**Original Article**

# Collaborative Writing in EFL Classrooms through Edmodo: Writing Accuracy in Focus

Azizeh Chalak[1*] & Mahzad Karimi[1]

* Correspondence:

azichalak@gmail.com

1. Department of English, Isfahan (Khorasgan) Branch, Isfahan, Iran

**Abstract**

Technology-supported collaborative writing has gained popularity in L2 writing pedagogy. The study investigated the effects of Edmodo as an online social platform on the writing accuracy of 50 Iranian intermediate EFL learners, who were chosen through the convenience sampling method. The researchers utilized a quasi-experimental pretest-posttest design and assigned the participants to an experimental and a control group. The participants of the control group sent their assignments and received feedback asynchronously through email; whereas, the learners of the experimental group used Edmodo to work collaboratively on their writing assignments. Finally, after eight treatment sessions, the scores of the pretest and posttest were analyzed through using a paired-sample t-test and MANOVA. The results revealed that the application of Edmodo had a significant effect on writing accuracy. Moreover, the participants' attitudes were assessed by running a Likert-scale questionnaire. According to the findings, they had a positive attitude towards integrating Edmodo into their writing curriculum. This study could bring about pedagogical implications for EFL writing courses.

**Keywords:** attitudes, collaborative writing, Edmodo, social network, writing accuracy

119

## 1. Introduction

There is a growing consensus that collaborative learning has multiple benefits in comparison with teacher-centered classrooms. Collaboration in EFL settings has the potential of engaging students in expressing cognitively complex ideas through negotiation of meaning and form. Research within the sociocultural theory, ranging from corrective feedback to collaborative writing, considers writing a highly social process (Bikowski & Vithanage, 2016). In this regard, collaborative writing has been widely implemented in L2 classrooms during the last decades (Anwar, 2021; Li, 2018; Storch, 2013). Collaborative writing provides learners with opportunities to share their ideas through teamwork and encourages active engagement in constructing a text (Deveci, 2018). Research exploring the nature of collaborative L2 writing has shifted from a pen and paper approach to a multi-modal computer-assisted approach (Li & Storch, 2017).

As an instructional tool, collaborative writing facilitates negotiation of language use, elaborates linguistic-related issues, and improves writing accuracy (Kim & Li, 2016). Writing accuracy as a by-product of collaborative writing is defined as "freedom from error" (Skehan, 1996, p. 334). These errors are verb tenses, arbitrary capitalization, idiomatic expressions, and spelling issues (Ferris, 2009). Various researchers (Chen & Yu, 2019; Dobao & Blum, 2013; Wiggleworth & Storch, 2009) claim that collaborative writing can enhance accuracy of a written text.

Using technology tools paves the way for learners to co-construct texts, co-revise texts, and jointly produce a single online text through collaborative effort (Li, 2018). Edmodo, which was created by Brog and O'Hara (2008), is a valuable social platform. It offers extensive prospects for intensive communication between students and teachers and accelerates the process of interaction. According to several researchers (Almoeather, 2020; Asmara & Tasri, 2020; Rad, 2021), the success of the Edmodo application lies in the ease and simplicity of its use. This platform encourages students to share experiences, solutions, and self-regulated strategies.

### 1.1 Statement of the Problem

Under the new circumstance of the Covid-19 outbreak, learning is undertaken remotely on digital platforms. Despite benefits of remote learning, online education seems highly challenging for EFL students learning writing skills. Indeed, students enrolling in writing courses need a comprehensive understanding of theories, practical guidance from the teachers, direction, and feedback. However, long-distance learning may not be optimal because of the limited time during virtual learning, limited feedback on students' writings, and inaccuracies in material presentation. Furthermore, learners feel less connected with their teachers and peers (Holley & Oliver, 2010).

Teaching English writing is one of the fundamental objectives of EFL learning. However, many Iranian English learners lack the basic skills, such as capitalization, punctuation, organization, spelling, and grammaticality. Due to the complexity nature of writing, students typically memorize some passages without reflecting on what they are doing (Aljafen, 2013). In recent years, research findings point a disappointing picture of writing instruction (Ketabi & Torabi, 2015). The situation has worsened with the shift from face-to-face classroom to online learning contexts. Students are not trained in online learning and claimed to miss classroom interaction, and found it troublesome accessing the writing materials.

This paper aimed at investigating the effects of collaborative writing through the Edmodo application. Therefore, instead of utilizing visual media which is offline or asynchronous, the study securitized how Edmodo-based e-learning encouraged students to actively participate in the learning process. This research seeks to discover whether the facilitative features of Edmodo, such as online discussions, viewing videos, presentations, or downloading materials could enable learners to write structurally accurate sentences and overcome the above-mentioned problems.

### 1.2 Research Questions

The present study attempted to address the gap in the literature by exploring how collaborative writing through Edmodo might contribute to the improvement of L2 learners' writing accuracy. In line with the objectives of the study, the following research questions were formulated:

1) Does collaborative writing through the use of Edmodo improve the Iranian EFL learners' writing accuracy?

2) What are the Iranian EFL learners' attitudes towards the application of Edmodo in a writing course?

## 2. Literature Review

### 2.1 Collaborative Writing

Writing is a productive skill that serves as a medium for conveying thoughts, plans, and feelings. It also provides a framework for interpersonal communication and an appropriate tool for achieving personal, professional, and academic goals. Despite its importance, writing is not easy because it requires mastery of content, grammar, and vocabulary. In addition, learners may find it challenging to organize ideas logically. Therefore, incorporating an online collaborative writing task into the current curriculum is essential to overcome these problems (Deveci, 2018).

From a theoretical perspective, social constructivists' theories support collaborative writing, which was initially proposed by Vygotsky (1978). He posits that individuals' cognitive and linguistic development arise in social interaction with more competent members of a community, who assist the novice to overcome the problems (Gillian & Neomy, 2012). Accordingly, collaborative writing through social interaction facilitates learning in the learners' Zone of Proximal Development (ZPD). Accordingly, Donato (1994) proposed the notion of *collective scaffolding* that makes novice and experts work simultaneously to resolve linguistic issues.

Informed by the theory mentioned above, research on collaborative writing has been conducted in various L2 learning contexts to identify its potential benefits (e.g., Bradley et al., 2020; Zahng et al., 2021). Collaborative writing refers to the process which provides students the opportunity to discuss, explore, and enhance learning capabilities (Dobao, 2012). Indeed, its foundation is built on the Vygotskian notion of a coorporation with experts to facilitate growth (Hiedar, 2016). Distinctive features of collaborative writing are socializing with classmates, full engagement of learners in discussing writing topics, and developing ideas. Jelodar and Farvardin (2019) assume this type of writing is an actual realization of the meaning-based learning process and might enhance writing accuracy.

*2.2 Effects of Collaboration on Writing Accuracy*

Writing accuracy refers to the extent to which the language that is produced conforms to the target norms (Wolfe-Quintero et al., 1998). According to this definition, accuracy can refer to specific grammatical features and percentages of error-free clauses. The general belief is that most of the students who have had the experience of collaborative work could develop grammatical accuracy and better use of vocabulary (Dobao & Blum, 2013). Dobao (2012) asserted that L2 writers working in pairs or small groups could co-construct texts with more correct language-related episodes. Similarly, Storch (2005) maintained that texts written collaboratively are more accurate and complex.

Similar results were obtained in a study conducted by Wiggleworth and Storch (2009). They compared collaborative and individual approaches to writing in terms of accuracy, complexity, and fluency. The findings revealed that although collaboration did not produce fluent or complex sentences, it assisted writers in constructing grammatically correct sentences. In the same vein, Jafari and Nejad Ansari (2012) found that writers in the collaborative group produced more correct sentences.

Despite the aforementioned studies, Kang and Lee (2019) concluded that collaborative writing enhanced writing fluency and complexity but not in improving accuracy. Some researchers also claim that collaborative writing cannot help students develop writing skills. They believe that lack of proficiency makes students reluctant to engage in writing activities (Prinsen et al., 2009; Shehadeh, 2012). Furthermore, Bremner (2010) found out that students' feedback was not positive about collaborative writing. Most participants commented that it was challenging to construct a text collaboratively.

The focus of studies mentioned above was mainly on the impacts of collaborative writing on writing rather than how collaborative writing could be further developed. Incorporating e-learning into the EFL writing pedagogy is a powerful strategy to make learning more engaging. Internet-based learning media, such as wikis and blogs has merged with writing for optimal interaction and cognitive development (Talib & Cheung, 2017). Some researchers' (Anwar, 2021; Li, 2015) studies have suggested that technology-mediated tools encourage collaborative writing and develop the quality of writing. In addition, a significant number of students had a positive attitude towards implementing online collaborative tasks (Wang, 2009).

*2.3 Edmodo*

Technology-mediated tools, such as WhatsApp, Facebook, Instagram, Wikis, and blogs are being extensively used in educational contexts. One of these tools is Edmodo, which was founded by Brog and O'Hara (2008). The application was developed in 2010 to facilitate cooperation between teachers and students. Edmodo is an interactive platform for collaboration and social networking for academic objectives (Trust, 2017). Ali (2015) maintains that online feedback through Edmodo encourages students to revise their first drafts of their writings efficiently; whereas, traditional

approaches of providing feedback take a long time. Not only do learners improve their writing skills, but also Edmodo can increase their interests in writing.

Several recent studies have confirmed the potential advantages of employing Edmodo. Miftah and Raya (2018) investigated the utilization of Edmodo in Indonesian EFL writing classes. The results showed that Edmodo significantly enhanced writing argumentative essays. Anwar (2021) used a quantitative quasi-experimental design to investigate the effects of collaborative writing through Edmodo on the language skills of 56 participants, divided into two groups of experimental and control. Both groups were given the same pretest prior to the study, and they were asked to write a descriptive text about tourism. The participants of the experimental group followed the writing learning process given on Edmodo while the participants of the control group used offline pictures. After the treatment, the researcher implemented the posttest. The results of the comparative analysis indicated that collaborative online Edmodo improved the learners' writing.

The results accord with the findings of Alsamar (2019), who maintained that Edmodo as a web-based social application played a vital role in enhancing learners' paragraph writing. Notwithstanding, some studies (Sandu, 2015; Yusuf et al., 2018) have shown contradictory results. They did not find the use of this platform very contributive to learning as learners prefer face-to-face interaction. Although Edmodo might enhance L2 writing performance, the review of the existing literature indicates insufficient data for the use of this application to improve writing accuracy. Moreover, the findings of the previous research have revealed contradictory results in terms of learners' attitudes towards the integration of Edmodo into their writing curriculum.

### 3. Methodology

*3.1 Design and Context of Study*

Since random assignment was not feasible, the study utilized a quasi-experimental design that is *pretest-posttest non-equivalent design* in an attempt to evaluate the effectiveness of using Edmodo. The quantitative phase of the study was followed by a qualitative part, in which the researchers sent a psychological questionnaire through the Google Forum to the students of the experimental group to evaluate their attitudes towards the treatment. The physical separation and distance caused by Covid-19 have restricted face-to-face communication and social interaction between teachers and students. Therefore, the context of the study was limited to two authentic online platforms over an eight-week period: the mobile-mediated application of WhatsApp and the Edmodo platform, which were used by the participants of the control group and experimental group, respectively.

*3.2 Participants*

The researchers selected an initial population of 78 Iranian EFL learners through the convenience sampling method. They enrolled in an online English course of an institute located in Isfahan, Iran, and their age ranged from 18 to 35. The Oxford Online Placement Test (OOPT) was administered, and those who scored within the range of 51 to 59 were selected. The reason for the selecting the intermediate learners was that after administering the OOPT, it was revealed that the majority of learners were at this level, and those students who scored higher or lower than the criterion score were excluded. Therefore, the sample of the study comprised 50 English learners (23 females and 27 males), who were randomly assigned to 10 classes: five experimental groups and five control groups (five students in each class). In addition, five English instructors teaching two classes each participated in the study. Table 1 presents the characteristics of the participants.

Table 1. Demographic background of the subjects

| | |
|---|---|
| Number of the participants (students) | 50 |
| Number of the participants (teachers) | 5 |
| Gender | Male and female |
| Age | Various (18-35) |
| Level of proficiency | Intermediate |
| Native language | Persian |
| Target language | English |

### 3.3 Instruments

The researchers employed a range of quantitative and qualitative instruments to scrutinize the effectiveness of Edmodo on writing accuracy and the participants' attitudes. First, the OOPT, developed by Oxford University Press, was administered to assess the level of proficiency of the participants. It is an online computer-adaptive test that was launched in 2009, and its results are reported as a CEFR band and as a standardized score (0-120). Secondly, the participants of the experimental groups used Edmodo, developed by Brog and O'Hara (2008). It provided a free micro-blogging service for online language teaching in which teachers could manage accounts and only students registered in the group joined. Through the application, the teachers gave tasks and quizzes, provided feedback and grades, stored and shared writing content material in files and links. Moreover, it enabled the participants to corporate with their teachers and peers.

In addition, to measure the participants' writing performance, a writing pretest and posttest were given to the experimental and control groups. Two descriptive writing topics in the students' book "American File" were given to all ten classes to check their initial writing performance and their final improvement in terms of accuracy. This book is appropriate for B1-B2 learners; therefore, it was compatible with the intermediate level of the participants.

To analyze the levels of writing accuracy, the researchers employed Weir's (1990) scoring scale (Appendix A), which has seven key factors; however, the raters considered four of them due to the level of proficiency of the participants. The selected items were as follows: (a) adequacy of vocabulary for purpose, (b) grammar, (c) punctuation, and (d) spelling. Finally, the researchers formed a questionnaire to probe the students' attitudes towards the use of Edmodo. The questionnaire was a 10-item Likert scale ranging from strongly disagree to strongly agree. The validity was carried out by two associate professors majoring in Teaching English as a foreign language (TEFL). In order to determine its reliability, the questionnaire draft was piloted in the Google Form and circulated through the WhatsApp Community. Cronbach's alpha coefficient showed that the questionnaire enjoyed a high level of consistency ($\alpha$=.73).

### 3.4 Data Collection Procedure

First, 78 Iranian EFL learners of an institute were chosen as the study population. Their level of proficiency was assessed by implementing the OOPT, and those who fell in the intermediate level were considered as the research sample (N=50). Then, they were assigned to ten classes with five participants in each (five experimental groups and five control groups). The participants in all groups were given a writing pretest, and their performance was assessed in line with Weir's (1990) writing rubric. The study required the learners of both control and experimental groups to attend eight successive writing sessions. As the coronavirus had driven nearly all classes online, the teachers employed Zoom platform to discuss the course content for all classes. Moreover, the materials taught for the two groups were the same (lesson 6, 7, 8, 9, of American English File 2 textbook). The participants of both groups had to write four writing assignments by employing the following techniques: brainstorming, drafting, peer assessment, and editing.

While the participants of the control did their assignments individually, the learners of the experimental group completed their writing assignments collaboratively by using Edmodo. After completing each writing session, the participants of the control groups sent their assignment, which was a three-paragraph essay, to their teachers via email for receiving the initial assessment. Then, they received the teachers' feedback and wrote the final draft. In the experimental groups, prior to the treatment, the teachers explained to the learners how to write paragraphs and reply

to a post, how to participate in a quiz, how to submit their writings, and how to communicate with their teachers or peers via Edmodo.

The participants had to compose three paragraphs on Edmodo following the writing process taught in the class. Then, they shared content and received their teachers and classmates' feedback on their writing. It paved the way to observe their peer's written productions and correct them. Indeed, the students wrote individually and gave and received feedback collaboratively. To direct the participants' attention to accuracy, the teachers attempted to comment on grammatical errors, lexical resources, punctuations, and spellings. Finally, the essential points were uploaded and the students had to take part in Edmodo quizzes. In the final session, the teachers gave the same topic of pretest as the posttest. Moreover, to explore the learners' attitudes, a questionnaire was distributed to the students using Google drive.

*3.5 Data Analysis Procedure*

The data sets of this study included information that were obtained through implementing the questionnaire, pretest, and posttest. The data were statistically analyzed using the SPSS. 24 (Statistical Package for Social Science). To compare the pretest and posttest scores of the EG and CG learners with respect to writing accuracy, a one-way MANOVA was utilized. This statistical test is appropriate when there is one independent variable (in this case, the application of Edmodo, which surfaces as the experimental vs. control groups), and two or more related dependent variables (i.e., adequacy of vocabulary for purpose, grammar, punctuation, and spelling) which are subcomponents of writing in this study. Prior to the administration of MANOVA, its assumptions (including normality, sample size, outliers, linearity, homogeneity of regression, etc.) were checked.

Afterwards, a ten-item Likert scale (with options ranging from *strongly disagree* to *strongly agree*) questionnaire was employed to unveil the EG learners' attitudes towards the treatment they received. In addition to the calculated mean scores for the individual questionnaire items, the total mean score obtained from the questionnaire items were assessed. Finally, to see if this degree of having positive attitudes was statistically larger/significant or not, the p- value in the one-sample t-test was examined.

**4. Results**

To compare the posttest writing scores of the EFL learners in the EG and CG, one-way MANOVA was used. This statistical procedure tested the effects of the independent variable (i.e., using or not using the Edmodo Application) on the four subcomponents of writing (i.e., adequacy of vocabulary for purpose, grammar, punctuation, and spelling). Tables 2 and 3 show the results of comparing the writing posttest scores of the EFL learners in EG and CG.

Table 2. Descriptive statistics results comparing EG and CG on writing scores of the pretest

| Writing Subcomponents | Groups | Mean | *Std.* Deviation | *N* |
|---|---|---|---|---|
| | EG | 1.64 | .48 | 25 |
| Adequacy of Vocabulary for Purpose | CG | 1.60 | .50 | 25 |
| | Total | 1.62 | .49 | 50 |
| | EG | 1.64 | .70 | 25 |
| Grammar | CG | 1.68 | .62 | 25 |
| | Total | 1.66 | .65 | 50 |
| | EG | 1.76 | .59 | 25 |
| Punctuation | CG | 1.88 | .78 | 25 |
| | Total | 1.82 | .69 | 50 |
| | EG | 2.24 | .83 | 25 |
| Spelling | CG | 2.28 | .67 | 25 |
| | Total | 2.26 | .75 | 50 |

With regard to the adequacy of vocabulary for purpose, grammar, punctuation, and spelling posttest scores, the mean scores of the EFL learners in the EG and CG were different from one another. Table 3 shows whether the differences between these two groups were statistically significant or not.

Table 3. MANOVA results comparing EG and CG on writing scores of the pretest

|  | Value | F | Hypothesis *df* | Error *df* | *Sig.* | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Pillai's Trace | .01 | .17 | 4.00 | 45.00 | .95 | .01 |
| Wilk's Lambda | .98 | .17 | 4.00 | 45.00 | .95 | .01 |
| Hotelling's Trace | .01 | .17 | 4.00 | 45.00 | .95 | .01 |
| Roy's Largest Root | .01 | .17 | 4.00 | 45.00 | .95 | .01 |

The p-value across from Wilk's Lambda equaled .95, which is larger than the significance level (i.e., .95 > .05). This shows that the difference between the writing pretest scores of the learners in the two groups of EG and CG was not statistically significant, and the EFL learners in both EG and CG were homogeneous in terms of their writing ability at the outset of the experiment. The following tables show the comparison of the writing scores of the EG and CG learners on the posttest:

Table 4. Descriptive statistics results comparing EG and CG on writing scores of the posttest

| Writing Subcomponents | Groups | Mean | *Std.* Deviation | N |
|---|---|---|---|---|
| | EG | 1.72 | .61 | 25 |
| Adequacy of Vocabulary for Purpose | CG | 1.60 | .50 | 25 |
| | Total | 1.66 | .55 | 50 |
| | EG | 3.16 | .62 | 25 |
| Grammar | CG | 1.68 | .62 | 25 |
| | Total | 2.42 | .97 | 50 |
| | EG | 1.76 | .59 | 25 |
| Punctuation | CG | 1.96 | .73 | 25 |
| | Total | 1.86 | .67 | 50 |
| | EG | 2.24 | .66 | 25 |
| Spelling | CG | 2.28 | .67 | 25 |
| | Total | 2.26 | .66 | 50 |

Table 4 shows that the mean scores of the EFL learners in the EG and CG for adequacy of vocabulary for purpose, grammar, punctuation, and spelling were different. Nonetheless, to find out whether the differences were of statistical significance or not, the researchers had to consult the MANOVA table below:

Table 5. MANOVA results comparing EG and CG on writing scores of the posttest

|  | Value | F | Hypothesis *df* | Error *df* | *Sig.* | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Pillai's Trace | .66 | 22.51 | 4.00 | 45.00 | .00 | .66 |
| Wilk's Lambda | .33 | 22.51 | 4.00 | 45.00 | .00 | .66 |
| Hotelling's Trace | 2.00 | 22.51 | 4.00 | 45.00 | .00 | .66 |
| Roy's Largest Root | 2.00 | 22.51 | 4.00 | 45.00 | .00 | .66 |

The Wilk's Lambda's Value was .33, and its associated *Sig.* value was shown to be .00, which is smaller than the significance level (i.e., .00 < .05); it could thus be concluded that the EFL learners in the two groups of EG and CG were significantly different on their writing posttest. Table 6 shows which subcomponents of L2 writing caused the difference between the two groups.

Table 6. Test of between-subjects effects for writing

| Dependent Variables | Sum of Squares | *df* | Mean Square | *F* | *Sig.* | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Adequacy of Vocabulary for Purpose | .18 | 1 | .18 | .57 | .452 | .012 |
| Grammar | 27.38 | 1 | 27.38 | 69.90 | .000 | .593 |
| Punctuation | .50 | 1 | .50 | 1.11 | .296 | .023 |
| Spelling | .02 | 1 | .02 | .04 | .834 | .001 |

The *Sig.* value corresponding to grammar was less than the Bonferroni-adjusted level of significance (.000 < .012), but all other p-values for adequacy of vocabulary for the purpose (.452), punctuation (.296), and spelling (.834) were greater than the significance level. The conclusion thus could be that it was the subcomponent *grammar* that brought about the difference between the writing posttest scores of the EG and CG learners. The researchers collected and analyzed the questionnaire data by running the one-sample t-test. Table 7 shows the frequency of responses for each choice and item in the questionnaire, in addition to the calculated mean scores for the individual questionnaire items.

Table 7. Results of the attitude questionnaire

| | Statements | Strongly disagree | Disagree | No opinion | Agree | Strongly agree | Mean |
|---|---|---|---|---|---|---|---|
| 1 | 1. Edmodo offers opportunities for more effective writing. | 1 | 4 | 13 | 2 | 5 | 3.24 |
| 2 | 2. Edmodo helps in getting immediate feedback. | 1 | 4 | 5 | 14 | 1 | 3.40 |
| 3 | 3. Edmodo removes the limitation of time and place. | 2 | 3 | 8 | 8 | 4 | 3.36 |
| 4 | 4. I think Edmodo improves collaboration. | 3 | 8 | 3 | 6 | 5 | 3.08 |
| 5 | 5. My knowledge of English grammar has improved after the use of Edmodo. | 2 | 3 | 5 | 14 | 1 | 3.36 |
| 6 | 6. I think I am a better writer now that I use Edmodo. | 5 | 4 | 6 | 5 | 5 | 3.04 |
| 7 | 7. I think I can evaluate my progress continuously by using Edmodo. | 1 | 5 | 10 | 7 | 2 | 3.16 |
| 8 | 8. I enjoy taking part in the quizzes available on Edmodo. | 0 | 0 | 0 | 11 | 14 | 4.56 |
| 9 | 9. I can have a prompt access to educational materials by the use of Edmodo. | 1 | 3 | 4 | 13 | 4 | 3.64 |
| 10 | 10. Overall, I am satisfied with application of Edmodo. | 1 | 5 | 2 | 14 | 3 | 3.52 |

As could be seen in the table above, for all the questionnaire items, the corresponding mean scores were larger than the average value of the choices (that is, 3.00). This means that the EG learners all agreed with the 10 statements in the questionnaire. In other words, they had positive attitudes towards those 10 items. The total mean score obtained from the questionnaire items, as is shown in Table 8, is 3.43. To see if this degree of having positive attitudes is statistically larger/significant or not, the p-value in the one-sample t-test table should be examined.

Table 8. One-Sample T-Test results for the learners' attitudes

| | | | | | 95% Confidence Interval of the Difference | |
|---|---|---|---|---|---|---|
| *t* | *df* | *Sig.* (2-tailed) | Overall Questionnaire Mean | Mean Difference | Lower | Upper |
| 3.15 | 9 | .012 | 3.43 | .43 | .12 | .74 |

Since the p-value in this table is lower than the significance level (.012 < .05), it can be concluded that the EG learners held significantly positive attitudes towards the use of Edmodo Application for the purpose of writing.

## 5. Discussion

The current trend of teaching writing has highlighted the importance of student-centered models where collaborative writing is necessary. L2 learners, who are encouraged to write collaboratively, can experience a dynamic process in which a full engagement is required to share ideas and enhance the ability to produce an accurate text. However, collaborative writing possesses some shortcomings, particularly concerning students' participation, low motivation, and interest. To overcome these challenges, collaboration must be aligned with information and communication technology and E-learning application platforms, which have a positive influence on students' self-regulation. Throughout this study, the researchers investigated the effectiveness of Edmodo as a web-based learning platform in an EFL writing course.

To answer the first research question, which aimed at investigating the impacts of Edmodo on the learners' writing accuracy, the data obtained from the pretest and posttest of CG and EG were compared. The results indicated that all the EG participants outperformed their peers regarding writing accuracy. Further analysis revealed that among four subcomponents of writing accuracy, the subcomponent grammar witnessed a significant improvement (p<.05). The results of this research are in line with the findings of various researchers (e.g., Anwar, 2021; Miftah & Raya, 2018) who proved the effectiveness of Edmodo in EFL writing class.

The findings of the current study are consistent with those of Wiggleworth and Storch (2009). They compared collaborative and individual approaches to writing in terms of accuracy, complexity, and fluency. According to their research, although collaboration did not result in producing fluent or complex sentences, it assisted writers to make grammatically accurate sentences. In the same vein, Jafari and Nejad Ansari (2013) found that collaboration can lead to writing accuracy.

The results also indicate that Edmodo can be perceived as a pedagogical and communicative tool. Providing feedback through traditional approaches of L2 writing instruction takes a long time and students may even forget the subject, yet online feedback through Edmodo allowed learners to change their drafts while the subject and the accuracy of their composition were still in focus (Carolan & Kyppo, 2015). These findings further support the belief that Edmodo provides evaluation and feedback opportunities for teachers in assessing student writing which could result in an accurate piece of writing (Shams-Abadi, Ahmadi, & Mehrdad, 2015; Wallace, 2014).

To address the second research question, which aimed at exploring the EG participants' attitudes towards the use of Edmodo, a 10-item Likert-scale questionnaire was administered. The p-value in the one-sample t-test indicated that the learners had significantly positive attitudes towards the Edmodo application (p<.05). This result has aligned with the finding of other researchers (e.g., Ali, 2015; Trust, 2017; Wang, 2009) who claimed that full engagement of learners could increase motivation and students' positive feedback. However, this research does not support the findings of some previous research (Bremner, 2010; Prinsen et al., 2009; Shehadeh, 2011) that showed students' feedback was not positive about collaborative writing. In their studies, the participants commented that it was challenging to construct a text collaboratively.

## 6. Conclusion

The findings of the current study revealed that the learners who had the opportunity to revise their writing assignments collaboratively by the use of Edmodo produced more error-free sentences. A significant improvement in grammar implies how Edmodo facilitates writing learning in various ways. First, Edmodo has the potential to provide teachers and peers' feedback conveniently. Teachers can easily provide feedback in terms of grammar, vocabulary, punctuation, and spelling along with supporting material that might direct students' attention to their errors. This application facilitates collaboration by providing a discussion forum through which students and teachers can ask questions, provide responses, and give suggestions and comments.

Furthermore, EFL learners could develop an interest in writing after using Edmodo. According to the attitude questionnaire, engaging in a collaborative atmosphere, receiving continuous feedback, taking part in quizzes, and having convenient access to writing materials are some benefits of the use of Edmodo, which could significantly enhance learners' motivation and attitudes. Thus, Edmodo is very likely to be welcomed as supplementary to the curriculum, especially during the outbreak when learners might find it difficult to have a face-to-face interaction with their teachers and peers.

In the light of the findings of the present study, there are some pedagogical implications for curriculum developers and teachers. First, it is suggested that educational policymakers and curriculum developers consider employing this social network as an indispensable part of writing courses. Edmodo is a convenient application for any school or language institution that wishes to make the use of technology to increase innovation and effectiveness. Second, teachers can address the challenges that students have regarding the use of vocabulary or grammar on this social platform collaboratively. Other students can also comment on incorrect use of grammar, and teachers monitor peer correction.

Finally, the generalizability of these results is subject to certain limitations.  Having a small size of participants is one of them, which requires further research for any generalizations. Furthermore, the subjects in this research study were male and female. It is recommended to examine the project with gender differences to obtain a better result in this case. Another point might be that for implementing the Edmodo application in the educational environment, in terms of technology, students are supposed to be equipped with new mobile phones in order to download the application and accompany the class.

## References

Ali, Z. (2015). A case study of tertiary students' experiences using Edmodo in language learning. *The International Journal of Language Education and Applied Linguistics, 2,* 39-48. https://www.researchgate.net/publication/290883766_A_Case_Study_of_Tertiary_Students_Experiences_Using_Edmodo_in_Language_Learning

Aljafen, B. S. (2013). *Writing anxiety among EFL Saudi students in science colleges and departments at a Saudi university.* Unpublished MA thesis. University of Pennsylvania.

Almoeather, R. (2020). Effectiveness of blackboard and Edmodo in self-regulated learning and educational satisfaction. *Turkish Online Journal of Distance Education, 21*(2), 126-140. doi:10.17718/tojde.728140

Alsamar, A. N. (2019). Fostering EFL students' paragraph writing using Edmodo. *English Language Teaching, 12*(10), 44-54. https://doi.org/10.5539/elt.v12n10p44

Anwar, K. (2021). Collaborative Edmodo in writing: A conceivable course of fusion. *Cypriot Journal of Educational Sciences, 16*(3), 1073-1087. doi:10.18844/cjes.v16i3.5823

Asmara, H. C., & Tasri, F. M. (2020). Improving students' writing skill with collaborative writing learning strategy through Edmodo. *Teaching of English Language and Literature, 8*(2), 36-47.

Bikowski, D., & Vithanage, R. (2016). Effects of web-based collaborative writing on individual L2 writing development. *Language Leaning & Technology, 20*(1), 79-99. https://www.researchgate.net/publication/292980130_Effects_of_web-based_Collaborative_writing_on_individual_L2_writing_development

Bradley, L., Lindstrom, B., & Rystedt, H. (2020). Rationalities of collaboration for language learning in a wiki. *ReCall, 22*(2), 247-265. https://doi.org/10.1017/s0958344010000108

Bremner, S. (2010). Collaborative writing: Bridging the gap between the textbook and the workplace. *English for Specific Purposes, 29*(2), 121-132. https://doi.org/10.1016/j.esp.2009.11.001

Carolan, F., & Kyppo, A. (2015). Teaching process writing in an online environment. In J. Jalkanen, E. Jokinen, & P. Taalas (Eds.), *voices of pedagogical development- Expanding, enhancing and exploring higher education language learning* (pp. 13-30). Dublin: Research Publishing Net.

Chen, W., & Yu, S. (2019). A longitudinal case study of changes in students' attitudes, participation, and learning in collaborative writing. *System, 82*, 83-96. https://doi.org/10.1016/j.system.2019.03.005

Deveci, T. (2018). Students' perceptions on collaborative writing in a project-based course. *Universal Journal of Educational Research, 6*(4), 721-732. https://files.eric.ed.gov/fulltext/EJ1175391.pdf

Dobao, A. F. (2012). Collaborative writing tasks in the L2 classroom: Comparing group, pair, and individual. *Journal of Second Language Writing, 21*(1), 40-58. https://doi.org/10.1016/j.jslw.2011.12.002

Dobao, A. F., & Blum, A. (2013). CW in pairs and small groups: Learners' attitudes and perceptions. *System, 41*(2), 365-378. doi:10.1016/j.system.2013.02.002

Donato, R. (1994). Collective scaffolding in second language learning. In J. P. Lantolf & G. Appel (Eds.), *Vygotskyan approaches to second language research* (pp.33-56). Norwood, NJ: Ablex.

Ferris, D. (2009). *Teaching collage writing to diverse student populations*. Michigan University Press.

Gillian, W., & Neomy, S. (2012). What role for collaboration in writing and writing feedback? *Journal of Second Language Writing, 12*(4), 364-374. https://doi.org/10.1016/j.jslw.2012.09.005

Heidar, D. M. (2016). Struggling middle school learners instructional support: What about social interaction and cooperative learning? *Global Education Journal, 1*(1), 39-45.

Holley, D., & Oliver, M. (2010). Students' engagement and blended learning: portraits of risk. *Computer & Education, 54*(3), 693-700. https://fardapaper.ir/mohavaha/uploads/2017/11/Student-engagement-and-blended-learning-Portraits-of-risk-2.pdf

Jafari, N., & Nejad Ansari, D. (2012). The effect of collaboration on Iranian EFL learners' accuracy. *International Education Studies, 5*(2), 125-131. doi:10.5539/ies.v5n2p125

Jelodar, Z., & Farvardin, M. T. (2019). Effects of collaborative task on EFL learners; writing production. *International Journal of Instruction, 12*(1), 389-406. doi:10.29333/iji.2019.12126a

Kang, S., & Lee, J. H. (2019). Are two heads always better than one? The effects if collaborative planning on L2 writing in relation to task complexity. *Journal of Second Language Writing, 45,* 61-72. https://doi.org/10.1016/j.jslw.2019.08.001

Ketabi, S., & Torabi, R. (2015). Teaching academic writing in Iranian EFL classrooms: teacher-initiated comments or peer-provided feedback? *Iranian Journal of Research in English Language Teaching, 1*(2), 58-65.

Kim, D., & Li, M. (2016). One wiki, two groups: Dynamic interactions across ESL collaborative writing tasks. *Journal of Second Language Writing, 31*, 25-42. https://doi.org/10.1016/j.jslw.2016.01.002

Li, K. M. (2015). Learning styles and perceptions of student teachers of computer-supported collaborative learning strategy using wikis. *Australasian Journal of Educational Technology, 31*(1), 32-50. doi:10.14742/ajet.521

Li, M. (2018). Computer-mediated collaborative writing in L2 contexts: An analysis of empirical research. *Computer Assisted Language Learning, 31*(8), 882-904. https://doi.org/10.1080/09588221.2018.1465981

Li, M., & Storch, N. (2017). Second language writing in the age of CMS: Affordances, multimodality, and collaboration. *Journal of Second Language Writing, 36*, 1-5. https://doi.org/10.1016/j.jslw.2017.05.012

Miftah, M. Z., & Raya, I. P. (2018). Utilization of Edmodo as an online tool in EFL writing class to increase students' writing ability. *Register Journal, 11*(1), 37-58. doi:10.18326/rgt.v11i1.37-58

Prinsen, F. R., Volman, M. L. L., Terwel, J., & Van den Eeden, P. (2009). Effects of participation of an experimental CSCL-program to support elaboration: Do all students benefit? *Computers & Education, 52*(1), 113-125. https://doi.org/10.1016/j.compedu.2008.07.001

Rad, H. S. (2021). Exploring use of mobile-mediated hybrid dynamic assessment in improving EFL learners; descriptive skills. *Call-Ej, 22*(1), 111-127. https://www.researchgate.net/publication/348814813_Exploring_Use_of_Mobile-mediated_Hybrid_Dynamic_Assessment_in_Improving_EFL_Learners%27_Descriptive_Writing_Skills

Sandu, R. (2015). Expectation and reality: Inside an Edmodo EFL classroom. *Proceedings of INTED2015 Conference, 2nd-4th March 2015, Madrid, Spain, 0219-0225.*

Shams-Abadi, B. B., Ahmadi, S. D., & Mehrdad, A. G. (2015). The effect of Edmodo on EFL learners' writing performance. *International Journal of Educational Investigations, 2*(2), 88-97. http://www.ijeionline.com/attachments/article/36/IJEIonline_Vol.2_No.2_2015-2-08.pdf

Shehadeh, A. (2012). Effects and student perception of collaborative writing in L2. *Journal of Second Language Writing, 20*(4), 286-305. https://doi.org/10.1016/j.jslw.2011.05.010

Skehan, P. (1996). A framework for the implementation of task-based instruction. *Applied Linguistics, 17*(1), 38-62. https://doi.org/10.1093/applin/17.1.38

Storch, N. (2005). CW: Product, process, and students' reflections. *Journal of Second Language Writing, 14*(3), 153-173. doi:10.1016/j.jslw.2005.05.002

Storch, N. (2013). *Collaborative writing in L2 classrooms.* Bristol, UK: Multilingual Matters.

Talib, T., & Cheung, Y. L. (2017). Collaborative writing in classroom instruction: A synthesis of recent research. *The English Teacher, 46*(2), 43-57. https://www.researchgate.net/publication/319930154_Collaborative_Writing_in_Classroom_Instruction_A_Synthesis_of_Recent_Research

Trust, T. (2017). Motivation, empowerment, and innovation: Teachers' beliefs about how participating in the Edmodo math subject community shapes teaching and learning. *Journal of Research on Technology in Education, 49*(2), 16-30. https://doi.org/10.1080/15391523.2017.1291317

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wallace, A. (2014). Social learning platforms and the flipped classroom. *International Journal of Information and Education Technology, 4*(4), 293-296. http://www.ijiet.org/papers/416-T0001.pdf

Wang, Q. (2009). Design and evaluation of a collaborative learning environment. *Computers & Education, 53*(4), 1138-1146. https://doi.org/10.1016/j.compedu.2009.05.023

Weir, C. (1990). Communicative language teaching with special reference to English as a foreign language. *Exeter Linguistic Studies, 11*, 1-241.

Wiggleworth, G., & Storch, N. (2009). Pair versus individual writing: Effects on fluency, complexity and accuracy. *Language Testing, 26*(3), 445-466. https://doi.org/10.1177/0265532209104670

Wolfe-Quintero, K., Inagaki, S., & Kim, H. Y. (1998). *Second language development in writing: Measure of fluency, accuracy, and complexity*. National Foreign Language Center.

Yusuf, Q., Yusuf, Y. Q., Erdiana, N., & Pratama, A. R. (2018). Engaging with Edmodo to teach English writing of narrative texts to EFL students. *Problems of Education in the 21st Century, 76*(3), 333-356. https://www.researchgate.net/publication/325975805_ENGAGING_WITH_EDMODO_TO_TEACH_ENGLISH_WRITING_OF_NARRATIVE_TEXTS_TO_EFL_STUDENTS

Zhang, Y., Yu, S., & Lee, I. (2021). Implementing collaborative writing in Chinese EFL classrooms: Voices from tertiary teachers. *Frontier in Psychology, 12*, 1-9. https://doi.org/10.3389/fpsyg.2021.631561

**Appendix A**

**Weir's (1990) Scoring scale**

 A.  *Relevance and adequacy of content*

  1.   The answer bears almost no relation to the task set. Totally inadequate answer.

  2.   Answer of limit relevance to the task set, possibly major gaps in treatment of topic and/or pointless repetition.

  3.   For the most part answers the task set, though there may be some gaps or redundant information.

  4.   Relevant and adequate answer to the task set.

 B.  *Compositional organization*

  1.   No apparent organization of content.

  2.   Very little organization of content. Underlying structure not sufficiently controlled.

  3.   Some organizational skills in evidence, but not adequately controlled.

  4.   Overall shape and internal pattern clear. Organizational skills adequately controlled.

 C.  *Cohesion*

  1.   Cohesion almost totally absent. Writing so fragmentary that comprehension of the intended communication is virtually impossible.

  2.   Unsatisfactory cohesion may cause difficulty in comprehension of most of the intended communication.

  3.   For the most part satisfactory cohesion although occasional deficiencies may mean that certain parts of the communication are not always effective.

  4.   Satisfactory use of cohesion resulting in effective communication.

 D.  *Adequacy of vocabulary for purpose*

  1.   Vocabulary inadequate even for the most basic parts of the intended communication.

  2.   Frequent inadequacies in vocabulary for the task. Perhaps frequent lexical inappropriacies and/ or repetition.

  3.   Some inadequacies in vocabulary for the task. Perhaps some lexical inappropriacies and/or circumlocution.

  4.   Almost no inadequacies in vocabulary for the task. Only rare inappropriacies and/or circumlocution.

 E.  *Grammar*

  1.   Almost all grammatical patterns inaccurate.

  2.   Frequent grammatical inaccuracies.

  3.   Some grammatical inaccuracies.

  4.   Almost no grammatical inaccuracies.

 F.  *Mechanical accuracy I (punctuation)*

  1.   Ignorance of conventions of punctuation.

  2.   Low standard of accuracy in punctuation.

3.  Some inaccuracies in punctuation.

4.  Almost no inaccuracies in punctuation.

### G.  *Mechanical accuracy II (spelling)*

1.  Almost all spelling inaccurate.

2.  Low standard of accuracy on spelling.

3.  Some inaccuracies in spelling.

4.  Almost no inaccuracies in spelling.