Collaborative Writing on Google Docs: Effects on EFL Learners' Descriptive Paragraphs

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ARTICLE INFO	ABSTRACT
	Google Docs has recently been suggested as an efficient collaborative tool for group writing. This experimental quantitative study, including pretest-treatment-posttest design, aimed at comparing the effects of collaborative writing on Google Docs and individual writing practice on EFL learners' descriptive paragraphs. The participants were 48 Turkish EFL learners at pre-intermediate level of proficiency, based on their performance on Oxford Placement Test. The participants were assigned to two groups. One group, including 24 participants, experienced collaborative writing on Google Docs plus researchers' comments as feedback (CWGD group). The other group, including 24 participants, experienced individual writing practice plus researcher's direct corrective feedback (IWP group). The results of the independent samples t-test indicated that the CWGD group significantly outperformed the IWP group. In conclusion, collaborative writing Google Docs environment can enhance the writing skill of the EFL learners. Therefore, the study highly recommends utilizing collaborative writing on Google Docs to practice English language writing skill.

1. Introduction

Learning the language skill of writing is hard (Barkaoui, 2007; Klimova, 2014) because writing itself is a complex process as it needs the mastery of linguistic, cognitive, and sociocultural competencies (Barkaoui, 2007). In addition, because language learners usually do not have mutual interaction with audience, writing in a foreign language is hard for them. Moreover, lack of competence in rhetorical matters is obviously another reason which makes the acquisition of second language (L2) writing skill complex (Celce-Murcia, M., Brinton, D. M., & Snow, 2014; Deane et al., 2008). All these problems usually cause EFL learners to fail to use their grammatical knowledge for productive purpose, such as for writing (Ansarimoghaddam

& Tan, 2014). In addition to the difficulty of learning writing, teaching writing is also difficult (Barkaoui, 2007; Klimova, 2014).

Among various techniques, collaborative writing has been suggested as a beneficial one. It is generally believed that when learners are engaged in cooperative and collaborative activities, more experienced learners help the less experienced ones (Lantolf & Thorne, 2006). Further, collaboration during writing tasks causes learners to think about their language-related problems (Swain, 2000). Therefore, teachers need to encourage learners to take part in activities which enhance "interaction and co-construction of knowledge" (Storch, 2005, p. 154). As a result, it is a good idea to adopt various types of collaborative techniques in an L2 writing classroom (Dobao, 2012; Shehadeh, 2011; Soltanpour et al., 2018; Storch, 2005; Storch & Wigglesworth, 2007, 2010; Yeh, 2021).

It is noteworthy that the idea of doing collaborative and cooperative activities in language classrooms is corroborated by Vygotsky's sociocultural theory (Vygotsky, 1978 as cited in Lightbown & Spada, 2006; O'Donoghue & Clarke, 2010). Based on this theory, learners learn during interaction in their Zone of Proximal Development (ZPD) – via their participation in doing tasks with a more experienced partner; Vygotsky has assured that doing an activity with somebody's help will cause the learners to be able to do that activity on their own in the future.

Additionally, research has found the positive impact of patterns of interaction in the process of web-based collaborative writing on the quality of texts, written collaboratively (Elola & Oskoz, 2010). Therefore, the need for language instructors to develop their knowledge of new digital tools for academic purposes has been emphasized, so they would be able to create various opportunities for language learners to practice their L2 writing skill (Elola & Oskoz, 2010; Zheng & Warschauer, 2017). It has also been argued that L2 writing instructors must expand multiple modes (Canagarajah, 2013) and consider a multimodal design to help learners improve their writing quality (Storch, 2005). Therefore, adopting multiple modes and utlizing digital technologies of social tools has attracted researchers' attention (Yeh, 2021).

Among various relevant research areas, few studies have examined interaction patterns in computer-mediated communication (Elola & Oskoz, 2010). Therefore, it is suggested that researchers investigate the quality of online writing in a collaborative environment (Yim & Warschauer, 2017). Collaborative activities using Google Docs as one of the social technologies the Web.2.0 environments have been proven as useful in improving L2 writing (Yeh, 2021). Google Docs is a free of charge web-based word processor which allows users to create, edit, and store or retrieve their files conveniently (Suwantarathip & Wichadee, 2014). It creates an opportunity for students to negotiate and interact with one another for free outside the classroom contexts while doing a collaborative activity online (Woodrich & Fan, 2017). It also permits multiple people to work on a shared text to edit each other's writing synchronously or asynchronously (Chinnery, 2008; Kessler & Bikowski, 2012; Suwantarathip & Wichadee, 2014; Woodrich & Fan, 2017).

In addition to the afore-mentioned issues, currently, language instructors are faced with the challenges of teaching during the pandemic. The emergence of the Corona virus (COVID-19) pandemic significantly affected the education system. Schools and universities worldwide were faced with closure, and thus, challenges in their systems of instruction (Toquero, 2020).

To the best knowledge of the researcher of the present study, the issue of using Google Docs to practice collaborative writing to improve L2 writing issue is not adequately investigated and very few research has been published investigating its efficacy. Moreover, the issue has not been thoroughly explored in the current Covid-19 pandemic, which has caused language teachers and students face serious difficulty in terms of teaching and learning various skills. As a result, the crisis reminded the researcher of this study about the potential of using Google Docs to provide L2 writing learners with opportunities to practice collaborative writing. The researcher of the current study hypothesized that considering the promising benefits of collaborative writing practice through Google Docs, it may help pre-intermediate EFL learners to develop their ability in writing descriptive paragraphs. Consequently, the current research explored the research question below.

Is there any significant difference between the effects of Collaborative Writing on Google Docs and Individual Writing practice on EFL learners' descriptive paragraph writing?

2. Research Methodology

2.1 Participants

This pretest-treatment-posttest study was done in virtual classrooms in Turkey. The independent variables were 'Collaborative Writing on Google Docs' and 'Individual Writing Practice'. In addition, the quality of descriptive paragraph was the dependent variable in this study. The convenience sampling was used. However, the participants were randomly assigned to two groups, so the study is experimental.

A message of invitation to participate in a research study was sent to 73 English Language learners, who were at B1 (pre-Intermediate) level of proficiency, either in language schools or prep-university (preparatory) English courses in Turkey. The students included the ones the researcher knew. In addition, the researcher asked his colleagues to submit the message of invitation to their prep-university students, who were at B1 level. Each student was also asked to send the message to his/her peers who were at B1 level. A total of 56 students accepted to participate. After administering the Oxford Placement Test (henceforth, OPT), the score of 48 students ranged between 24 and 30; as a result, those 48 learners (28 females and 20 males) were selected as the participants. As a result, the participants were 48 native speakers of Turkish language and studying English at pre-intermediate level of English as a Foreign Language (EFL) in online classes in Turkey. They had the necessary criterion as they passed the lower-intermediate level, based on Geranpayeh's (2003) guideline. Their ages ranged from 19 to 22 years old. Twenty-four of them experienced the 'Collaborative Writing on Google Docs'; the other 24 were considered as the control group and experienced 'Individual Writing Practice'. More information on the participants is provided in Table 1 below.

Table 1. Participants' Information

	Groups					
	Collaborative Writing on Google Docs			Individual Writing Practice		
	Age	Gender		Age	Gender	
		Female	Male		Female	Male
Mean	19.96			19.71		
SD	1.122	.495		1.122	.509	
Frequency		15	9		13	11

2.2 Instruments

Several instruments were used. The researcher used Skype to contact the participants and conduct the required instructional sessions. Moreover, in 'Collaborative Writing on Google Docs' group, multimodal writing activities and tasks were done in platform of Google Docs.

In addition, the following tests were utilized in each group: OPT, a pretest, and a posttest of paragraph writing of descriptive type. Moreover, the analytic rating scale, specific for EFL descriptive writing, created by Khatib and Mirzaii (2016) were utilized to score the participants' paper.

2.3 Data Collection Procedure

First off, all 48 participants were randomly divided into two groups: (1) 24 of them experienced the 'Collaborative Writing on Google Docs' (henceforth, CWGD); (2) the other 24 were considered as the control group and experienced 'Individual Writing Practice' (henceforth, IWP). Then the participants in the CWGD group were divided into six small groups of four; they were allowed to choose their partners in the hope that they'll be more motivated and thus be able to scaffold one another and get involved in meaningful negotiations in the L2 (Storch, 2013). Next, on a 2-hour session, the participants in CWGD group were taught several functions available freely on Google Docs, which includes synchronous and asynchronous viewing, editing, and commenting on any text by multiple writers on different computers. After that, on a session, all the participants in both groups connected via Skype with the researcher. They were given a topic: "Describe one of your family members". They wrote a descriptive paragraph on a piece of paper before the researcher and sent him the picture via WhatsApp. This writing was used as the pretest. The next day, the researcher taught the organization of a descriptive paragraph via Skype in a 2-hour session. From this session on, for three sessions during a period of a week at 6 PM (the sessions were held every other day on Even days), the participants in CWGD group were provided with a link of Google Docs, in which the researcher offered a topic, provided a table, with sufficient space for each group to write a descriptive paragraph of at least 100 words collaboratively. The participants had maximum 1-hour time each session. When all groups completed their web-based collaborative writing task on Google Docs, the researcher provided them with comments (feedback). As the writing of all groups were written in rows of that table, all groups were able to read the other groups' paragraphs as well as the researcher's comments. As for the participants in IWP group, on even days at 6 PM they connected the researcher via Skype and were given the topics. They had maximum 1-hour time to write a descriptive paragraph of at least 100 words individually before the researcher. When they completed the task, the sent the picture of their paragraphs to the researcher and then the researcher provided them with direct corrective feedback. Two days after running these treatment sessions, the posttest was administered.

Table 2. Sessions and Topics in Both Groups

Week	Session	Topics
1	1 (pretest)	Describe one of your family members.
	2	Describe one of your friends.
	3	Describe one of your friends.
	4	Describe the house in which you grew up.
2	5	Describe your best or your favorite vacation.
	6 (posttest)	Describe one of your childhood memories.

Finally, to consider the inter-rater reliability (Mackey & Gass, 2005), the teacher-researcher and another experienced teacher, who held Master's degree in TEFL, evaluated each written paragraph independently; the final score of each participant was the average score of the two raters.

3. Findings

3.1. Inter-rater Reliability

The Cronbach alpha indices, which calculated the inter-rater reliability, were above .8, indicating high inter-rater reliability (Pallant, 2020).

3.2. The Normality Tests

Following Larson-Hall's (2010) recommendation, the normality was analyzed utilizing histograms and numerical ways. The data were found to be normally distributed. Following Phakiti (2010), the values of skewness and kurtosis statistics of the current study were within +/-1; also, the results of the Kolmogorov-Smirnov statistic indicated a non-significant result (Sig. value of more than .05), which showed normality (Pallant, 2020). As a result, the parametric t-test was employed.

3.3. Homogeneity of the Groups

An independent-samples t-test was carried out to compare the mean scores of the CWGD and IWP groups in the OPT. There was no significant difference in scores for the CWGD group (M = 27.00, SD = 1.719, N = 24) and IWP group (M = 27.04, SD = 1.732, N = 24); t (45.998) = -.084, p = .934.

Then another independent-samples t-test was done to compare the mean scores of the CWGD and IWP groups in the pretest of descriptive paragraph. There was no significant difference in scores for the CWGD group (M = 50.437, SD = 1.583, N = 24) and IWP group (M = 49.812, SD = 1.673, N = 24); t (45.860) = 1.329, p = .190.

3.4. Finding of the Research Question

The research question investigated whether there was any significant difference between the writing performance of the CWGD group and the IWP group. An independent-samples t-test was conducted to compare the mean scores of the CWGD and IWP groups in posttest of descriptive writing. There was a significant difference in scores for the CWGD group (M = 71.854, SD = 1.741, N = 24) and IWP group (M = 60.562, SD = 1.795, N = 24); t (46) = 22.116, p = .000 < .05. The magnitude of the differences in means (mean difference = 11.291, 95% CI: 10.263 to 12.319) was large (Cohen's d = 6.386) based on Cohen (1988).

4. Discussion

This study compared the effects of collaborative writing on Google Docs and individual writing practice on EFL learners' descriptive paragraphs. It was found that the group that experienced collaborative writing on Google Docs plus the instructor's comments as feedback significantly outperformed the group that experienced individual writing practice plus direct corrective feedback.

The finding of this study regarding the positive effect of collaborative writing compared to individual writing is in line with several previous research (Dobao, 2012; Dobao & Blum, 2013; Jafari & Ansari, 2012; McDonough et al., 2018; Storch, 2002, 2005; Swain & Lapkin, 1998; Wigglesworth & Storch, 2009). This can be supported by the idea that as language classrooms are essentially social events, learners will have more learning opportunities if they are engaged in collaborative activities (Block, 1996; Storch, 2005). This is corroborated with Vygotsky's (1978) Sociocultural Theory, based on which learning is a social activity and learners are able to learn via interaction with others. Via collaborative writing, they'll benefit from the positive effects of social interactions (Wigglesworth & Storch, 2009). During collaboration, learners are able to scaffold one another to reach higher mental development, which will positively impact writing accuracy because learners are able to share knowledge and ideas to choose the best grammatical structures.

Furthermore, it provides learners with opportunities to reflect on and discuss language forms, content, and the writing process, brainstorm, give feedback, and create meaning (Coffin, 2020; Sarkhosh & Najafi, 2020). Several studies have proven the positive effect of reflection on the quality of writing (Amicucci, 2011; Bikowski & Vithanage, 2016; Hemmati & Soltanpour, 2012; Soltanpour & Valizadeh, 2017; Yang, 2010).

Additionally, collaborative tasks are useful in terms of developing fluency because learners can negotiate and scaffold one another to use vocabulary more effectively because while collaboration, they can even use their mother tongue sometimes, which enable them to ask their partners the words they do not know (Fung, 2010). Moreover, collaborative activity could help learners find more ideas (Dobao & Blum, 2013).

In terms of the beneficial effects of Google Docs, the result of this study support the previous research which also found promising results for web-based environments (Ahmad, 2020; Alghasab et al., 2019; Alsubaie & Ashuraidah, 2017; Bikowski & Vithanage, 2016; Kitjaroonchai & Suppasetseree, 2021; Moonma, 2021; Neumann & Kopcha, 2019; Wichadee, 2013; Yeh, 2021). Previous research has also shown that Google Docs facilitates collaborative writing and improve L2 writing skills (AlCattan, 2014; Alsubaie & Ashuraidah, 2017; Li & Storch, 2017; Neumann & Kopcha, 2019). In addition, Google Docs has the potential to stimulate critical thinking (Liu et al., 2018). Also, according to Alghasab et al. (2019), the positive impact of web-based collaborative writing was thanks to the dialogic engagement between teacher and learners collaborative process. The beneficial effect of it could also be attributed to the friendly and low-pressure atmosphere Google Docs can create while writing (Liu et al., 2018; Suwantarathip & Wichadee, 2010, 2014; Woodrich & Fan, 2017; Yim et al., 2014).

Based on interactionist and sociocultural aspects of learning languages by the help of computers, digital technologies can turn communication, which is often teacher-centered, into interaction which is more multidirectional in contexts mediated by computer. (Yeh, 2021). It seems that shifting the form of communication from paper to Google Docs led to facilitating collaboration, and consequently, more interaction and communication among learners (Al-Samarraie & Saeed, 2018; Yeh, 2021). In brief, the current study suggested that collaborative writing on Google Docs seemed to enhance the EFL learners' descriptive paragraph writing skills.

5. Conclusion

This study compared the effects of collaborative writing on Google Docs and individual writing practice on EFL learners' descriptive paragraphs because there has not been adequate research on this issue, especially in the current Covid-19 crisis when language instructors worldwide are faced with various troubles of online teaching of language skills, especially writing, which is really difficult to both teach and learn. The results of this study indicated that experiencing collaborative writing on Google Docs plus the instructor's comments as feedback can provide EFL learners with more efficient practice, and thus significantly help learners to improve their L2 writing skill. Finding of this study enlightens L2 language teachers to follow the same techniques which makes teaching and learning of writing skill more efficient and more interesting.

6. Suggestions for Further Research

The researcher of the present study compared the short-term effect of collaborative writing on Google Docs and individual writing practice and found positive results. It is suggested that future researchers explore the long-term effect of the mentioned intervention to find out whether the found positive effects will remain after a long term interval. Moreover, it would be a good idea to investigate the participating students' attitudes about their experiences via interviews or questionnaires.

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