Blended Learning (B-learning) via Google Classroom (GC) and Iranian EFL Learners' Writing Accuracy: Effects and Percepts

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Abstract

This study explored the contributions of B-learning via GC to Iranian EFL learners' writing accuracy. The study adopted a sequential explanatory mixed methods design via collecting and analyzing both quantitative and qualitative data. Participants included 65 Iranian, lower-intermediate, female, EFL learners who received treatment in an experimental and a control group. Before treatment, a writing pretest was administered and learners' writing accuracy was computed in line with Foster and Skehan (1996). Next, the experimental group received writing instruction in a blended mode via GC while the control group received the conventional face-to-face (F-to-F) writing instruction. After the treatment, the researcher administered a writing posttest. Moreover, 12 participants from the experimental group were interviewed to examine their perceptions concerning the efficacy of GC towards improving their writing accuracy. The results of quantitative data analyses revealed that the implementation of GC in a B-learning mode had a significant effect on EFL learners' writing accuracy. The results of qualitative data analyses demonstrated that the learners referred to four features including feedback efficacy, access to online resources, interest, and collaboration as main factors contributing to their writing accuracy. Based on the findings, EFL teachers are recommended to implement GC if they intend to improve EFL learners' writing accuracy in an interesting platform that lends itself to effective feedback, provides easy access to online resources, and promotes collaborative learning.

Keywords: writing accuracy, B-learning, Google Classroom, perceptions, Face-to-Face instruction

Introduction

In a globalization era, writing is considered a principal language skill that connects individuals across the world. Due to the vital importance of writing, this skill has been subject to many recent investigations (e.g., Al Hilali & McKinley, 2021; Barrot, 2021; Ling et al., 2021; Rosyada & Sundari, 2021; Safdari, 2021). The vital role of writing lies in its paramount significance in helping individuals to communicate in various daily (Barton & Hamilton, 2012), workplace (Al Hilali & McKinley, 2021), professional (French, 2020), and academic (Fowler, 2020) contexts. Writing is not only an important skill but also a challenging language skill to master as its mastery entails high cognitive demands due to its recursive, multi-faceted, and multi-dimensional nature (Collins et al., 2021). Therefore, foreign language learners encounter numerous

problems in the course of mastering writing (Ezza, 2010; Mojica, 2010). The problems and challenges of mastering writing become even more convoluted when EFL learners' use of English in daily interactions is limited in countries such as Iran (Derakhshan & Karimian Shirejini, 2020). Moreover, as research in the Iranian context of EFL (e.g., Amirbakzadeh & Vakil Alroaia, 2020; Iranmehr & Davari, 2018) reveals writing instruction in Iran does not follow appropriate steps to address EFL writers' problems and challenges. One of the major components of writing competence that proves challenging for learners is writing accuracy.

The most important indicator of writing accuracy is the number of errors (Sarré et al., 2019). As Plolio (1997) notes, error count is one of the ways of measuring linguistic accuracy. Polio (1997) further maintains that apart from errors, holistic scales and error free units are also used in measuring writing accuracy. Highlighting the importance of errors in measuring writing accuracy, Foster and Skehan (1996) content that other factors such as the number of independent clauses, sub-clausal units, and subordinate clauses should also be considered in calculating writing accuracy. As Foster and Skehan (1996) hold, writing accuracy refers to the number of "error free clauses divided by the overall number of independent clauses, sub-clausal units, and subordinate clauses multiplied by 100 (cited in Safdari, 2021, p. 344). EFL learners in general and Iranian EFL learners in particular commit errors in their writing (Rostami Abusaeedi & Boroomand, 2015) which contributes to the reduction of their writing accuracy scores (Almasi & Tabrizi, 2016). Therefore, appropriate measures should be taken by the educational system to enhance their writing accuracy as an important aspect of writing performance. One of the available ways which holds great potential in improving different language skills is blended learning (B-learning). The results of previous investigations have demonstrated the effectiveness of B-learning in reading comprehension (Ghazizadeh, & Fatemipour, 2017), grammar performance (Al Bataineh et al., 2019), writing performance (Wahyuni, 2018), writing accuracy (Safdari, 2021; Sarré et al., 2019), speaking (Ginaya et al., 2018), and collocations (Chen & Jiao, 2019).

Closely related to the focus of the present study, Safdari (2021) sought to examine the effect of B-learning via Edmodo Social Learning Network on Iranian EFL learners' writing accuracy. The study adopted a mixed methods design in which both quantitative data i.e. writing accuracy scores and qualitative data i.e. interviews were collected and analyzed to address the research questions. Two groups of learners were pretested and post tested in terms of writing accuracy. In the experimental group, learners practiced writing via Edmodo in a blended mode while the control group was treated with the conventional instruction of writing. The results revealed that Edmodo had a significant effect on enhancing writing accuracy. Content analysis of the interviews demonstrated that learners had positive attitudes towards the use of Edmodo because the platform led to improving their writing accuracy through the promotion of collaboration, motivation, and engagement.

In a similar investigation, Sarré et al. (2019) examined the impact of different types of corrective feedback on writing accuracy in L2 in an experimental B-learning EFL course. To address the objectives, 93 participants from Sorbonne Universit-e (Paris, France) were divided into six experimental groups which received six different online corrective feedback (CF) types and a no-feedback control group. The participants' first and last pieces of writing were considered as pretest and posttest. The results indicated that all types of CF were better than no CF. The researchers concluded that the

integration of B-learning activities and CF can positively affect writing accuracy. Similarly, Marandi and Seyyedrezaie's (2017) findings revealed that B-learning through the application of Google drive improved experimental group learners' writing performance compared with the F-to-F group. Moreover, the results indicated that learners in the F-to-F group had higher levels of writing apprehension compared with the learners in the B-learning group using Google drive.

The effectiveness of B-learning is rooted in the advantages that this type of learning offers in comparison with pure electronic learning (e-learning). Unlike e-learning in which learning and teaching take place in a pure virtual mode, in B-learning face-to-face (F-to-F) instruction is combined with e-learning (Sharma & Barrett, 2007). B-learning has the potential to improve learning outcomes more in comparison with e-learning since in B-learning the benefits of both modes of instruction (e-learning and F-to-F) are available (Tucker, 2013). Results of previous investigations (e.g., Davis, & Fill, 2007; Delialioglu & Yildirim, 2007; Ginns & Ellis, 2009; Picciano, 2006) have shown that B-learning has a number of advantages including the provision of a personalized learning experience as learners can learn at their own pace, provision of more time for teachers to focus on learners' needs, strengths, and weaknesses, improvement of learners' engagement with learning, provision of more time for learners to use online resources, provision of access to content for learners anytime, making it easier for teachers to assess learners online. The online portion of B-learning can take place on many platforms including Whatsapp (Gutiérrez-Colon et al., 2016), Twitter (Boumediene et al., 2018), Facebook (Yunus, & Salehi, 2012), Edmodo (Safdari, 2021), and Google Classroom (GC) (e.g., Rosyada & Sundari, 2021).

GC is an educational application introduced as a feature of Google Apps in 2014 (Iftakhar, 2016). As Iftakhar (2016) maintains, GC is a free product that includes easy connection with other Google tools such as Gmail, Google Drive, and Google Docs. The easy connection of GC with other Google tools makes it appropriate for collecting, organizing, and providing feedback to learners' writing quite conveniently (Azhar & Iqbal, 2018). Additionally, teachers can easily identify the learners who have problems with doing their assignments as there are tracking mechanisms for each assigned work or project (Shaharanee et al., 2016). Furthermore, this application can assist learners in keeping their written work and related files more organized and return to them later for revision (Al-Maroof & Al-Emran, 2018). Moreover, GC facilitates the workflow and communication among learners and between the teacher and learners as the app provides a single access point to assigned work and discussions (Heggart & Yoo, 2018). Heggart and Yoo (2018) found that GC improved participation, learning, and enhanced classroom dynamics. As Perrotta et al. (2021) maintain, GC is easy to use and saves time as it integrates the use of slides, spreadsheets, and Adds Docs. This integration facilitates the process of grading, formative, assessment, and feedback. Sukmawati and Nensia (2019) hold that has GC a number of advantages such as being cloud-based, flexible, free of charge, and mobile and user-friendly.

So far many investigations have been conducted to probe the effectiveness of GC in improving different language skills and components. Particularly of interest in the current study, several investigations (e.g., Albashtawi & Al Bataineh, 2020; Fonseca & Peralta, 2019; Laili & Muflihah, 2020; Marandi & Seyyedrezaie, 2017; Rosyada & Sundari, 2021; Sujannah et al., 2020; Sutarsyah et al., 2019) have explored the effect of GC and Google drive on writing performance. Some studies (e.g., Azhar & Iqbal, 2018;

Rosyada & Sundari, 2021) have specifically focused on teachers' and/or learners' perceptions towards GC.

Fonseca and Peralta (2019) aimed to investigate the effect of GC as a virtual platform on EFL learners' writing performance. The study used a survey to find the students' use of GC to practice their writing outside the classroom. The results indicated that GC was contributive to learners' writing performance. Moreover, the learners found the experience of using GC in practicing their writing engaging and attractive. Furthermore, the participants expressed that they were satisfied with the use of GC as a platform contributive to their writing performance. In another study, Sutarsyah et al. (2019) probed the effect of GC feedback in improving writing performance. The study adopted a mixed methods design using both quantitative and qualitative data. The results demonstrated that the use of GC mediated positively affected learners' writing quality. The results of qualitative analysis of students' feedback indicated that students gave positive and constructive feedback to their peers' writing.

Sujannah et al. (2020) examined the impact of B-learning using GC on EFL learners' writing performance across autonomy levels. The experimental group was exposed to B-learning using GC while the control group received conventional writing instruction. The students were also given a questionnaire to measure their autonomy levels. The results revealed that the use of GC contributed to learners' writing performance. Moreover, it was found that learners with a high level of autonomy outperformed learners with a low autonomy level in their writing performance. In another investigation, Albashtawi and Al Bataineh (2020) investigated the effectiveness of GC to improve EFL students' writing and reading performance. They also examined participants' attitudes towards using GC. To collect the data, the researchers used a reading and writing pretest and posttest, and a questionnaire. The results showed that GC enhanced learners' writing and reading performance. The results of the questionnaires indicated that learners' attitudes towards GC were mainly positive. More specifically, the findings showed that GC was convenient, useful, and accessible.

Laili and Muflihah (2020) probed the effectiveness of google classroom in teaching writing. To collect the data, a writing pretest and posttest and a questionnaire were administrated. The results showed that the use of GC led to the improvement of writing performance. Moreover, the results of the questionnaire indicated that learners' mostly had a natural attitude towards the use of GC. In a similar vein, Rosyada and Sundari (2021) explored the effect of GC on academic writing performance. Moreover, they examined learners' perceptions concerning GC. The study adopted an explanatory sequential research design. The results demonstrated a significant correlation between the use of GC and learners' writing performance. Additionally, most learners expressed satisfaction with the practical features of GC. As the results revealed, learners were mainly satisfied with GC as its features provided practical directions, clear instructions, and reminders for instructions.

Azhar and Iqbal (2018) investigated the effectiveness of GC from teachers' perspectives via using a qualitative design. Semi-structured interviews were administered to collect data. The findings showed that teachers perceived GC as merely a tool that can be employed for document management and basic classroom management, without contributing much to the teaching methodology used in the classroom. Teachers noted that the lack of a user-friendly interface was the principal reason for the inefficiency of GC. As Azhar and Iqbal (2018) maintain, more studies

can be conducted by taking the students' perspective towards the efficacy of GC into account which necessitates more investigations.

As the results of the previous investigation on B-learning (e.g., Al Bataineh et al., 2019; Bailey et al., 2017; Chen & Jiao, 2019; Edwards & Lane, 2021), GC (e.g., Albashtawi & Al Bataineh, 2020; Rosyada & Sundari, 202) and writing accuracy (e.g., Safdari, 2021; Sarré et al., 2019) reveals, few studies if any have explored the contribution of B-learning via GC on EFL learners' writing accuracy. Moreover, the results of the previous studies (e.g., Albashtawi & Al Bataineh, 2020; Azhar & Iqbal, 2018; Laili & Muflihah, 2020) concerning the efficiency of GC in the light of learners and teachers' attitudes towards GC are rather contradictory. Thus, to fill the gap in the empirical literature and enrich the existing literature on GC, the present study sought to explore the contribution of B-learning via GC on EFL learners' writing accuracy. To address the objectives of the study, the following research questions were formulated:

RQ1: Does the implementation of B-learning via GC significantly improve EFL learners' writing accuracy?

RQ2: What are learners' perceptions of the efficacy of GC in improving their writing accuracy?

Method

Participants

The initial participants of the present study included 97 female EFL learners at the lower-intermediate level of language proficiency in a language institute in Tehran, Iran. These participants were selected based on convenience sampling as pure random sampling was not feasible for the researcher. They were within the age range of 21 to 35 and Persian was their mother tongue. The learners had all passed the end-of-semester final exams. However, to select a homogeneous sample of learners, the initial 97 learners were given an Oxford Placement Test (OPT) and only those who scored within the established range of 28 to 36 for the lower-intermediate level participated in this study.

Instruments

To collect data, the researcher used the following instruments:

Oxford Placement Test (OPT). The researcher gave an OPT to the initial 97 learners to select a homogeneous sample of participants in terms of overall language proficiency. The OPT used consisted of 60 items that tested the examinees' grammar, vocabulary and reading (Syndicate, 2001). The OPT test scores have been divided into six ranges (1-17, 18-27, 28-36, 37-47, 48-55, 56-60) which categorize learners into six corresponding proficiency levels (Beginner, Elementary, Lower-intermediate, Upper-intermediate Advanced, Very advanced).

Writing Pretest and Posttest. Two writing tasks extracted from two versions of the Preliminary English Test (PET) were given to the participants to measure their

writing accuracy before and after the treatment. To select the two tasks, 15 such tasks from PET were selected from among 10 PET test practice books and two were randomly chosen for pretest and posttest purposes. It should be noted that the writing tasks contained the writing topics and thus the teacher-researcher did not determine the writing topics. In the writing tasks, selected from the PET, participants were asked to compose a paragraph of 100 words as required in PET guidelines for the writing section.

Writing Accuracy Measure. Writing accuracy in the current study was measured in line with Foster and Skehan (1996 cited in Safdari, 2021). To measure writing accuracy, initially, the number of error free clauses, independent clauses, sub-clausal units, and subordinate clauses were counted. Then, the number of error free clauses was divided by the total number of independent clauses plus sub-clausal units and subordinate clauses. The resultant number was then multiplied by 100 to yield the accuracy score.

Semi-structured Interviews. Semi-structured interviews were given to 12 participants selected randomly from the experimental group to seek their perceptions of the efficacy of GC in improving their writing accuracy. Three interview questions (See Appendix) were prepared based on the review of the literature (e.g., Albashtawi & Al Bataineh, 2020; Azhar & Iqbal, 2018; Laili & Muflihah, 2020). These three questions were given to three experts (PhD holders in TEFL with 20 years of teaching experience) to assure their content validity. Because learners were at the lower-intermediate level of language proficiency and did not have the required language proficiency in English for the interviews, the interviews were conducted in Persian (learners' mother tongue) to maximize the production of interview content and facilitate the process of interviewing. The researcher interviewed each participant individually and in person. The duration of each interview was between 20 to 35 minutes.

Procedure

Firstly, the researcher gave 97 learners an OPT and selected 65 learners whose scores fell within the range of 28 to 36 corresponding to the lower-intermediate level The 65 learners were then non-randomly divided into two groups consisting of an experimental (N=34) and a control group (N=31). Next, a writing pretest was administered to the two groups and learners' writing accuracy was computed drawing on Foster and Skehan (1996).

After that, in the experimental group, the learners were introduced to GC for one session and then received treatment with GC in a blended mode for 20 sessions (10 on GC and 10 F-to-F). To introduce GC, learners were first asked to search the net to find relevant information regarding GC. Then, they were asked to share their information with others. Next, the teacher introduced all the features of GC and how it was to be used in the classroom. Moreover, the teacher helped learners create an account and enter the GC. Then, the teacher asked learners to do a sample writing task via GC. Learners were also given instructions on how and where to find relevant materials posted by the teacher and their classmates on GC. They were also provided with information on where to find their own and classmates' assignments. The class was also given enough instructions on how to post materials relevant to writing assignments and also how to provide feedback on their peers' writings. Learners' attention was also drawn to the assignment reminder on GC and learners were asked to meet the deadlines for their

writings and corrected files. After the introductory session, for each session learners were given a writing topic and asked to compose a paragraph and post it on GC. The teacher presented the necessary grammar and vocabulary relevant to the task prior to the task implementation. Then, the researcher used questions and exercises to make sure the learners had understood the task, and the relevant vocabulary and grammar. The learners were then asked to post their writings on the GC and help each other improve their drafts. At this stage, they could only turn to the teacher as the last resort. Following that, there was an F-to-F meeting at the language school. In other words, for each GC session, there was a corresponding F-to-F session. Before the F-to-F session, learners printed out their writings and in the classroom received feedback on their writings. Initially, the teacher-researcher put learners in pairs and/or groups to discuss their writings. During pair and group revision work, learners were asked to make a list of their errors together, write them down on a piece of paper, and correct them. Then, they were asked to discuss the errors which were difficult to amend with the whole class. To do so, the teacher asked the learners in each pair or group to put the challenging errors on the board. Following that, the errors were discussed as a whole class activity one by one. Finally, the learners were required to revise their drafts one last time with the help of their peers drawing on the resources on GC and the net and submit their final draft to the teacher via GC. As it can be noted, during GC sessions learners composed their first drafts but did not receive comprehensive feedback on the writing errors which was done in the F-to-F sessions. During the F-to-F sessions, all the writing errors were discussed and treated extensively in pair, group, and whole class discussions. As can be noticed, during GC sessions the learners were mainly involved in the production of the initial draft and the initial revision while in F-to-F sessions learners were involved in receiving more feedback and finalizing their drafts. These procedures were followed to assure that the amount of writing process instruction was proportionate in GC and F-to-F modes as the constituents of B-learning.

In the control group, instruction of writing unfolded in a conventional F-to-F manner for 20 sessions. To do so, the teacher presented relevant vocabulary and grammar for the set tasks and asked learners to submit their writings for the next session. Then, the teacher provided feedback on their papers. Learners were then asked to correct their errors. Finally, the errors were discussed in pairs, groups, and the whole class. Finally, learners were required to submit their final draft for the next session to the teacher.

Upon finishing the treatment, learners in both groups were given a writing posttest and their writing accuracy was calculated. Moreover, 12 participants in the experimental group took part in semi-structured interviews to probe their perceptions of the efficacy of GC in improving their writing accuracy.

Results

Pretest Results

To make sure that the two groups were not statistically different in terms of writing accuracy scores prior to the treatment, the scores of their pretest were analyzed

via running an independent samples T-test. Table 1 depicts the results of descriptive statistics for the accuracy of pretest scores of the experimental and control groups.

Table 1

The Results of Descriptive Statistics for the Writing Accuracy Pretest Scores

	N	Mean	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Pretest Experimental	34	20.52	.505	.402	.770	.787
Pretest Control	31	20.61	.691	.520	.889	.827
Valid N (listwise)	31					

As presented in Table 1, the accuracy pretest mean scores for the experimental and control groups turned out to be 20.52 and 20.61, respectively. Furthermore, the Skewness and Kurtosis ratios (Statistic / Std. Error) of the two groups met the normality assumption. Therefore, running the parametric test of independent samples T-test was guaranteed. Table 2 shows the results of the independent samples T-test on the pretest writing accuracy scores of the two groups.

Table 2

The Results of Independent Samples T-Test on the Pretest Writing Accuracy Scores of the Two Groups

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Pretest Both	Equal variances assumed	.016	.900	-.05	63	.95	-.08349
	Equal variances not assumed			-.05	61.5	.95	-.08349

As seen in Table 2, there was no significant difference (t $_{(63)}$ = -0.05, *p* = .95 > .05) between pretest mean writing accuracy scores of the two groups prior to treatment. Therefore, the two groups were homogenized in terms of accuracy before treatment and any difference between the posttest mean writing accuracy can be attributed to treatment.

Addressing the First Research Question

The first research question sought to explore the effect of B-learning via GC on EFL learners' writing accuracy. To address this research question, the posttest means writing accuracy scores of the two groups were compared using an independent samples T-test. Table 3 displays the results of descriptive statistics for the accuracy posttest scores of the experimental and control groups.

Table 3
The Results of Descriptive Statistics for the Writing Accuracy Pretest Scores

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Posttest Experimental	34	25.70	5.55	.452	.404	.789	.787
Posttest Control	31	21.77	5.58	.483	.422	.807	.825
Valid N (listwise)	31						

As seen in Table 3, the accuracy posttest mean scores for the experimental and control groups were 25.70 and 21.77, respectively. Moreover, the Skewness and Kurtosis ratios (Statistic / Std. Error) of the two groups met the normality assumption. Therefore, running the parametric test of independent samples T-test was guaranteed. Table 4 shows the results of independent samples T-test on the posttest writing accuracy scores of the two groups.

Table 4
The Results of Independent Samples T-Test on the Posttest Writing Accuracy Scores of the Two Groups

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Posttest Both	Equal variances assumed	.237	.628	2.844	63	.006	3.93169
	Equal variances not assumed			2.843	62.380	.006	3.93169

As presented in Table 4, the result of the T-test showed a significant difference ($t_{(63)} = -2.84$, $p = .006 < .05$) between posttest mean writing accuracy scores of the two groups after treatment. Moreover, as seen in Table 3, the experimental group obtained a higher mean compared to the control group (Mean Experimental=25.70> 21.77=Mean Control). Thus, it can be concluded that the implementation of B-learning via GC significantly improved EFL learners' writing accuracy. To determine the magnitude of the impact, the effect size was calculated. The effect size was estimated to be .70 which is considered a large effect size (Cohen, 1988).

Addressing the Second Research Question

The second research question of the current study aimed at probing learners' perceptions towards the efficacy of GC in improving their writing accuracy. To address this research question, 12 learners from the experimental group were interviewed. Following that, the interviews were transcribed and content analyzed. The results of the content analysis revealed four major themes to be contributive to learners' writing accuracy via GC. The themes along with their frequency and percentages are summarized in Table 5.

Table 5

The Themes along with Their Frequency and Percentage

Number	Theme	Frequency	Percentage
1	Feedback efficacy	10	83.33%
2	Access to online resources	11	91.63%
3	Interest	12	100%
4	Collaboration	12	100%

As seen in Table 5, feedback efficacy was a theme expressed by a majority of the participants. Participants referred to this feature of the GC as an important feature that helped improve their writing accuracy.

As Mahsa noted:

Receiving feedback from the teacher on my writing was very fast compared to the usual classroom. The teacher gave feedback on all the writings at the same time and returned them to use very soon. I think because of this we noticed and remembered our errors and the errors were fewer and fewer in our later writings.

Leila commented that:

We received feedback very fast and returned the corrected file to the teacher and teacher checked and helped us. I think because teacher gave us feedback fast and we corrected the files and returned them fast our grammar errors decreased.

Hadis expressed that:

It was easy to see what mistakes I had in my writing as teacher gave feedback with word program and we could easily follow that. It was also easy to see when the file sent by the teacher because there were reminders.

As noticed in Table 5, access to online sources was a theme mentioned by most of the participants. Participants expressed satisfaction with this characteristic feature of GC as a feature contributing to their writing accuracy.

Rezvane thought that:

When I saw the errors in my writing, I easily searched the net and found were my problems were to correct them. I usually used Google and typed my error in the Google to see why it was wrong.

Atusa explained that:

When there were errors in my writing, my friends and I first looked for video and audio files on the net. Our teacher also posted videos for us for the grammar mistakes.

As presented in Table 5, being interesting was the third theme referred to by all the participants. Participants believed that this feature of the GC was an important characteristic which indirectly contributed to their writing accuracy.

Fateme believed that:

It was really fun working with the GC. It was really interesting as ordinary classes are sometimes boring. Because it was interesting, it helped us pay more attention to all parts of the lesson, especially writing. I think because everything was interesting, it helped me with my grammar in writing.

Atefeh thought that:

Using GC was an interesting experience. I really liked using it because there were different things to do all the time. We were not limited to one way of studying and could do different things in the GC. Because it was interesting I started to like grammar more than before and I think because of this my errors were fewer in writing.

As shown in Table 5, collaboration was a theme expressed by all the participants. Participants mentioned this feature of the GC as an important characteristic which assisted them in enhancing their writing accuracy.

Maryam pointed out that:

It was very easy to work together on the platform. I usually corrected my writings with my classmates. For errors in writing we helped each other and I learned a lot from friends. At times, my friends corrected my grammar mistakes in the files and sent me the file with explanations which helped me have fewer grammar mistakes in my writing.

Narjes thought that:

It was very useful to learn together and help each other find related information for improving English. My friends were helpful all the time. It was very useful when it was for correcting papers in writing. They sent me a lot of information for improving my grammar.

As it can be inferred from the results of the content analysis, the participants had positive perceptions towards the implementation of GC since the results of content analysis indicated that learners were only refereeing to positive features and characteristics of the GC conducive to their writing accuracy.

Discussion

The present study sought to probe the contribution of B-learning via GC to Iranian EFL learners' writing accuracy. The results of quantitative data analyses

indicated that the implementation of GC in a B-learning mode had a significant effect on EFL learners' writing accuracy. The results of qualitative data analyses revealed four features including feedback efficacy, access to online resources, interest, and collaboration as main factors contributing to learners' writing accuracy improvement. Overall, the participants had a positive perspective towards the efficacy of GC in contributing to their writing accuracy.

The results of the present study concerning the positive effectiveness of GC on writing accuracy substantiate the findings of previous studies in the realm of GC and writing performance. For instance, the results of this study are in congruence with the findings of Fonseca and Peralta (2019). Similar to the findings of the present study, Fonseca and Peralta (2019) found that the implementation of GC improved writing performance. The results of the current study are consistent with the findings of Sutarsyah et al. (2019). Sutarsyah et al. (2019) demonstrated that the use of GC mediated feedback led to enhancing writing performance. Similarly, Sujannah et al. (2020) and Albashtawi and Al Bataineh (2020) showed that the employment of GC affected learners' writing performance positively.

The results of the current study corroborate the findings of Laili and Muflihah (2020). Laili and Muflihah (2020) revealed that the implementation of GC led to the improvement of writing performance. Likewise, Rosyada and Sundari (2021) detected a significant correlation between the implementation of GC and learners' writing performance. The results of the present study also confirm the findings of previous investigations (Safdari, 2021; Sarré et al., 2019) which showed the positive effective of B-learning on writing accuracy. Safdari's (2021) findings showed that B-learning had a significant effect on writing accuracy. In a similar vein, Sarré et al. (2019) found that the integration of B-learning activities and CF can positively affect writing accuracy.

The findings of the current study concerning the positive perceptions of learners towards GC confirm the results of previous investigations. For instance, the results of the present study are in accordance with Albashtawi and Al Bataineh's (2020) results. Similar to the results of the present study, Albashtawi and Al Bataineh (2020) learners' attitudes towards GC were mainly positive. In a similar vein, Sutarsyah et al. (2019) found that students gave positive and constructive feedback to their peers' writing via GC. Likewise, the results of Fonseca and Peralta (2019) demonstrated that learners found the experience of using GC in practicing their writing engaging and attractive. Likewise, Rosyada and Sundari (2021) found that most learners expressed satisfaction with the features of GC and learners were mainly satisfied with GC as its features provided practical directions, clear instructions, and reminders for instructions.

The results of the current study concerning learners' perceptions contradict those of Azhar and Iqbal (2018) and Laili and Muflihah (2020). In contrast to the findings of the current study, Azhar and Iqbal (2018) showed that teachers perceived GC as merely a tool that can be employed for document management and basic classroom management, without contributing much to the teaching methodology used in the classroom. Moreover, teachers mentioned that the lack of a user-friendly interface was the principal reason for the inefficiency of GC. In a similar vein, and opposed to the results of the present study, Laili and Muflihah (2020) found that learners' mostly had a natural attitude towards the use of GC.

The results of the present study regarding the positive effect of GC on writing accuracy can be attributed to the features of GC. One of the main features of GC

mentioned by learners in the semi-structured interviews was the feedback efficacy. As Azhar and Iqbal (2018) maintained the easy connection of GC with other Google tools makes it appropriate for providing feedback quite conveniently. Along the same lines, Perrotta et al. (2021) maintain that GC helps integrate the use of different files via other Google tools and this integration facilitates the process of feedback and assessment. Moreover, as Al-Maroof and Al-Emran (2018) contend, this application helps learners to keep their written work and relevant files in an organized manner which can contribute to their improved writing performance. Another characteristic of GC is the promotion of collaboration which has benefits for improving learning outcomes. Heggart and Yoo (2018), highlighting the collaborative characteristic of GC, note that GC facilitates the workflow and communication among learners and between the teacher and learners which can lead to better learning outcomes. Heggart and Yoo (2018) showed that GC enhanced participation, learning, and classroom dynamics. Overall, the justification for the findings of the present study indicating the positive effect of GC on writing accuracy can be explained via the four main themes of the interview contents including feedback efficacy, access to online resources, interest, and collaboration.

Conclusion

The results of the present study demonstrated the positive effect of GC on Iranian, female, intermediate EFL learners' writing accuracy. The results of the qualitative analyses of interview contents confirmed and helped explain the findings of the quantitative data analyses. The findings of the current study corroborated the results of previous investigations and can help enrich the literature concerning the efficacy of B-leaning in general and GC in particular towards writing performance and writing accuracy. Based on the findings of the present study, EFL teachers are recommended to implement GC if they intend to improve EFL learners' writing accuracy in an interesting platform that lends itself to effective feedback, provides easy access to online resources, and promotes collaborative learning. Moreover, teacher educators can draw on the results of the current study to help raise EFL teachers' awareness in terms of the contributions of B-learning and GC towards EFL learners' writing development.

Notwithstanding that the results of the present study substantiated findings of previous investigations (e.g., Albashtawi & Al Bataineh, 2020; Laili & Muflihah, 2020; Rosyada & Sundari, 2021; Sujannah et al., 2020; Sutarsyah et al., 2019), the findings of the current study are inconsistent with some previous studies (e.g., Azhar & Iqbal, 2018; Laili & Muflihah, 2020). Therefore, the present study can be replicated in similar contexts to provide a comprehensive picture of the efficacy of GC towards different language skills and components. Moreover, as language proficiency is not limited to writing proficiency and writing performance, future investigations may address the contributions of GC to improving other language skills and components. Moreover, studies may compare the contributions of different platforms such as Edmodo, Moodle, and social networks such as Facebook, WhatsApp, and Telegram towards enhancing different language skills and components.

References

Al Bataineh, K. B., Banikalef, A., & H Albashtawi, A. (2019). The effect of blended learning on EFL students' grammar performance and attitudes: An investigation of Moodle. *Arab World English Journal (AWEJ), 10*. doi: https://doi.org/10.2139/ssrn.3367595

Al Hilali, T. S., & McKinley, J. (2021). Exploring the socio-contextual nature of workplace writing: Towards preparing learners for the complexities of English L2 writing in the workplace. *English for Specific Purposes*, *63*, 86-97. doi: https:// doi.org/10.1016/j.esp.2021.03.003

Albashtawi, A., & Al Bataineh, K. (2020). The effectiveness of google classroom among EFL students in Jordan: an innovative teaching and learning online platform. *International Journal of Emerging Technologies in Learning (IJET)*, *15*(11), 78-88. doi: https:// doi.org/10.3991/ijet.v15i11.12865

Al-Maroof, R. A. S., & Al-Emran, M. (2018). Students Acceptance of Google Classroom: An Exploratory Study using PLS-SEM Approach. *International Journal of Emerging Technologies in Learning*, *13*(6). doi: https:// doi.org/10.3991/ijet.v15i11.12865

Almasi, E., & Tabrizi, A. R. N. (2016). The effects of direct vs. indirect corrective feedback on iranian EFL learners' writing accuracy. *Journal of Applied Linguistics and Language Research*, *3*(1), 74-85. doi: https://doi.org/10.3991/ijet.v15i11.12865

Amirbakzadeh, E., & Vakil Alroaia, Y. (2020). Using foreign language learning factors in tourism development in Iran. *International Journal of Foreign Language Teaching and Research, 8*(30), 61–79.

Azhar, K. A., & Iqbal, N. (2018). Effectiveness of Google classroom: Teachers' perceptions. *Prizren Social Science Journal*, *2*(2), 52-66.

Barrot, J. S. (2021). Effects of Facebook-based e-portfolio on ESL learners' writing performance. *Language, Culture and Curriculum*, *34*(1), 95-111. doi: https:// doi.org/10.1080/07908318.2020.1745822

Bailey, D., Lee, A., Vorst, T., & Crosthwaite, P. R. (2017). An investigation of differences and changes in L2 writing anxiety between blended and conventional English language learning context. *CALL-EJ, 18*(1), 22-39.

Barton, D., & Hamilton, M. (2012). *Local literacies: Reading and writing in one community*. Routledge.

Boumediene, H., Bavaharji, M., & Berrahal, F. K. (2018). The Effect of Using Twitter on Improving EFL Students' Writing: A Case Study. *International Journal of Humanities and Social Science Invention*, (5), 26-32.

Chen, Z., & Jiao, J. (2019). Effect of the blended learning approach on teaching corpus use for collocation richness and accuracy. In *International Conference on Technology in Education* (pp. 54-66). Springer.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Lawrence Earlbaum Associates. doi: https:// doi.org/ 10.4324/9780203771587

Collins, P., Tate, T. P., Won Lee, J., Krishnan, J. A., & Warschauer, M. (2021). A multi-dimensional examination of adolescent writing: considering the writer, genre and task demands. *Reading and Writing*, 1-23.

Davis, H.C. & Fill, K. (2007). "Embedding blended learning in a university's teaching culture: Experiences and reflections". *British Journal of Educational Technology*, 38 (5). doi: https:// doi.org/10.1111/j.1467-8535.2007.00756.x

Delialioglu, O., & Yildirim, Z. (2007). "Students' Perceptions on Effective Dimensions of Interactive Learning in a Blended Learning Environment". *Educational Technology & Society*, 10 (2), 133-146.

Derakhshan, A., & Karimian Shirejini, R. (2020). An Investigation of the Iranian EFL Learners' Perceptions Towards the Most Common Writing Problems. *SAGE Open*, *10*(2). doi: https:// doi.org/10.1177/2158244020919523

Edwards, C. R., & Lane, P. N. (2021). Facilitating student interaction: the role of Flipgrid in blended language classrooms. *CALL-EJ, 22*(2), 26-39.

Ezza, E. S. (2010). Arab EFL Learners' Writing Dilemma at Tertiary Level. *English Language Teaching*, *3*(4), 33-39. doi: https:// doi.org/10.5539/elt.v3n4p33

Fonseca, K. A. B., & Peralta, F. S. (2019). Google Classroom: An Effective Virtual Platform to Teach Writing in an EFL Composition Course. *International Journal of English Language Teaching*, *6*(1), 27-35.

Foster, P., & Skehan, P. (1996). The influence of planning on performance in task-based learning. *Studies in Second Language Acquisition, 18*(3), 299-324. https://doi.org/ 10.1017/S0272263100015047

Fowler, J. (2020). Academic essays part 1: the importance of academic writing. *British Journal of Nursing*, *29*(12), 718-718. doi: https://doi.org/10.12968/bjon.2020.29.12.718

French, A. (2020). Academic writing as identity-work in higher education: forming a 'professional writing in higher education habitus. *Studies in Higher Education*, *45*(8), 1605-1617. doi: https:// doi.org/10.1080/03075079.2019.1572735

Ghazizadeh, T., & Fatemipour, H. (2017). The effect of blended learning on EFL learners' reading proficiency. *Journal of Language Teaching and Research*, *8*(3), 606-614.

Ginaya, G., Rejeki, I. N. M., & Astuti, N. N. S. (2018). The effects of blended learning to students' speaking ability. *International Journal of Linguistics, Literature and Culture*, *4*(3), 1-14.

Ginns, P. & Ellis, R.A. (2009). Evaluating the quality of e-learning at the degree level in the student experience of blended learning. *British Journal of Educational Technology*, 40(4), 652-663. doi: https://doi.org/ 10.1111/j.1467-8535.2008.00861.x

Gutiérrez-Colon, M., Gimeno, A., Appel, C., & Joseph, H. (2016). Improving Learners' Reading Skills through Instant Short Messages: A Sample Study using WhatsApp. In A. Gimeno, M. Levy, F. Blin, & D. Barr (Eds.), *World Call Sustainability and Computer-Assisted Language Learning Sustainability and Computer-Assisted Language Learning* (pp. 266–281). Bloomsbury Academic.

Heggart, K. R., & Yoo, J. (2018). Getting the most from google classroom: A pedagogical framework for tertiary educators. *Australian Journal of Teacher Education*, *43*(3), 9.

Iftakhar, S. (2016). Google classroom: what works and how. *Journal of Education and Social Sciences*, *3*(1), 12-18. doi: https:// doi.org/10.14221/AJTE.2018V43N3.9

Iranmehr, A., & Davari, H. (2018). English language education in Iran: A site of struggle between globalized and localized versions of English. *Iranian Journal of Comparative Education, 1*(2), 94–109.

Laili, E. N., & Muflihah, T. (2020). The effectiveness of google classroom in teaching writing of recount text for senior high schools. *Journal of Languages and Language Teaching*, 8(4), 348-359. doi: https:// doi.org/10.33394/jollt.v8i4.2929

Ling, G., Elliot, N., Burstein, J. C., McCaffrey, D. F., MacArthur, C. A., & Holtzman, S. (2021). Writing motivation: A validation study of self-judgment and performance. *Assessing Writing*, *48*, 100509. doi: https://doi.org/10.1016/j.asw. 2020.100509

Marandi, S. S., & Seyyedrezaie, M. S. (2017). The multi-course comparison of the effectiveness of two EFL writing environments: Google drive versus face-to-face on Iranian ELF learners' writing performance and writing apprehension. *CALL-EJ*, *18*(1), 9-21.

Mojica, L. A. (2010). An investigation on self-reported writing problems and actual writing deficiencies of EFL learners in the beginners' level. *TESOL Journal*, *2*(1), 24-38.

Perrotta, C., Gulson, K. N., Williamson, B., & Witzenberger, K. (2021). Automation, APIs and the distributed labor of platform pedagogies in Google Classroom. *Critical Studies in Education*, *62*(1), 97-113. doi: https://doi.org/10.1080/ 17508487.2020.1855597

Picciano, A. G. (2006). Blended Learning Implication for growth and access. *Journal of Asynchronous Learning Networks*, 10 (3). doi: https://doi.org/10.24059/olj. v10i3.1758

Polio, C. G. (1997). Measures of linguistic accuracy in second language writing research. *Language Learning, 47*(1), 101–143. https://doi:10.1111/0023-8333. 31997003

Rostami Abusaeedi, A. A., & Boroomand, F. (2015). A quantitative analysis of Iranian EFL learners' sources of written errors. *International Journal of Research Studies in Language Learning*, *4*(1), 31-42. DOI: 10.5861/ijrsll.2014.682

Rosyada, A., & Sundari, H. (2021). Learning from home environment: Academic writing course for EFL undergraduates through Google Classroom application. *Studies in English Language and Education*, *8*(2), 710-725. doi: https:// doi.org/ 10.24815/siele.v8i2.18374

Safdari, M. (2021). Contributions of Edmodo social learning network to Iranian EFL learners' writing accuracy. *Call-EJ*, *22*(1), 355-373.

Sarré, C., Grosbois, M., & Brudermann, C. (2019). Fostering accuracy in L2 writing: impact of different types of corrective feedback in an experimental blended learning EFL course. *Computer Assisted Language Learning*, 1-23. doi: https:// doi.org/10.1080/09588221.2019.1635164

Shaharanee, I. N. M., Jamil, J. M., & Rodzi, S. S. M. (2016). The application of Google Classroom as a tool for teaching and learning. *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, *8*(10), 5-8.

Sharma, P. & Barrett, B. (2007). *Blended Learning: Using technology in and beyond the language classroom*. Macmillan Publishers Limited.

Sujannah, W. D., Cahyono, B. Y., & Astuti, U. P. (2020). Effect of Blended Learning Using Google Classroom on Writing Ability of EFL Students across Autonomy Levels. *Teaching English with Technology*, *20*(2), 82-97.

Sukmawati, S., & Nensia, N. (2019). The Role of Google Classroom in ELT. *International Journal for Educational and Vocational Studies*, *1*(2), 142-145.

Sutarsyah, C., Yufrizal, H., & Sudirman, S. (2019). Improving writing English performance through the application of google classroom feedback at higher education institutions in Bandar Lampung. *Asian Journal of Science and Technology*, *10*(10), 1052-1059.

Syndicate, U. C. L. E. (2001). *Quick placement test*. Oxford University Press.

Tucker, C. R. (2013). The basics of blended instruction. *Educational Leadership, 70*(6), 57-60.

Wahyuni, S. (2018). The effect of blended learning model towards students' writing ability. *J-SHMIC: Journal of English for Academic*, *5*(2), 97-111.doi: https://doi.org/10.25299/jshmic.2018.vol5(2).1801

Yunus, M. M., & Salehi, H. (2012). The effectiveness of Facebook groups on teaching and improving writing: Students' perceptions. *International Journal of Education and Information Technologies*, *1*(6), 87-96.

Appendix

Semi-structured Interview Questions

1. What is your overall opinion regarding the implementation of GC in your English course?
2. Did you find the use of GC useful in improving your writing accuracy?
3. In what ways did the GC help improve your writing accuracy?