face learners on the writing post-test.

The second research question focused on investigating the possible differential effects of two instructional models (Etherpad/ face-to-face) on EFL learners' writing self-efficacy. Table 3 presents the descriptive statistics for writing self-efficacy of the two groups.

**Table 3.** Descriptive Statistics for Post-test Writing Self-Efficacy Scores of EIG and F-T-FG

	N	Mean	Minimum	Maximum	Std. Deviation	Variance
Etherpad	45	85.81	68	96	7.009	49.125
Face-to-face	45	74.91	55	88	8.946	80.023
Total	90	80.36	55	96	9.683	93.758

As indicated in Table 3, the mean of writing self-efficacy of the Etherpad-based group (85.81) was higher than that of the face-to-face group (74.91). To investigate whether this difference is statistically significant, an independent sample T-test was run (Table 4).

**Table 4.** An Independent Sample T-test of Post-test Writing Self-Efficacy Scores of EIG and F-T-FG

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Self-efficacy	Equal variances assumed	3.171	.080	5.429	88	.000	10.906	2.009	6.890	14.922
	Equal variances not assumed			5.429	87.643	.000	10.906	2.009	6.886	14.927

The result of the independent sample T-test,  $t(88) = 5.429$ ,  $p = .000$ , revealed that Etherpad-integrated learners demonstrated higher levels of writing self-efficacy than face-to-face learners.

## 4.2. Qualitative Phase

To answer the qualitative research questions, a semi-structured interview was conducted with 20 students from the Etherpad-based group. The interview questions were designed to reveal the students' attitude towards the effectiveness of Etherpad on their writing quality and ascertain their reasons for success and failure in this course. All of the learners' responses to the interview questions were recorded and transcribed. All transcribed interviews were analyzed for common themes through thematic analysis. For each interview question, the themes extracted from the responses of interviewees were classified in a table. For some themes, some interview samples were provided. To preserve the anonymity of the participants, pseudo names have been used in this study.

### 4.2.1. The First Interview Question

Table 5 sheds light on the themes extracted from the students' responses to the first interview question, i.e., Do you think Etherpad-based writing instruction was helpful or useless? Did it play a key role in your success or failure in this writing course?

**Table 5.** Themes Extracted from the First Interview Question

- |   |
|---|
| 1. After the introduction of the course, they felt writing process in Etherpad was useless; however, it gradually became exciting and helpful for them. |
| 2. From the beginning, they considered this online environment enjoyable and helpful to improve their writing performance                               |
| 3. Generally, they emphasized the effectiveness and useful nature of Etherpad, but they thought there are better ways for learning writing skill.       |

The first interview question considered the students' perceptions towards the effectiveness of Etherpad and its impact on their writing quality. Regarding the interviewees' responses to this question, at the beginning of the course, when they started doing their writing assignment via Etherpad, many students expressed that they felt working with this online tool was a waste of time. Whereas, at the end of the course, they found this online writing instructional environment as a key factor in improving their writing skills since it provided them with useful additional links, including materials related to the topics their writing assignments were based on. The following excerpt exemplifies this issue.

*At first, I didn't spend enough time on doing my writing assignment carefully since I thought that you as a teacher and my classmates wouldn't spend time in online environments in order to read my drafts. After one week, as I saw you and my classmates read them carefully and gave a lot of comments on my first drafts, I came to the conclusion that I should write my essays carefully. For the time being, I think Etherpad played a key role in inspiring me to work hard to write better.*

(Sample excerpt 1, Sima, theme 1, January 2020)

Some of the students expressed that they had a positive attitude towards Etherpad and this environment attracted their attention from the starting point of the course. They considered Etherpad as a helpful and enjoyable environment for improving their writing skills. They mentioned that they preferred having courses embedded within an online environment such as



Etherpad since it helped them become more skillful in when producing extended writing activities. The following example exemplifies this point.

*I had an enjoyable experience of working with Etherpad. I think it led to our improvement in writing performance. Also, I think even the students who weren't very familiar with technology, have also learned something in this environment, and it was very helpful for them. I wish all of my writing classes used this environment.*

(Sample excerpt 2, Vahid, theme 2, January 2020)

Furthermore, few students expressed although the writing process through Etherpad was not useless in their writing improvement and they learned many new and innovative matters; they preferred not to deal with online environments in order to practice writing skill.

*I don't say that I wasted my time practicing writing skill in Etherpad. Actually, some features of this environment were appealing and valuable. Notwithstanding, I don't have any interest in computers and technology in general; so, I prefer to have other choices of receiving instruction.*

(Sample excerpt 3, Sara, theme 3, January 2020)

#### 4.2.2. The Second Interview Question

Table 6 clarifies the themes extracted from students' responses to the second interview question; i.e., If Etherpad helped you to become successful in this course, how did Etherpad lead to the improvement of your writing performance?

**Table 6.** Themes Extracted from the Second Interview Question

1.	Increasing cooperative learning
2.	Increasing teacher-student interaction
3.	The growing sense of responsibility to find out mistakes

To respond to the second interview question, many students mentioned they took advantage of Etherpad, which made cooperative learning possible, as it enabled them to express their ideas and give comments on each other's writing assignments. They emphasized the collaborative and cooperative nature of the online environment as indicated in the following excerpt.

*For my money, in Etherpad, my classmates and I could interact with each other without any restriction. Also, we had the opportunity to help each other by expressing our ideas on each other's essays and making some suggestions to revise the essays.*

(Sample excerpt 4, Ali, theme 1, January 2020)

Also, some students revealed that the reason why they considered Etherpad beneficial for achieving success in the writing course was that it increased their interaction with the instructor through the chat facility which is available in Etherpad.

*I think that Etherpad provided us with the opportunity to communicate with the instructor whenever we faced difficulty in commenting on our classmates' writing assignments and need her assistance and ideas. It was possible with the help of its chatting option.*

(Sample excerpt 5, Farhad, theme 2, January 2020)

However, few students expressed that its effectiveness was due to the fact that it increased their sense of responsibility to find out their mistakes by considering their peers' comments on their own drafts and their group members' essays.

*Well... in Etherpad, we can look at our classmates' essays and learn many new things by considering the positive and negative points of their writing drafts. However, we didn't have such an opportunity in other writing classes we have had until now.*

(Sample excerpt 6, Mahshid, theme 3, January 2020)

#### 4.2.3. The Third Interview Question

The themes extracted from the students' responses to the third interview question, "In your opinion, which features of Etherpad play an influential role in your success in this writing course?" are presented in Table 7.

**Table 7.** Themes Extracted from the Third Interview Question

1.	Its text chatting feature which provides teacher support
2.	Its nature which keeps the students anonymous
3.	Additional links included in Etherpad for accessing supplemental materials
4.	A time slider feature
5.	Audio chat and video conferencing

The first contributing feature of Etherpad, which was highlighted by the learners, was text chatting. They expressed they took advantage of its chatting option, which provided them with the opportunity to receive teacher support for giving feedback on their peers' assignments and revise their drafts based on their group members' comments. They emphasized that with the help of this feature, they had access to teacher and peer support without any restrictions, at any time and any place.

*I think that the most supportive feature was the chatting option. This feature made it possible for me to ask the teacher some questions outside the classrooms; no matter where the instructor was, she supported us by answering my questions regarding the clarification of my group members' comments on my drafts.*

(Sample excerpt 7, Mahdi, theme 1, January 2020)

The second feature of this online environment emphasized by students was its nature to ensure their anonymity, therefore providing a safe environment. They were able to do this by using pseudo names, and thus didn't feel awkward or shy when they provided comments on their peers' essays.

*In my opinion, there are many appealing features in Etherpad that you can't understand its effectiveness until you start working with this environment. It was the first time that I didn't have any fear of sharing my essays with my classmates because no one knew whose essay was.*

(Sample excerpt 8, Sahar, theme 2, January 2020)

The third feature of Etherpad, which students mentioned as an effective option, was the inclusion of additional links in this online environment. They conveyed that while they were

involved in writing an essay, they had access to extra information related to the topics they were writing about through the links provided.

*Having access to additional links in Etherpad, I could write better essays. In fact, these links played a crucial role in my success in this course since I could study additional material related to the topic of our writing assignments.*

(Sample excerpt 9, Maryam, theme 3, January 2020)

Also, they found value in the time-slider feature, which enabled them to track the changes made by their peers. They emphasized they could have access to their peers' comments at any time, while in their previous writing courses, they had to wait till the next class to receive comments on their writing assignment.

*From my point of view, one of the attractive features was "track change" or "insert comment", which provided us with the opportunity to see where we could make changes and how we corrected our essays based on new points which our peers wrote down.*

(Sample excerpt 10, Reza, theme 4, January 2020)

The last feature of Etherpad highlighted by students was its audio and video chat facility which made it possible for them to communicate with their peers and teachers easily.

*I suppose one of the most valuable and attractive features of Etherpad was video conferencing. During the course, whenever I couldn't understand the comments, I didn't become upset since I could ask my peers or teacher to explain in detail.*

(Sample excerpt 11, Samira, theme 5, January 2020)

#### 4.2.4. The Fourth Interview Question

Table 8 represents the themes extracted from students' responses to the fourth interview question, i.e., "Did you face any problems with Etherpad while you were involved in the writing process?"

**Table 8.** Themes Extracted from the Fourth Interview Question

1.	They were completely delighted with the implementation of Etherpad in their writing process.
2.	The only problem was the speed of the internet connection which interrupted them during the writing process in Etherpad.
3.	Besides many valuable features of Etherpad, they pointed out a few technical problems, i.e., small chatting screen.

In response to the fourth interview question, most of the students had no complaints about Etherpad, which was implemented in their writing class, and they mentioned that it had a lot of advantages for the improvement of their writing skills.

*Generally, I enjoyed working with Etherpad since it facilitated sharing drafts with my classmates and receiving their comments on my essays. In addition, I didn't face any problems while working with Etherpad.*

(Sample excerpt 12, Hamed, theme 1, January 2020)

In addition, some of them declared that a slow Internet connection was the only problem interrupting them. However, they mentioned they benefited from Etherpad and had no problem with the tool itself.

*Honestly, I faced many problems downloading the files of my essays from Etherpad because of our home's slow internet connection. And it made me upset to make a lot of effort to download the files repeatedly. Despite the slow internet connection, Etherpad was very user-friendly.*

(Sample excerpt 13, Shima, theme 2, January 2020)

Finally, a few students who had high expectations of Etherpad, pointed out a few technical problems despite having taken advantage of this collaborative online tool.

*Well, I acknowledge that Etherpad really worked well for my writing improvement. However, I wish it didn't have few problems like small chatting screen. Also, I faced a problem in the formatting of documents. When I attached my essay, which I wrote in Microsoft Office, the format of my manuscript and indentations got mixed up and didn't remain in the same way as they were.*

(Sample excerpt 14, Samaneh, theme 3, January 2020)

#### 4.2.4. The Fifth Interview Question

The themes extracted from the students' responses to the fifth interview question, "What are the causes leading to your writing accomplishment or failure in this course?", are represented in Table 9. The students' attributions for success in the writing course are indicated in the following table.

**Table 9.** Themes Extracted from the Fifth Interview Question (The Students' Reasons for writing Accomplishment)

Causal attribution	Internal/external
1. They expressed their success in this writing course was due to their own effort in practicing writing skill regularly.	I
2. They found Etherpad as a friendly environment which led to their writing accomplishment. (Instructional environment)	E
3. They took advantage of collaborative learning as a reason for their success in this writing course.	E
4. They enjoyed developing their English writing skills; and considered their interest in writing as a factor contributing to writing improvement.	I
5. They considered the instructor support during the writing process and her instructional method as a factor that caused their success in this writing course.	E
6. They believed that their ability in acquiring writing skill was one of the reasons for their success in writing.	I

As illustrated in Table 9, the most frequently mentioned reason was "effort", which is an internal and controllable factor. Practicing regularly and attempting for writing improvement were classified under this category.

*Honestly, during this course, I practiced writing skill regularly, and I did my best to improve my writing performance by repeatedly checking my peers' comments on my*

*previous drafts. In my opinion, my good performance in the posttest was caused by my effort.*

(Sample excerpt 15, Nima, theme 1, January 2020)

The other attributions that emerged from student interviews were inspiring environment, collaborative learning, interest in writing, and instructor support. "Ability" was the least frequently mentioned one.

*I know that I am a proficient writer in English. It is not an exaggeration because I am capable of learning how to write in any language well. When the teacher taught us new instructional material on writing skill, I was sure I would understand it.*

(Sample excerpt 16, Arash, theme 6, January 2020)

**Table 10.** Themes Extracted from the Fifth Interview Question (The Students' reasons for Failure in Writing)

Causal attribution	Internal/external
1. They found their lack of effort in practicing writing skill and reading instructional materials hindered their success in this writing course.	I
2. They expressed that the difficulty of the topic of writing tasks and the complexity of some instructional materials prevented them from writing an essay successfully.	E
3. They thought their lack of interest in writing and unwillingness to do writing assignments were the reasons for their failure in this course.	I
4. They expressed although they received good instruction on Etherpad, their apprehension towards technology made them unable to adequately practice writing skill in the online environment. As a consequence, they did not succeed in this writing course.	I
5. They mentioned their lack of ability to learn writing skill made them unable to write well in spite of understanding the teacher's instruction.	I

Lack of effort and the difficulty of the topics were cited as the most critical factors leading to failure, i.e., poor writing performance.

*To be honest, the only factor that prevented me from writing well was lack of my effort. I didn't adequately practice writing essays, and I used to spend just a limited time per week, and didn't attempt. If I practice a lot, I could receive a better grade.*

(Sample excerpt 17, Mohadeseh, theme 1, January 2020)

*I believe that I can write essays well. But, the difficult topics of essays were the most important factor leading to my failure. I found there was a strange logic behind the writing tasks which I couldn't understand. In my opinion, the topic of the final test was complex since I had no background knowledge about it.*

(Sample excerpt 18, Ali, theme 2, January 2020)

Other attributions referred to by students were lack of interest, apprehension, and lack of ability which are internal factors.

*As a matter of fact, I'm afraid of working with computers since I always worry about making mistakes which I can't correct. So, my computer anxiety made me be unsuccessful in this course.*

(Sample excerpt 19, Mona, theme 4, January 2020)

## 5. Discussion

Regarding the first objective of the study, the findings revealed that the learners in the Etherpad-based group scored significantly higher on the writing posttest than the face-to-face learners. The result of the effectiveness of the online environment in enhancing the students' writing skills is in line with the finding of Rice (2009) and Bagheri, Behjat, and Yamini's (2013) studies. One explanation of the influential role of Etherpad in improving the students' writing performance may be due to the extra resources available via external links in Etherpad. The links provided learners with additional materials related to the same topic they were writing on.

In response to the second research question, which investigated the differential effects of two writing instructional conditions on learners' writing self-efficacy, the analysis demonstrated that the Etherpad-based learners showed a significantly higher level of self-efficacy in writing than the face-to-face learners. This finding is comparable to Zarei and Hashemipour's (2015) study, which showed a statistically significant difference between the self-efficacy of learners who took advantage of an online environment compared to those in a traditional one.

The disparity between the level of writing self-efficacy of the Etherpad-based learners and the face-to-face learners may be due to the social nature of the online environment in building a sense of community which referred to social persuasion as a factor influencing self-efficacy. Another explanation behind the superiority of Etherpad-based over face-to-face instruction in increasing learners' writing self-efficacy can be the potential support underlying features such as text, audio, and video chat which provide students with the opportunity to receive teacher support whenever they face difficulties in revising their essays and providing comments on their peers' assignments.

The third and fourth research questions explored the students' attitude towards the impact of Etherpad on their writing performance. They also aimed at disclosing the students' perceptions regarding the factors contributing to their writing accomplishment and the causes of their failure in writing. A semi-structured interview was conducted to reveal the students' perceptions. Regarding the students' answers to the interview questions, it was clear that they believe in the effectiveness of Etherpad in improving their writing skills, and valued Etherpad as a helpful and innovative way for practicing free writing. Similar results have been found in Adas and Bakir's (2013) study, suggesting that technology-integrated instruction is beneficial in enhancing learners' writing performance and increasing their motivation.

Considering students' attributions for success, a close analysis of 20 interviews indicated that an inspiring environment and effort were the most attributed factors for their writing accomplishment. This finding is compatible with the result of Yilmaz's (2012) study showing

that most of the students attribute their success to an inspiring environment which is an external factor.

Drawing on the semi-structured interview, the finding revealed that collaborative learning was another frequently stated reason for success. The result is in harmony with the study of Notar, Wilson, and Ross (2002) revealing that learners appreciate the effectiveness of collaborative learning on their writing quality.

Considering the frequency of attributions, an internal factor, i.e., interest, and an external factor, i.e., instructor support, were cited as relatively mentioned reasons for accomplishing their writing goals. The results confirmed Yaghoubi and Rasouli's (2015) study in which interest was emphasized by students as an important reason for their success; however, they found it less important than the attribution effort. Also, considering students' responses to the last interview question, it was revealed that some students gave credit to external attributions, such as a supportive teacher who helped them throughout the writing process. This finding supports Iranian culture regarding the influential role of teachers in achieving academic success.

The least endorsed attribution was ability. Only a few students stated that their ability significantly influenced their writing achievement. The students who attributed their success to their ability had more self-confidence. This result also lends support to the findings of Graham's (2004) research which reported less credit to uncontrollable factors such as ability as a reason for their writing accomplishment.

In the event of failure, most students perceived their lack of effort as the most important predictor of their failure. In fact, students found themselves responsible for their failure in this writing course. As Weiner (1985) put it, the learners who perceive their lack of effort as a factor leading to their failure, try harder to perform better in future tasks and tests. One explanation of this result is that the learners who ascribe their failure to controllable factors such as effort do not probably underestimate their capabilities and intelligence to maintain their self-esteem, and they see it as a chance for improving their future performance.

Another factor highlighted in the student interviews was the difficulty of the topics their essays were based on, which play an influential role in the learners' writing performance. This result followed Takahashi's (2003) study, indicating that students considered task difficulty as an obstacle to their success. On the other hand, some learners attributed their failure to an internal unstable factor such as lack of interest. It can be explained by Boruchovitch's (2004) idea that some learners perceive their lack of interest as a cause of their failure to preserve their self-worth; also, these learners believe in their capabilities and think whenever they become interested in the subject of subsequent assignments, they can succeed.

Moreover, the analysis of the interviews revealed that computer anxiety (an external factor) was mentioned as a predictor of failure. A few students confessed they were afraid of working with computers; this kind of anxiety hindered their success in this writing course. This finding is in accordance with those reported by Kernan and Howard (1990), indicating that some learners receiving online instruction attributed their failure to computer anxiety.

Finally, the analysis of semi-structured interviews revealed that lack of ability as an internal factor was rated as the least mentioned cause for failure. The finding is consistent with Gobel and Mori's (2007) study, which revealed some learners perceived their ability as an obstacle to their success. It contradicts Weiner's (2000) argumentation that individuals mostly tend to ascribe their failure to external attributions rather than internal reasons.

## **6. Conclusion and Pedagogical Implications**

The findings of this study indicated that the learners receiving writing instruction in Etherpad significantly outperformed those who received face-to-face instruction. In fact, Etherpad has been shown to play a pivotal role in improving learners' writing quality. Regarding the effect of the instructional environment on learners' writing self-efficacy, this study concluded that the Etherpad-integrated group demonstrated a higher level of writing self-efficacy than the face-to-face group.

The findings also suggest that learners had high perceptions of the deployment of Etherpad on their writing performance and found it as a predictor of their success in the writing course. Considering the Etherpad-integrated students' attitude towards the reasons for their success or failure in performing the writing tasks, the analysis of the interviews revealed that the learners attributed their success and failure to both internal and external factors. Drawing on interview data, the study showed that the learners attributed their writing accomplishment to their effort, the instructional environment, interest, collaborative learning, instructor support, and ability. On the other hand, they ascribed their failure in writing performance to internal factors, i.e., lack of effort, lack of interest, lack of ability, and anxiety, rather than external ones (e.g., the difficulty of the topic). Among all of the attributions identified in the student interviews, only three factors, i.e., "difficulty of the topic", "effort", and "ability", were in common with the attribution factors suggested by Weiner (1986). Noticeably, in this study, "luck" was not cited by any learner since the learners couldn't get a high score just by making a lucky guess in the writing tasks.

The findings of this study have several pedagogical implications. Firstly, the influential role of Etherpad is highlighted as a supporting instructional tool to facilitate writing instruction. Secondly, the results of this study may encourage EFL teachers to use and implement in their classes accessible technologies such as Etherpad as a way of developing learners' self-efficacy and increasing the communicative aspect of their language classes. In addition, it may inspire EFL teachers to implement Etherpad in their writing classes to improve learners' self-efficacy and elicit more successful writing outcomes. Thirdly, the findings of the current study can be highly valuable in teacher training programs. In fact, this study highlights the importance of familiarizing pre-service and in-service teachers with the different attributional beliefs of EFL learners to promote those attributions contributing to the learners' writing accomplishment.



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