

Collaborative Edmodo in writing: A conceivable course of fusion

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Abstract

A problem that still persists in Collaborative Writing is the lack of use of relevant technology to counter lessened interaction and learning participations in developing writing skills effectively. To offset these difficulties, this study examines the use of Edmodo on students' collaborative writing. This study used a quasi-experimental study of 56 students, grade 10, Gresik, Indonesia, with two assigned classes of experimental and the control group, each containing of 28 students. The results of this study reveal that there is a significant influence of Edmodo on Collaborative writing, evidenced by the results of sig. (2-tailed) is 0,000 (lower than 0.05). Edmodo has proven to be a dependable means when merged with a Collaborative Writing strategy, and has also been attested to reassure student participation and interaction. Suggestions and further research basis are also presented, especially to innovative scholars as treasured opportunities for accompanying enquiry to pay more courtesy to the progress of Collaborative Writing which is increasingly unlocked to always re-join hearty users' wants.

Key Words : Collaborative, Writing, Edmodo, Technology, Course of Fusion

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1. Introduction

The current trend of teaching writing has led to student-centered learning models where collaborative writing is a realistic option (Arifani & Suryanti, 2019; Anwar & Wardhono, 2019). Several previous studies have shown the use of collaborative writing in an optimistic and respectable way, especially in increasing the ability of grammar, discourse, lexis, and also increasing knowledge of English (Arifani, Asari, Anwar, & Budianto, 2020; DiCamilla & Anton, 1997; Biria & Jafari, 2013), even encouraging results also occur on the use of vocabulary in sentence structure (Juang, 2014). In fact, collaborative writing is allegedly still presenting many shortcomings, especially with respect to student participation and interaction during learning to write where students still have a passive tendency to discuss and rely on the role of their group members only (Deveci, 2018; Kalpari, 2017). Deficiency also occurs in low motivation, interest and activeness of students in discussions that shape the success of collaborative writing (Talib & Cheung, 2017).

The presence of some restrictions of collaborative writing present opportunities to expand the quality of this teaching method by counting alternative relevant teaching media and supporting collaborative writing itself. Collaborative Writing, according to its rules, requires a dynamic process that ultimately produces a work product through active student engagement in generating shared ideas (Deveci, 2018). As the process must be self-motivated and active, the use of media is indispensable in this case of encouraging a higher quality of Collaborative Writing. Media is a teaching aid that facilitates and stimulates ideas and activeness to administer learning effectively and pleasantly (Blasszauer, 2001).

Visual media is widespread and considered the best choice in learning writing (Falupi, Arifin, & Novita, 2013; Arifani, 2020), which is grouped into two types: static visual media (i.e., images) and dynamic visual media (i.e., videos). Dynamic visual media is likely more engaging than static visual media in promoting writing skills. Even the use of dynamic visual media through YouTube videos helps students find information they need to support successful writing, arouses curiosity, and encourages students actively involve themselves in learning (Pramanca & Turmudi, 2013).

Collaborative Writing with vigorous visual media which is offline, is certainly not sufficient to answer the needs of students in contemporary learning, which is so remarkable to adjusting the use of E-learning. In addition to the limited studies, about the incorporation of dynamic visual media online in Collaborative Writing that prioritizes the application of audio and video, Edmodo-based E-learning needs to be investigated to ensure that each student can actively participate in the learning process. (Gay & Sofyan, 2017). In brief, Edmodo has a variety of effectiveness in teaching and learning process, especially writing (Noviana, Rufinus, & Bunau, 2015). Edmodo is an E-learning website that offers online classrooms in applications with interesting uses and features and is certainly very trouble-free to access. In addition, Edmodo makes it easy for students and teachers to reach out to each other, and effortlessly facilitate students in discussing online, viewing videos, presentations or downloading material or assignments in them.

So far, most research on Collaborative Writing is still limited in focus on its impact on students, rather than focusing on how Collaborative Writing is carried out with the support of E-learning platforms. In particular, research related to the use of Edmodo in writing has not been associated with collaborative learning strategies and has never explored in the utilization of Edmodo in conjunction with auxiliary dynamic videos. So, this research seeks to ascertain the use of dynamic visual media with Edmodo in Collaborative Writing. This research aims to discover whether these choices are fitting for writing instruction and also to determine how we can use dynamic media appropriately in Collaborative Writing.

2. Literature Review

2.1 Collaborative Writing

Writing as a productive skill has become an important concern for many teachers because it is considered the most difficult subject that requires greater efforts to teach (Biria & Jafari, 2013). By shifting the learning paradigm from teacher-centered to student-centered, the focus of learning writing is on the use of meaningful and contextual communication. Opportunities to improve competency can be accomplished by implementing Collaborative Writing that incorporates interaction between students. Some of the benefits gained by students are social benefits (students understand each other and have social support, a positive atmosphere, and a learning community), psychological benefits (including increases in self-confidence and positive attitudes and a reduction in anxiety), academic benefits (improvements in achievements, critical thinking skills problem solving skills), and opportunities for various assessments to emerge (Laal & Ghodsi, 2012).

Collaborative Writing is a strategy that has succeeded so well that until now it is one of the popular choices in teaching writing. A distinctive feature in Collaborative Writing is the process of teamwork between students by encouraging each other in discussing topics of writing, which then develops these ideas in words, phrases, sentences, and paragraphs (Alwasilah, 2005). Collaboration in writing provides students with a broad experience and gives them opportunities to learn to appreciate, to socialize, and to solve problems with fellow classmates studying with groups (Hanifah, 2018). This collaboration makes students comfortable in learning, more fun, can learn from each other in presenting the idea of writing, more freely and more flexibly to advance their abilities through discussion (Lin & Maarof, 2013). In short, Collaborative writing exposes the way for meaning-based learning processes (meaning focused learning) (Jelodar & Farvardin, 2019). There are two main characteristics in collaboration, namely sharing ideas about the theme agreed upon, and the freedom to address opinions regarding the theme based on logical thinking (Blasszauer, 2001). Previous research has shown that there is a good influence on the use of Collaborative Writing to progress writing skills, especially on each aspect of writing skill (Lin & Maarof, 2013). The study on the outcomes of Collaborative Writing is also carried out to notice writing knowledge itself, especially by operating experimental research (Khatib & Meihami, 2015). Collaborative writing has also been confirmed to be more beneficial than individual task writing and promotes more optimistic behavior in collaborating with partners or small groups (Dobao & 2013, 2013). However, there are also perceptions and attitudes of students that are not ideal towards Collaborative Writing, which also lessen some effects on the achievement of writing (Du, 2018).

Furthermore, collaboration is convincingly recommended by adjusting information and communications technology (ICT), which has a positive influence on students' self-esteem and accommodates their learning styles wherein students are stimulated to always engage in authentic communication (Blasszauer, 2001). Technology and writing have merged to offer opportunities for optimal interaction in cognitive development of students, such as internet-based learning media, wikis, blogs, etc., as well as the prevailing E-learning application platforms (Talib & Cheung, 2017). Even studies on the use of Collaborative Writing and individual writing using wikis and chats have also been performed extensively, which results in opportunities for differences (Elola, 2010). The above portrayal shows the opportunities for further research on the use of other broader E-learning platforms to detect the impacts of their use.

2.2 Edmodo in Collaborative Writing

The application of CALL and E-learning has turned out to be fruitful as it has demonstrated significant motivation in learning English (Wiazowski, 2001). Initially, the use of word processing and language software offered many conveniences to practice writing skills, namely by practicing manipulating text, correcting spelling, choosing language errors, and also other additional features that are very helpful. The use of technology that sustains learning in writing makes learners more autonomous and polishes a better spontaneous mindset (Shim, 2013). Moreover, the selection of appropriate technology in writing not only improves the quality of writing itself but also simplifies the provision of fast and targeted feedback. More specifically E-learning platforms encourage students to be more driven and awakens their sense of autonomy especially in self-discipline and organizational abilities (Olejarczuk, 2014).

Edmodo is a web-based learning platform that enables the process of self-regulated learning. This platform opens extensive prospects for intensive interaction and communication between students and teachers, collaborating with the goal of many things both access to discussions, grades, homework, and notifications (Gay & Sofyan, 2017). Edmodo is designed to accelerate the interaction of students, teachers and parents. Based on previous testimonials, Edmodo is verified to have an effective impression (Shams-Abadi, Ahmadi, & Mehrdad, 2015). The success of Edmodo lies in the ease and simplicity of the its use so that it is easily navigated by students (Punawarman, Susilawati, & Sundayana, 2015).

A number of studies have also demonstrated that using Edmodo has supplemented students' writing abilities (Shams-Abadi, Ahmadi, & Mehrdad, 2015). The simplicity and ease of use of the Edmodo application have conceived interactions that reassure students to share experiences, solutions to each writing difficulty, and making it easy to fashion interactive and fun learning environments for students. The use of Edmodo has a positive effect on self-regulated learning where students can easily fulfill learning objectives and tasks in self-regulated learning strategies (Almoether, 2020). Because instructors are not the only source of information, communication between peers and instructors is not limited by place and time, thereby increasing their learning performance. Edmodo is also perceived as positive, able to improve English language skills, increase motivation, and learning autonomy (Wahyuni et al., 2020). By using a survey of 34 high school students, the study suggests that students can manage their learning process independently, especially in selecting the appropriate learning content, appropriate learning activities, and the desired learning assessment. Thus the duration of learning is not only limited by the hours of study but rather the quality of learning. Edmodo also has a positive effect on academic writing involving 108 students in a mixed method where it provides opportunities for process based-writing activity (Altunkaya & Ayranci, 2020). So that writing cannot only be done in the classroom, but also outside the classroom through Edmodo. This Edmodo results in a fast communication process, good interaction, and easy access to information and learning feedback. In a qualitative study (Sumardi & Muamaroh, 2020), Edmodo was able to accommodate student interaction and involvement in learning, bared in 286 junior high school students where the interaction between instructors, peers, and learning materials can be done both in class and outside the classroom (Sumardi & Muamaroh, 2020). Even Edmodo has also provided accurate assessment in learning because students cannot cheat so that its validity and reliability are guaranteed. The use of Edmodo (in Hybrid Dynamic Assessment) has had a good impact on the descriptive writing skills of EFL Iranian learners (Rad, 2021). By optimizing a mixed method, this study revealed that not only the students' descriptive abilities improved, but also the learning interactions had shifted from teacher centered to student centered, and it could even save significant learning time (Rad, 2021). Furthermore, the findings of this study also

show that students have a better chance of controlling the learning process, indicated by more implicit and less feedback. Even in another study on the influence of Edmodo on writing skills in Iranian learners (on 63 students using mixed methods), it shows that Edmodo provides opportunities for increased writing skills, motivation (through online feedback), collaboration (through creativity, social interaction, and critical thinking), and student involvement (through positive perceptions) (Safdari, 2021).

In order to completely comprehend Collaborative Writing, a description of its stages and demonstration is needed. In simple stages, the collaborative process includes pre-writing procedure, scheduling and logistics, research/data gathering, outlining/writing, reviewing, checking, and proofreading (Cross, 1994). The procedure for implementing Collaborative Writing consists of seven steps in general (Ghufron & Hawa, 2015) namely brainstorming or preliminary study through exchanging ideas in pairs, organizing ideas and developing outlines in groups, distributing outlines to students so that each one makes individual drafts, each student corrects drafts and discusses shortcomings that must be corrected which includes writing styles and their contents. Uniting the individual's work then becomes one of the outputs of group work in one document, as the group corrects and re-edits the document in terms of language, content, punctuation, grammar, and spelling. The last step is for the teacher to collect the students' writings to for corrections.

Because Edmodo is the permitted media devoted in this study, with inadequate researches of Edmodo and collaborative writing, it is necessary to adjust the procedures with the following steps: (1) students view videos with topics that have been provided in Edmodo accounts in pairs, (2) they hold discussions online to develop outlines through video sources that have been viewed, (3) they share the results of the outline through the Posting feature, (4) they provide input on the outline created by their partner through Edmodo comments column, (5) they bring together the joint task in one document, (6) they correct the entire document, including grammar, punctuation, etc. through Edmodo comment column to the editing and revision before being collected in Edmodo, and (7) the last step, the teacher collects the product of the students' writing on the Online Word Edmodo feature to give corrections.

3. Research Method

3.1. Design

This research is quantitative using quasi experimental design to offer answers related to cause and effect relationships (Abbot & Mckinney, 2012), and the adoption of quasi experimental model is pondered as a factual scheme that is feasibly to accustom to school schedules and rules (Cohen, Manion, & Morrison, 2007).

3.2 Subject of Participant

The subjects of this study are 10th grade students, Gresik, Indonesia, where there were two classes (of experimental and control group) with a total of 56 subjects, each of which consists of 28 students. All of the study samples are high school students with an urban background of *Bahasa Indonesia* as the language of instruction, and Javanese as their first language.

3.3 Data Collection

The experimental group consisted of 18 girls and 10 boys, while the control group consisted of 20 girls and 8 boys. The research design can be displayed in table 1 below:

Table 1, Experimental Design

Group	Pre-test	Treatment	Post-test
Experimental	√	√	√
Control	√	-	√

Criteria:

a√ : With the treatment of Collaborative Online Edmodo

- : Collaborative Offline Pictures

Based on the table above, the two groups were given the same pre-test at the beginning of the study. In the pre-test, students were asked to write descriptive texts about Tourism Place or Historical Place based on the writing criteria presented by the researchers, and evidently this question has been composed based on standard competency in K13 syllabus grade 10, which is used by schools. Furthermore, the treatment entailed 8 in each group, the experimental group was given treatment with the collaborative online Edmodo manipulation, while the control group was given Collaborative Offline Pictures. A summary of the manipulation procedures is presented in table 2 as follows:

Table 2. Summary Procedure of Collaborative Online Edmodo and Collaborative Offline Pictures

Stage	Collaborative Online Edmodo	Collaborative Offline Pictures
Stage 1 : Introduction & Direction	<ul style="list-style-type: none"> Students are divided into pairs Briefing about Edmodo Collaborative Online. 	<ul style="list-style-type: none"> Students are divided into pairs Briefing about Collaborative Offline Pictures.
Stage 2 : Collaborative Execution	<ul style="list-style-type: none"> Students follow the writing learning process given on Edmodo. Students are requested to view videos related to the topics they will write about their Edmodo account. Students discuss and make an outline based on the findings found in the video in their Edmodo group account. Students split outlines and make individual drafts in their Edmodo group account, Example: <i>Student A makes the first draft, student B makes the second draft</i> After finalizing the draft, students corrected and commented on each other related to the draft that their partner had composed through the comments column on Edmodo. Students begin to unite their assignments into one document and students can revise the overall results of their writing according to content, clarity, grammar, spelling and punctuation. 	<ul style="list-style-type: none"> Researchers give worksheets to students. Students are given a picture of the topic that they will later write on the worksheet that has been given. Students begin to work on assignments on student worksheets. Students discuss and make an outline on the worksheet based on the observations they make through pictures. Students divide outlines and immediately make individual drafts on the worksheets that have been provided Example : <i>Student A makes the first draft, student B makes the second draft</i> Students exchange drafts and correct and comment on each other's drafts that have been made by their partners. Students are asked to combine their assignments into one worksheet and begin to revise the results of their writing as a whole which includes; content, clarity, grammar, spelling and punctuation. <i>At this stage students discuss and</i>

Students discuss again and give each other comments in the comments column and after that students are enquired to revise or edit their writing results in their Edmodo group account.

comment on one another and after that students can revise or edit their work on student worksheets that have been given by researchers.

Stage 4:
End Task

- After the editing process, one student in each group uploads their writing assignments on Edmodo Online Word Feature. Teacher corrects the results.

After editing, students in each group collect the results of their writing worksheets to the researcher.

3.4 Data Analysis

After assigning the treatment, both groups are given post-tests to find out whether the manipulation is effective or not, in which the researchers focus on evaluating the results of the pre-test and post-test. Regarding the validity of the instrument, researchers used the tenet of content validity because the test is subjective, namely by ensuring the tested competencies are in accordance with K13 high school of English curriculum. While the reliability analysis is based on the inter-rater model between three assessors (i.e., two teachers and one researcher), using five assessment components, namely organization, content, vocabulary, mechanics, and language use (Jacobs, Zinkgraf, Wormuth, Hartfiel, & Hughey, 1981). The last step is data analysis which is checking the normality and homogeneity of the data, the average acquisition in each group, and the T test, to find differences between the two groups using the SPSS 16.0 program.

4. Results and Discussions

4.1 Results

This section sequentially explains the results of the normality and homogeneity tests, the average score results of the experimental and control groups, and the results of different tests using the T-test of significance.

Analysis of the normality test using the Kolmogrov Smirnov formula is presented in Table 3 below.

Table 3, Normality Test Results

GROUP	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
SCORE Experimental Group	.130	28	.200*	.960	28	.342
Control Group	.147	28	.123	.970	28	.581

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Based on the table above, the results of the normality test signify probability level, namely that the experimental group is sig 0,200 and the control group is 0,123, where both results are greater than the significance level of $0.200 > 0.05$ & $0.123 > 0.05$. It can be determined that the data is normally distributed and can be continued with the calculation of parametric statistical analysis.

The homogeneity test is used to find out whether the two groups have the same level of variability score. Homogeneity tests are unveiled using Lavene’s Test. The results are shown in tables 4 and 5 as follows:

:

Table 4, Average score of Pre test

SCORE	GROUP	N	Mean	Std. Deviation	Std.	Error
					Mean	
	Experimental Group	28	61.36	3.176	.600	
	Control Group	28	61.96	3.133	.592	

Table 4 shows that the average score of the experimental group is 61.36 while the control group is 61.92 (62), which shows that both groups have satisfactory qualities. The Lavene’s Test of Equality of Variance results from table 5 also show that the probability result is 0.697 which means there is no significant difference between the control group and the experimental group because (sig) is greater than the significance level of 0.05 (0.681 > 0.05). Accordingly, from these results it can be determined that the data between the two groups are homogeneous or identical and be eligible for continued manipulation.

Table 5, Homogeneity Test Results

VAR00001		Levene			
		Statistic	df1	df2	Sig.
	Based on Mean	,153	1	54	,697
	Based on Median	,137	1	54	,712
	Based on Median and with adjusted df	,137	1	53,632	,712
	Based on trimmed mean	,146	1	54	,704

Furthermore, at the implementation stage for the two groups, the learning design in this study is adjusted to the 2013 Curriculum Standards and absolutely at each stage also brings together collaborative strategies with Edmodo in the experimental group, and offline Collaborative Writing using pictures in the control group.

The results of the comparative analysis of the two groups, after manipulation, are shown in the following table: table 6 shows the difference in average scores; table 7 shows the increasing scores in the experimental group; table 8 shows the average increase in scores in the control group; table 9 shows the results of comparison of the two groups using an independent sample t-test; and table 10 shows the comparison of score acquisition for each area.

Table 6, Comparison of average scores

VAR00007	VAR00008	N	Mean	Std.	Std. Error
				Deviation	Mean
	1,00	28	82,3214	3,11571	,58881
	2,00	28	74,0000	3,55903	,67259

Table 6 above shows that the result of the mean for the experimental group is 82.32 while for the control group is 74.00. Thus, it can be determined that the mean results of the experimental group outperform the control group, which indicates that the manipulation given to students has worked.

Data on the rise in mean differences is also checked in the pre-test and post-test comparison of each group as shown in Tables 7 and 8.

Table 7, Comparison of the average pre-test post-test in the experimental group

	VAR00002	N	Mean	Std. Deviation	Std. Error Mean
VAR00001	1,00	28	61,3571	3,17647	,60030
	2,00	28	82,3214	3,11571	,58881

The table above shows that after treatment the average score increased where pre-test 61,357 while post-test reached 82,321, which confirms a rise of 20,964.

Table 8, Comparison of pre-test and post-test average in the control group

	VAR00004	N	Mean	Std. Deviation	Std. Error Mean
VAR00003	1,00	28	61,9643	3,13265	,59202
	2,00	28	74,0000	3,55903	,67259

Table 8 illustrates the increase in the mean of pre-test (61.96) and post-test (74) in the control group, where there is indeed an increase of 13 points. The results in tables 7 and 8 display a stronger difference in enhancement between the two groups where the experimental group is 20,964, while the control group is 13 points. Other supplementary statistics about the differences between the two groups are clarified in table 9 below.

Table 9, T-Test Results for both groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
VA	Equal variances assumed	,078	,781	9,309	54	,000	8,32143	,89391	6,52924	10,11362
RO	Equal variances not assumed			9,309	53,072	,000	8,32143	,89391	6,52852	10,11434

Table 9 above shows that the probability score is lower than the significance level of 0.05 (0,000 <0.05), thus there is a significant difference between the two groups. The data reveals that there is enough evidence to infer that the use of Edmodo in Collaborative writing is significantly different. In addition, to ensure the attainment of the differences in the two groups, the researchers also explore the results of the average pre-test and post-test scores in the experimental class in each aspect of writing which can be shown in Table 8 below.:

Table 10, Comparison of Pre and Post-test of each area

No.	Aspect of Writing		Pre-Test	Level	Post-Test	Level
1.	Content	30 %	17,21	Fair-Poor	22,86	Good-Average
2.	Organization	20 %	13,49	Fair-Poor	18,30	Excellent-Very Good
3.	Vocabulary	20 %	13,23	Fair-Poor	17,80	Excellent-Very Good
4.	Language Use	25 %	13,19	Fair-Poor	18,45	Good-Average
5.	Mechanics	5%	3,71	Good-Average	4,75	Excellent-Very Good

Thus, the results of data analysis in the above table categorically verify the improvement of student writing skill in the experimental group. Where the achievement of Content is from fair-poor (17.21) to good-average (22.6), Organization is from fair-poor (13.49) to excellent-very good (18.30), Vocabulary is from fair-poor (13.23) becomes excellent-very good (17.8), Language Use is fair-poor (13.19) becomes good-average (18.45), and Mechanics is good-average (3.71) becomes excellent-very good (4,75). Therefore, the research evidences that Edmodo-based online Collaborative Writing significantly affects writing skills. The results of this study have been reinforced by the results of comparison of the average trend of improvement in learning outcomes in the pre-test and post-test of experimental groups, comparison of the results of pre-test and post-test in the control group, and the calculation of the comparative results of differences between the two groups using T -test.

All the results of the analysis in the previous section disclose findings to mutually boost the existence of significant improvement in students' writing abilities after manipulating online Edmodo in Collaborative Writing. In other words, the use of online Edmodo as an E-learning platform that supports the Collaborative Writing process outperforms the use of pictures as applied in the offline control group.

5. Discussion

The purpose of this study is to find out whether the use of Edmodo Collaborative Online has a positive effect on student writing outcomes. The results of this study indicate that Collaborative Online Edmodo has an incredibly applicable effect on improving student writing. This conclusion can be supported by the existence of a significant difference in the average score of the experimental group and the control group, where the experimental group attains 82.32 results (greater in value) while the control group attains 75.07. In addition, the results of the independent sample t-test analysis through the SPSS 16.0 program also revealed a sig (2-tailed) result of 0,000, which means that the significance

value is less than 5%. So, it can be determined that there is a significant effect in the use of Collaborative Edmodo on students' writing abilities.

This study supports previous research that the use of Edmodo has a positive effect on writing skills (Altunkaya & Ayranci, 2020; Sumardi & Muamaroh, 2020; Rad, 2021; and Safdari, 2021), increasing student learning autonomy (Wahyuni et al., 2020), and increasing self-regulated learning strategies (Almoeather, 2020). For most students, writing is a very tedious learning activity, due to the high demands of individual roles where students attempt to grasp various aspects of writing such as content, grammar, and vocabulary in a rigid manner (Biria & Jafari, 2013). So, it is predictable that students often encounter problems, especially with inadequate vocabulary, difficulty of composing sentences in accordance with the correct grammar, and difficulty in developing and organizing ideas during writing process (Huy, 2015). As stated, the application of Collaborative Writing in teaching writing is considered to be very valuable because collaborative writing itself is considered useful for solving common problems that are often realized by students who find writing demanding, all at once, affording opportunities for the learning process to prioritize and focus on meaning (Mourssi, 2013; Jelodar & Farvardin, 2019).

Collaborative Writing is one of the writing strategies that obliges cooperation in the process, so that it trains students to do assignments by swapping ideas through discussions with friends to finish writing (Talib & Cheung, 2017). Collaborative Writing has been acknowledged by researchers as a strategy that is considered to be able to ease the difficulties of writing often encountered by students since it may fulfill two basic values in interacting, namely the manifestation of freedom of expression and freedom to address questions, clarification, and argument (Blasszauer, 2001). Based on previous research, Collaborative Writing has a positive impact on improving writing skills (Dobao A. F., 2012; Juang, 2014). However, a number of researchers found that Collaborative Writing still has discrepancies, particularly in the execution of the process in which students actively respect the process (Deveci, 2018). Even students were found to be less interested and less motivated when partaking in this Collaborative Writing. As a result, less active students in discussions had lowered the merit of their writing process and output (Talib & Cheung, 2017). Furthermore, students are also found to be still reluctant to begin discussions, and it is hard to engage themselves to interact collaboratively to yield writing outcomes together (Kalpari, 2017).

In line with the development of digital technology marked by the emergence of various websites and applications, this has provided a great variety for teachers to exploit technology as a medium to reinforce learning strategies, especially Collaborative Writing (Wiazowski, 2001). The results of this study have presented alternative answers to take control of the potential weaknesses of Collaborative Writing itself, especially in an effort to enable students to be engaged in discussion. Edmodo itself is an E-Learning application that connects teachers, students and parents, and Edmodo has created an online classroom that can be accessed very easily (Shams-Abadi, Ahmadi, & Mehrdad, 2015). This research has confirmed that Edmodo strongly supports valuable collaborative learning. This research has also strengthened Edmodo itself, in which based on previous research, Edmodo has been thought to be able to surmount all the problems concerning the Collaborative Writing strategy. The results of this study also show that the use of Edmodo not only advance student writing results but also promotes students' interest and motivation in learning, so that they are very lively in discussing with their friends through Edmodo. Student interest in the learning process has been demonstrated to be vital in motivating students to influence the learning outcomes of writing (Paramitha, 2017). In other words, students who have great motivation while learning to write can eagerly buildup their performance scores (Özen, 2017). Interest in learning writing is the main capital to follow the process of Collaborative Writing in a

pleasurable way to yield quality outcomes. Collaborative Writing using online Edmodo has also confirmed the importance of the role of student-centered learning to produce an independent and autonomous attitude in learning writing.

Based on this research, so as to carry on optimally online Edmodo in Collaborative Writing, teachers ought to take notice of some special things, especially in the use of time, detailed steps during the learning process, and the level of students. As previously defined, Collaborative Writing itself is a writing strategy that comprises many processes that require a significant amount of time. Teacher must really adjust this long period of time carefully, especially in fashioning appropriate and varied steps to produce full student involvement. Likewise, the differences of each individual especially on level of students, students' motives and outlooks are also very influential on the results. The teacher ought to be capable of correctly plot student abilities and organize them aptly in group discussions.

In general, the biggest obstacles to the implementation of Edmodo in learning are the need for high-speed internet access, the need for special assistance for students who have technological backwardness, and the limited number of virtual teachers who really provide maximum guidance, meetings and feedback services (Irawan et al., 2020).

Nevertheless, some negative aspects still occur, for example student anxiety when giving a response because it is definitely known by all, the difficulty of students understanding the complexities of the Edmodo program quickly, a good quality smartphone with fast internet access is needed (this is a problem for some underprivileged students). Furthermore, students with low abilities must have potential inconvenience in a very rigorous process like this. So it requires a smart and comprehensive effort to accommodate the needs of students with low abilities in the next research.

6. Conclusion

This research has shown that Collaborative Edmodo permits helpful results for student writing. This has been demonstrated by an elevation in the average attainment value of the experimental group which is greater than the control group, and correspondingly marked to the results of the comparative analysis of the T-test which displays a significance value below 0.005. The application of Collaborative Edmodo has an encouraging and successful effect on every facet of student writing, including of Content, Organization, Vocabulary, Language Use and Mechanics. Furthermore, Collaborative Edmodo encourages students' interest and motivation throughout the Collaborative Writing process and students are quite enthusiastic in discussions with their classmates. The results of this study have also verified that Edmodo is an online learning media which is in line with the Collaborative Writing process. Edmodo has been confirmed to facilitate effective and active interactions, especially when discussions take place. Thus, Edmodo has avoided the potential shortcomings of Collaborative Writing, namely the lower levels of student interaction and active engagement.

Whilst the fruitful variety and features included in Edmodo (such as video and audio features, quizzes, multiple choice, fill in the blank, matching, True and False), future researchers may examine to find its effectiveness either in other teaching strategies, or in other language skills, including listening, reading, or speaking.

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