

Comparing Writing Outcomes in Online and In-Person EFL Instruction for Intermediate Male and Female Students

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Abstract

This study investigates the effectiveness of online versus in-person classes in enhancing English as a Foreign Language (EFL) writing skills among Iranian learners. Utilizing a quasi-experimental design, the research involved eighty-four intermediate-level students from Jihad-e-Daneshgahi Language Institute in Urmia, Iran. Employing various instruments, including the PET Test, Effective Academic Writing 2, and pre/posttests, the study compared learners' writing performance across both learning environments. The analysis, primarily using ANOVA, revealed that online classes significantly improved writing proficiency compared to traditional in-person instruction, with no gender-based differences in performance noted in either environment. These findings offer insights for educators and curriculum designers in developing strategies to enhance EFL learners' writing skills. The results also suggest the importance of further research into the mechanisms through which online environments affect learning outcomes, potentially guiding the development of more effective EFL instructional practices. This contribution is particularly relevant for the ongoing refinement of teaching methodologies in the digital age, emphasizing the role of empirical evidence in shaping educational approaches.

Keywords: EFL instruction, in-person class, intermediate level, online class, writing performance

Introduction

Universally acknowledged is the fact that learning English can enhance a person's global competitiveness and enable their participation in the worldwide economy. As a result, universities and other educational institutions have made teaching English a priority in order to meet this demand. To accommodate students who are unable to attend in-person classes due to scheduling or geographic limitations, some institutions have expanded their course offerings to include online classes as an alternative. Nevertheless, there is limited proof to suggest that the results of online courses are comparable to those of traditional face-to-face courses (York, 2017).

Writing is considered to be the most challenging skill to learn, particularly in the era of electronic communication and email. In order for English as a Foreign Language (EFL) students

to excel in writing, it is crucial for instructors to motivate them by showcasing effective writing techniques. To evaluate their students' strengths and weaknesses, writing teachers must offer a diverse range of writing assignments (Stine, 2010). What is essential in this regard is the efficient utilization of both traditional and online learning platforms to enhance writing outcomes.

Educational technology, also known as online learning, is the use of hardware, software, and educational theory to support learning. This technology utilizes technological processes and educational resources to enhance academic performance. The expansion of social networks has significantly impacted the development of students' social and educational lives (Rithika & Selvaraj, 2013).

Social networks have been utilized for educational purposes for a long time, and many researchers argue that students are more interested in online learning environments than traditional settings for acquiring different skills (Khodabandeh, 2018; Miyazoe & Anderson, 2010). Some experts believe that online learning is more effective for learners than traditional methods (Khodabandeh, Alian & Soleimani, 2017). Wang (2014) asserts that online platforms like Wikis are more beneficial than traditional classrooms because they increase students' motivation to learn. In online environments, students have the opportunity to interact with each other, which enhances their participation and learning (Karayan & Crowe, 1997; Smith & Hardaker, 2000).

The objective of the present study is to provide a comparison of EFL learners' writing performance in online versus in-person classes to see how these learning platforms differ in terms of delivering effective teaching outcomes. The effectiveness of online classes compared to traditional face-to-face classes for English language acquisition is a topic of ongoing debate. Numerous studies in the literature have attempted to determine if there are any differences in the results achieved by students who take online classes versus those who attend in-person classes (Allen & Seaman, 2014). Several factors have been identified as potentially influential in this regard, including the student's socioeconomic status, the quality of the teacher, the student's age, the amount of time dedicated to the course, attendance, completion of the course, and prior experience with online classes. The present study is an attempt to figure out the differences between online vs. conventional classes to reveal how effective they are in promoting students' language learning skills, particularly in terms of writing skill, which has proven to be a demanding language skill in EFL context. This study compares the two methods in terms of their impact on EFL learners' writing achievement in an Iranian context.

To address the challenges faced by EFL learners, new technological innovations are necessary, and over the past few decades, higher education has promoted the integration of these innovations to improve teaching and learning practices. The significance of the present study lies in the fact that comparing different instructional situations and figuring out the best teaching and learning environment can lead to more up-dated and engrossing situations for EFL learners to boost their abilities in English and enjoy their foreign language learning experience.

Based on the purpose of the study, the following research questions were posed:

RQ 1: What is the effect of learning environments (online vs. in-person) on the writing performance of EFL learners, and how do these effects vary between male and female learners?

RQ 2: Is there a significant difference in the writing performance between male and female EFL learners when comparing online and in-person learning environments?

In order to test the research questions, the researcher developed hypotheses as follows:

H01: There is no significant effect of learning environment (online vs. in-person) on the writing performance of EFL learners, regardless of gender.

H02: There is no significant difference in writing performance between male and female EFL learners across different learning environments (online vs. in-person).

Literature Review

The usefulness of online learning techniques has been the subject of numerous prior investigations. Innovative teaching strategies involving instructional media have been developed by educational institutions (Arulselvi, 2011). The literature on online learning claims that students learn faster, more effectively, and more enjoyably. Researchers have examined how language is learned through social networks (Firat & Serpil, 2017; Khabiri & Khatibi, 2013; Yousefzadeh, 2012). Online learning allows for quicker, more enjoyable learning that is done more effectively. The use of online language learning strategies, or OLLs, is essential to getting the desired results. Several studies have shown that OLLs in Thailand were less proficient (Kuama, 2016). According to Kauma's (2016) study, which examined English language learners' language proficiency in an online learning environment, the students with low English proficiency were lacking the skills and experience for online and self-directed language learning.

According to Greenhow (2011), social networking sites aid in learning and new technologies are highly beneficial for achieving academic objectives. The impact of internet discussion on vocabulary development was investigated in a study by Parseh and Gerdabi (2014). They discovered that the group who used chat to learn vocabulary performed better than the group that did not.

A study on language learning also revealed that students favored the classroom setting, perceiving it as more beneficial and efficient than the internet setting. According to Jabeen and Thomas (2015), language learners concurred that studying a language in a typical classroom with face-to-face interactions with instructors present is considerably more beneficial than learning a language on one's own in an online environment. In a similar vein, Kolokytha et al. (2015) verified that social media platforms can serve as educational resources and foster conversation outside of the classroom.

According to Heidari et al. (2018), teaching through social networks—particularly Telegram—provides new options for the teaching-learning process since students are willing to communicate in virtual environments. This is in accordance with earlier studies. Because they can connect with their teacher and other students more than they can in in-person classrooms, students find learning through social networks to be more engaging (Naseri & Khodabandeh, 2019).

Baraati and Rahimi (2020) carried out a case study with the goal of determining how online education affected EFL learners' writing abilities. The findings demonstrated that students' writing skills improved as a result of receiving training online. Students in the online course were also more motivated and involved in the writing process. Yadollahi and Ghaffarzadeh (2020) conducted a study in which they examined the writing abilities of EFL learners in both online and in-person settings. The findings demonstrated that there was no discernible difference between the two styles of education and that female students outperformed male students in both. Similar to this, Eslami and Ketabi (2021) looked into how online writing teaching affected EFL students' writing abilities in comparison to in-person instruction. The findings demonstrated that there was no discernible difference in the two groups' writing performance and that online teaching improved students' writing abilities.

Alshahrani (2021) looked at how traditional and online training affected the writing abilities of EFL students. The results showed that there was no discernible difference between the students' writing abilities in the two teaching modalities. On the other hand, the online class's participants demonstrated greater degrees of drive and interest in the writing process. Similar to this, Khodarahmi and Khezri's (2022) study examined the writing abilities of EFL students in traditional and online classrooms. The findings demonstrated that there was no discernible difference between the students' overall writing performance in the two teaching modalities. On the other hand, the study discovered that the online class's participants were more motivated and involved in the writing process.

Overall, this research indicates that the impacts of traditional and online education on EFL learners' writing ability are equal, with online instruction potentially having a greater positive impact on students' motivation and engagement. To find out more about the precise elements that might support the potential benefits of online education for EFL writing, more research is necessary.

Method

The study is conducted in four main phases, which included selecting samples and eliminating outliers, conducting a pre-test to assess differences in writing proficiency between groups, implementing treatment with prepared materials and methods, and conducting a post-test to evaluate the impact of the treatment on writing proficiency. The study involved pre-test and post-test measures, as well as a comparison process. The teaching setting (online versus in-person) is considered as the independent variable, while writing proficiency is the dependent variable. Gender is taken as the mediating variable, given that the study involved both male and female learners. Additionally, since the study focused specifically on intermediate learners, the proficiency level was considered a control variable.

The study involved eighty-four intermediate-level male and female participants who were selected from four intact classes at Jahad-e-Daneshgahi Language Institute in Urmia, Iran using a homogeneity test. Convenient sampling was used to select participants from four intact classes

consisting of intermediate level males and females aged 15 to 21. All participants were determined to be homogeneous in terms of general English proficiency, as measured by the Preliminary English Test (PET). The homogeneity test was conducted one week prior to the pre-test, treatment tests, and post-test. All participants were either native Turkish or Kurdish speakers. The Big Blue Button online education platform was used to establish an online teaching environment. Participants attended an 18-session class at Jahad-e-Daneshgahi Language Institute in Urmia, Iran. We did not act as the teacher but held meetings with an assigned teacher to ensure the study procedures were fully explained and any ambiguities were addressed throughout the semester.

The writing pretest and posttest of the study were designed based on the book “Effective Academic Writing 2: The Short Essay” by Savage and Mayer (2016). The pretest and posttest aimed to assess the participants’ writing proficiency and ability to produce a short essay. The essays were scored on a 1-10 scale for each criterion, with a maximum score of 60.¹ The scores were used to analyze the effects of online and in-person classes on the writing proficiency of EFL learners across gender.

The study had four main phases which were the homogenization phase to select participants and exclude outliers, the pretest phase to determine any differences in writing proficiency between the groups, the treatment phase to present the materials and methods to the participants, and the posttest phase to assess the effect of the treatment (online or in-person classes) on the participants’ writing proficiency. Therefore, after homogenizing the participants using PET test during which seven of the learners were taken as the outliers of the study based on the mean score and standard deviation of the test scores, two intact classes were selected for male and female online classes (N = 20 and N = 18, respectively) and two more for male and female in-person classes (N = 21 and N = 18, respectively).

The online experimental groups received instruction through virtual platforms Big Blue Button, while the in-person experimental group received face-to-face instruction in a traditional classroom setting. All groups were taught by the same teacher who followed the same lesson plans and instructional materials. The treatment was conducted for nine weeks with eighteen sessions in total for each group. The focus of the treatment was to enhance the learners’ writing skills through various tasks and activities, such as writing paragraphs, short essays, and summaries using different instruction media. The teacher also provided feedback on students’ writing assignments to help them improve their writing skills. In addition, the learners in all groups were encouraged to engage in online and in-person discussions to enhance their critical thinking and language abilities.

¹ The “Six Traits of Writing Rubric” Education Northwest (formerly Northwest Regional Educational Laboratory) in collaboration with the Oregon Department of Education is an analytic rubric that covers organization, coherence, grammar, vocabulary, mechanics, and other important writing traits. It was developed by Education Northwest, a nonprofit organization that provides research, evaluation, and technical assistance services to education stakeholders. It assesses writing based on the following six traits: Ideas and content, Organization, Voice, Word choice, Sentence fluency, and Conventions. Each trait is broken down into specific criteria and scored on a scale from 1 to 5, with 5 being the highest score. The scores for each trait are then combined to give an overall score for the writing piece. The Six Traits of Writing Rubric is considered to be a reliable and valid tool for assessing writing proficiency and can be used to provide targeted feedback for improvement.

Throughout the treatment, the learners' writing performance was assessed through writing assignments. At the end of the treatment period (end of the term), a writing posttest was given to the participants of all groups. The post-test was given in order to determine the relative effectiveness of teaching methods and media. It is worthwhile to consider the fact that all of testing sessions and treatments were carefully supervised by the researcher to assure that the participants received an equal amount of time as well as instructions in the groups involved in this study.

The data analysis for the present study was conducted using descriptive and inferential statistics.² The data collected from the writing pretest and posttest were analyzed to determine whether there was a significant difference between the online and in-person classes in terms of writing performance among male and female intermediate EFL learners. Descriptive statistics, such as means and standard deviations, were used to describe the writing performance of each group in the pretest and posttest.

Results

Prior to the primary phase of the investigation, a PET Proficiency test was performed to homogenize the study subjects. Analysis of PET test scores and Kolmogorov-Smirnov test indicated that the selected sample population of students was homogeneous and normally distributed respectively.

After receiving the participants' pretest performance results, an ANOVA test was performed on the data to see if there was any evidence of a significant difference between the participants' performances in the online and in-person male and female classes before the treatment. The results of the derived descriptive statistics, including mean and standard deviation, are displayed in Table 1.

Table 1.

pretest

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Male online	20	30.10	7.048	1.576	26.80	33.40
Female online	18	32.61	4.779	1.126	30.23	34.99
Male in person	21	31.62	5.287	1.154	29.21	34.03
Female in person	18	29.11	5.234	1.234	26.51	31.71
Total	77	30.87	5.725	.652	29.57	32.17

Descriptive Statistics of the data obtained from the Pretest

² Kolmogorov-Smirnov tests, two ANOVA t-tests and four paired samples t-tests were used to address the posed research questions and test the research hypotheses.

According to Table 1 the mean scores and standard deviation of male and female online groups and male and female in-person groups are $M = 30.10$, $SD = 7.04$, $M = 32.61$, $SD = 4.77$, $M = 31.62$, $SD = 5.28$ and $M = 29.11$, $SD = 5.72$ respectively. Comparing the mean scores, some differences between the groups were observed. To check whether the observed differences were statistically significant, the researcher used an ANOVA test, the results of which are shown in Table 2.

Table 2.

pretest

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	133.893	3	44.631	1.382	.255
Within Groups	2356.808	73	32.285		
Total	2490.701	76			

Analysis of Pretest Scores of Online and In-person Male and Female Groups

The findings of the ANOVA test used to compare the writing proficiency pre-test scores of the online and in-person learning classes are described in Table 2. The p value, the standard for the significance of the comparison, was determined to be $p = .25$. As a result, the observed variations in group mean scores were not statistically significant. It was determined that there was no difference in the participants' writing abilities between all groups. When looking at the Kolmogorov-Smirnov test findings also demonstrated that the data were normally distributed because $p = .19$ and $z = .09$ were greater than the cut-off of $.05$.

To determine whether or not learning in online and in-person classes contributes to Iranian EFL learners' writing competency improvement, the participants' mean scores from the pre- and post-tests were compared using paired samples t-tests as shown in the table below.

Table 3.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre male online	30.10	20	7.048	1.576
	Post male online	47.00	20	8.246	1.844
Pair 2	Pre female online	32.61	18	4.779	1.126
	Post female online	44.78	18	7.224	1.703
Pair 3	Pre male in person	31.62	21	5.287	1.154
	Post male in person	35.00	21	9.695	2.116
Pair 4	Pre female in person	29.11	18	5.234	1.234
	Post female in person	32.44	18	5.953	1.403

Descriptive Statistics of the Data Obtained by Online and In-person Groups in the Pre and Posttest

According to table 3, the mean score of male online, female online, male in-person and female in-person classes in pre and post tests are $M_{pre} = 30.10$, $M_{post} = 47$; $M_{pre} = 32.61$, $M_{post} = 44.78$; $M_{pre} = 31.62$, $M_{post} = 35$ and $M_{pre} = 29.11$, $M_{post} = 32.44$ respectively. As can be observed, the posttest mean scores are different and higher, which may indicate a notable

improvement in writing performance from the pre- to post-test. Four paired samples t-tests were run on the data to see if the differences were statistically significant or not.

Table 4.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre male online – post male online	-16.900	6.265	1.401	-19.832	-13.968	-12.063	19	.000
Pair 2	Pre female online – post female online	-12.167	7.980	1.881	-16.135	-8.198	-6.469	17	.000
Pair 3	Pre male in person – post male in person	-3.381	5.617	1.226	-5.938	-.824	-2.758	20	.012
Pair 4	Pre female in person – post female in person	-3.333	4.102	.967	-5.373	-1.294	-3.448	17	.003

Analysis of Pretest and Post-test Scores of All Groups

To ensure whether the observed differences were significant, the paired samples t-tests were run, as the resulted shown in Table 4 reveals, the performance of participants in pre and post-tests in all group are significantly different. Since the significant level i.e, pmaleonline = .00, pfemaleonline = .00, pmalein-person = .01 and pfemalein-person = .00 were lower than $p \leq .05$ and comparing the mean scores, it was inferred that participants had a significant better performance in post-test compared to pre-test. Hence, regarding the research questions and hypotheses, it was concluded that both learning in online and in-person classes had significant effects on writing performance enhancement of both male and female Iranian EFL learners. To address the second research question and spot the existence of any difference between genders and learning environment considering the significance enhancement of writing proficiency in all groups, the researcher carried out an ANOVA test on the post test scores of the participants to check the differences in performances of the groups keeping in mind that the learners had similar writing proficiency before the treatment. In other words, since participants in both male and female online

and in-person showed a significant improvement from pre to post-test, the researcher decided to run ANOVA and a post hoc test on the post scores of the groups with the aim of addressing the second question and comparing the groups statistically.

To address the last research question stating that whether there are any significant differences among male and female EFL learners learning in online and in-person classes regarding their writing performances, an ANOVA test was run to check the significance of the mean score differences. The significance level ($p = .00$) was less than the cut-off p value, suggesting that the difference was significant, according to the test findings provided in Table 5.

Table 5.

posttest

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2940.522	3	980.174	15.350	.000
Within Groups	4661.556	73	63.857		
Total	7602.078	76			

Comparing the Post-test Scores of Online and in-person Male and Female Groups

To spot the difference between the groups and genders, the researcher used a Tuckey post hoc test to compare the groups in pairs. The results are shown in Table 6.

Table 6.

Dependent Variable: posttest

Tukey HSD

(I) grouping	(J) grouping	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Male online	Female online	2.222	2.596	.827	-4.60	9.05
	Male in person	12.000*	2.497	.000	5.44	18.56
	Female in person	14.556*	2.596	.000	7.73	21.38
Female online	Male online	-2.222	2.596	.827	-9.05	4.60
	Male in person	9.778*	2.567	.002	3.03	16.53
	Female in person	12.333*	2.664	.000	5.33	19.34
Male in person	Male online	-12.000*	2.497	.000	-18.56	-5.44
	Female online	-9.778*	2.567	.002	-16.53	-3.03
	Female in person	2.556	2.567	.752	-4.19	9.30
Female in person	Male online	-14.556*	2.596	.000	-21.38	-7.73
	Female online	-12.333*	2.664	.000	-19.34	-5.33

Male in person	-2.556	2.567	.752	-9.30	4.19
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The Pairwise Comparison of the Male and Female Online and In-person Groups

According to the pair comparisons, it was revealed that the difference between male and female online groups was not statistically significant since p equaled .82. as a matter of fact, it can be concluded that gender didn't have any effect on the efficacy of the learning in online classes and both male and female learners are affected by the instruction similarly and equally. On the other hand, comparing the male and female online groups to male and female in-person groups, it was also revealed that the both male and female online groups outperformed both male and female in-person groups.

Discussion

According to the results, it can be concluded that despite of enhancement in writing proficiency of in-person class participants, the learning in online classes was able to improve learners writing proficiency much better than the traditional in class instruction. Also, we can observe that learning in an online class was more effective in enhancing writing proficiency in comparison to traditional in-class instruction and contributed to better writing development among Iranian EFL learners. However, it was not able to make a difference between different genders. As it was pointed out earlier, the present study aimed at comparing the effects of learning in online and in-person classes on improving male and female learners' writing proficiency which is believed by Bello (1997) to be of utmost importance providing that he takes writing as a productive language skill and therefore, practicing this skill assist learners to convey their ideas effectively and improve their grammar and vocabulary especially in a second or foreign language class.

Developing writing skills in English language learning is of utmost importance as it provides learners with a platform to practice and enhance their language proficiency. According to Smith (2019), writing enables learners to express their thoughts, ideas, and opinions in a structured and coherent manner, leading to effective communication. Through writing, learners can communicate with a wider audience and engage in meaningful interactions with individuals from diverse backgrounds and cultures. Writing also promotes a deeper understanding of the language, as noted by Johnson (2012), by exposing learners to various grammatical structures, vocabulary, and idiomatic expressions. This exposure helps learners develop a solid foundation in English grammar and syntax, leading to improved overall language proficiency.

Additionally, writing plays a vital role in vocabulary expansion. As emphasized by Housen and Kuiken (2009), writing encourages learners to actively search for appropriate words and phrases to convey their intended meaning. Regular writing practice prompts learners to explore and expand their vocabulary repertoire, ultimately enhancing their ability to express themselves effectively. Through writing, learners encounter new words and phrases, reinforce their understanding, and develop a more extensive lexicon.

Developing writing skills in English language learning is essential for effective communication, vocabulary expansion, and critical thinking development. Writing allows learners to express their thoughts coherently and communicate with a wider audience (Smith, 2019). It helps learners expand their vocabulary repertoire and reinforces their understanding of the

language (Johnson, 2012). Moreover, writing fosters critical thinking skills, enabling learners to analyze information, evaluate its relevance, and synthesize ideas effectively (Anderson, 2017). Therefore, incorporating regular writing practice in English language learning can significantly contribute to learners' overall language proficiency and communication abilities.

While the present study offers valuable insights, it is essential to acknowledge its limitations. First, the study's scope was limited to comparing the effects of online and in-person classes on writing proficiency in male and female learners. As a result, other factors that may influence writing performance, such as prior language proficiency, motivation, and individual learning styles, were not thoroughly examined. Future research could consider incorporating these additional variables to provide a more comprehensive understanding of the topic.

Second, the study focused on a specific context of EFL learners, which may restrict the generalizability of the findings to other language learning contexts or different proficiency levels. To enhance the study's applicability to a broader population, future research could explore the effects of online and in-person classes across various language learning settings and learner demographics.

Conclusion

This study aimed to explore the differences between online versus conventional classes. Specifically, the research endeavored to uncover how these two modes of instruction contribute to the enhancement of students' language learning skills, with a particular focus on writing abilities. According to the findings of this study, it was revealed that learning in online classes had a significant effect on both female and male learners' writing performance. In addition, it was proved that learning in online classes affected writing performances of male and female learners' equally. And finally, it was found that learning in online classes was more effective than learning in in-person classes regarding learners' writing skill development. The study's outcomes can be attributed to the inherent nature of online classes, which offer a learning setting that is more adaptable. This allows students the freedom to access educational resources and engage in writing exercises at a pace and time that suits them best. This adaptability can lead to increased motivation and engagement, as learners have the freedom to choose the most suitable time and place for their writing practice.

With the availability of various online platforms and tools, learners can receive immediate feedback on their writing assignments, access interactive writing exercises, and engage in collaborative writing activities with peers from around the world. The integration of multimedia resources, such as videos, interactive tutorials, and online writing communities, can provide diverse learning opportunities and expose learners to different writing styles and genres. Overall, while the superiority of online classes over in-person classes in improving writing skills is not absolute, online classes do offer certain advantages. The flexibility, access to digital resources, and multicultural learning environment provided by online classes can contribute to the outperformance of writing skill development. However, a combination of both online and in-person learning experiences, tailored to individual learners' needs, can provide a well-rounded approach to improving writing skills and maximize the benefits of each format.

For future studies conducting longitudinal studies that track the progress of learners over an extended period can provide valuable insights into the long-term effects of online and in-person classes on writing proficiency. This approach would allow researchers to observe potential changes in language skills and retention of knowledge over time. Also, investigating the influence of additional variables, such as learners' prior language learning experience, age, and motivation, can provide a more comprehensive understanding of the factors that contribute to writing performance in different instructional settings.

Conflict of interests

The authors declare that they have no conflict of interest.

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