

EFFECTS OF EDMODO-ASSISTED PROCESS WRITING WITH THE PROBLEMATIZED SCAFFOLDING ON THE QUALITY OF STUDENTS' WRITING

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ABSTRACT

This research explored the effects of Edmodo-assisted process writing with the problematized scaffolding on the quality of students' writing. Quasi-Experimental research with one-group pre-posttest was utilized as the research design. The subjects of this research were the second-semester students of the English Department at the Islamic University of Darul 'Ulum, Lamongan. There were 13 students in the class, and all of them took part in this research. In every seven meetings, they were receiving writing instruction using traditional and Edmodo-assisted process writing with problematized scaffolding respectively. To collect the data, pre-and-posttest were conducted to both class conditions. An interview was also done in the experimental class to capture the students' perception after the implementation of Edmodo. Dependent and independent t-tests were utilized to analyze the data collected. The interview was analyzed qualitatively to support the findings. Results of the analysis indicate that the use of Edmodo-assisted process writing with problematized scaffolding significantly improves the students' writing skills and that the students' score improvement is significantly higher than in the traditional class. Therefore, the usage of this media is highly recommended.

Keywords: Edmodo, process writing, metacognition, problematized scaffolding, writing skills

INTRODUCTION

Many teachers and students may agree to regard English writing as one of the most challenging skills to be taught and mastered. Based on the researchers' observation, not many schools in Indonesia succeed in producing competent writers (Fatimah & Masduqi, 2017). If any, it will be institutions which teachers are aware of and give special attention to this course output quality, e.g., by providing opportunities for students to do a sequence of writing practices. Usually, teachers may only teach this course by directly instructing the students to produce a single-time piece of writing with very little feedback and progress. They have not enough time to give many exercises since mostly they teach large classes. As a consequence, the students' writing skill is never well-trained.

These issues of time and big class have actually been noted by Ariyanti (2016) as two of the main problems faced by Indonesian EFL writing classrooms. To compose good writing, students need to follow complex steps of writing, but for the limitation of time, the students learning process

may not be optimal. Fatimah and Masduqi (2017) have also observed and found that Indonesian students' writing is mainly assessed in product-based written form with no revision. Thus Indonesian graduates are reported to have low writing ability.

There are two main approaches in the teaching of writing, namely the process approach and the product approach. The former emphasizes the writing process during the writing activities, while the latter focuses more on the writer's written product. Each of them has its own advantage and disadvantage. Yet, in the case of facilitating the students with the experience of developing their writing skill step by step, the process approach is believed to be more suitable. The process approach focuses on how a text is written instead of the final outcome, while product approach is criticized undervalues the skills needed to produce a text, e.g., drafting, revising, editing, etc. Brown (2001) has stated that writing is a thinking process. A writer produces a final product based on their thinking after he/she goes through a thinking process. Thus, in the process writing class, teachers allow students to explore their thoughts and develop their

own writing by following the stages of the writing process. Through these sequences of writing steps, students get adequate writing practices to train their writing skills.

Several pieces of research show the positive role of process writing strategy in the writing course. Listyani (2018) has done research to examine whether the process writing strategy is effective to be used to teach academic writing. She finds that process writing is effective to teach academic writing. Faraj (2015) has conducted research which aims at presenting the effect of teachers' scaffolding and process writing on EFL students' writing ability. The research concludes that process writing and teachers' scaffolding have met the students' need thus significantly improve their writing skills.

Graham and Sandmel (2011) have also conducted a meta-analysis to examine if process writing instruction improves the quality of the students' writing and their motivation to write. They find that process writing instruction resulted in a statistically significant, but relatively modest improvement in overall students' quality of writing. Furthermore, bin Abdul Aziz and Yusoff (2016) have also investigated how authentic assessment in process writing class improves the students' quality of writing. The results show that using authentic assessment to assess writing skills is beneficial and effective to help students to write better.

Then, in providing a platform for process writing, remembering the allocation time to do face to face for English course (moreover writing) in the class is very limited; an online media is seen to be promising. Online media is one product of technology development that allows conventional classroom-restricted learning process shifts into global learning which break through the thickness of classroom walls (Cheng, 2005). The existence of online media may advantage process writing which requires extra time and place to accommodate the sequence of writing exercises, the Edmodo, as one kind of online application, can be applied for this case.

Edmodo is an online application made specifically for teaching and learning purposes. It provides some features which are appropriate for learning processes, such as quiz, grade book/progress, assignment submission platform which contains a due date, library, and others. The utilization of this digital media into the learning process in general and language learning, in particular, have revealed a positive impact. Durak et al. (2017) have noted that students who receive teaching using Edmodo obtain higher academic achievement. Al-Kathiri (2015) and Al-Said (2015) have also found that students show high positive perceptions of Edmodo, and thus improving their positive attitudes towards learning.

In language learning, Al-Harbi and Alshumaimeri (2016) have conducted research which aims to examine students' performances, perceptions, and attitudes towards the implementation of the flipped classroom using Edmodo on students' learning of grammar. Results indicate that adopting the flipped classroom strategy appears to play a role in enhancing the students' grammar performances. Questionnaire and semi-structured interviews also indicate that students' attitudes towards the flipped classroom strategy are positive. Furthermore, Mokhtar (2016) has suggested Edmodo implementation to help EFL students in mastering grammar, vocabulary, and improving self-efficacy in language learning classes.

In writing instruction, some researches also show the positive role of Edmodo. Al-Naibi, Al-Jabri, and Al-Kalbani (2018) have conducted action research to measure

the effectiveness of integrating Edmodo in students' writing performance. Along the writing process in the class, students are given some quizzes, discussions, and activities on Edmodo. Analysis of students' final writing shows a statistically significant improvement in students' writing. The questionnaire results also indicate that students have positive perceptions of the use of Edmodo in language learning.

Besides, Kayacan and Razi (2017) have also done quasi-experimental research to investigate the impact of self and peer feedback on students' writing in a digital environment using Edmodo. Findings reveal that both self and peer feedback contribute positively to the revision of students' papers. The questionnaire also shows students' positive attitude towards digital self and peer feedback. Saine and West (2017) then have added that Edmodo helps students' confidence in improving their online multi-genre articles. Various advantages of Edmodo as mentioned make the researchers aware of investigating the effects of using Edmodo assisted media in the writing course.

Furthermore, to improve the students' writing quality, the researchers also propose the integration of metacognitive instruction, especially metacognitive problematized scaffolding in the current research. Metacognition is usually interpreted as an activity of 'thinking about what is thought'. It is a regulatory system that helps a person understand and control their cognitive activities (Jaleel & Premachandran, 2016). Metacognition makes a person aware of and responsible for his own learning activities. 'Meta' in metacognition can be intended as a process of reflecting on what is being done as if observing someone else's work, or in other words being an audience of own-self intellectual appearance.

The concept of metacognition arises since humans can reflect their cognitive experiences. Cognition or cognitive experience is a mental process that includes attention, memory, logic, problem-solving, and decision making (Chekwa et al., 2015). The famous Greek philosopher, Plato was alleged to be the first to mention the concept of 'thinking about self-thinking' in 400 BC. In 1690, John Locke, an English philosopher, mentioned the concept of reflection on the process of self-thinking in children, which was the basis of metacognition. However, the word metacognition was popularized by an American psychologist named John H. Flavell in the 1970s. According to Flavell (1979), metacognition refers to knowledge about the regulation of self-cognition activities in the learning process.

Meanwhile, scaffolding is defined as providing assistance to a student when needed and decreasing the assistance as the competence of the student increases. Metacognitive scaffolding aims to help students to control and monitor their learning (Molenaar et al., 2011). Among the two kinds of metacognitive scaffolding, namely structuring scaffolds and problematizing scaffolds, this research focuses only on the latter scaffolds. Problematizing scaffolds is chosen because it invites students to construct their own metacognitive activities while structuring scaffolds only give extended suitable example of a particular case.

Metacognition is very important for learning success. Several researches have shown an increase in student achievement when they activate metacognitive abilities. Jaleel and Premachandran (2016) have conducted research to find out if there are significant differences between gender, origin, and type of school management based on student metacognition awareness. The results show that there are no

significant differences between the three variables and that metacognition improves student learning abilities, memory, and achievement. Chekwa et al. (2015) have also told about the success of Miles College to improve students' learning outcomes through metacognition laboratories.

In the field of writing instruction, many writing researchers state that activating metacognition is one of the key points to improve students' writing skills (VanKooten, 2016). Nowacek (2011) have shown that metacognition is important for integration, where students reconstruct their understanding of writing in new writing situations. In further, Stewart, Seifert, and Rolheiser (2015) have researched the relationship between the quality of students' writing, worries in writing, and self-confidence in writing with metacognition writing strategies. They note that students' concerns are reduced and self-confidence increased after applying metacognition writing strategies. With increased confidence, the quality of student writing is also increased. Yeh (2015) has also tried to facilitate the metacognition process in academic writing courses through the online writing system. The results of his research show that the writing quality of students increases after learning with the metacognition process.

In term of the metacognitive scaffolding usage, many researches have noted that metacognitive scaffolding can support students' metacognitive activities and learning, including in the learning of writing. Jafarigozar and Mortazavi (2017) have investigated the influence of scaffolding strategy on writing classes. It is concluded that with the scaffolding (structured and problem-based), there is an increase in students' writing performance. Furthermore, Yanyan's (2010) research which aims to investigate the role of metacognitive knowledge in the English writing of Chinese EFL learners has found that a good instruction of metacognitive knowledge can empower EFL learners in their English writing and stimulate their autonomy learning.

Molenaar et al. (2012) have also examined the effects of dynamically scaffolding social regulation of middle school students working in a computer-based learning environment. They find that scaffolding has a positive effect on the students' learning performance. Besides, Molenaar et al. (2011) have also analyzed how metacognitive activities mediate the relationships between different avatar scaffolds on students' learning. It is found that students receiving structuring or problematizing metacognitive scaffolds displayed more metacognitive knowledge than students in the control group. However, only problematizing scaffolds lead to more domain knowledge and metacognitive activities mediated the effects of the problematizing scaffolds.

Considering these research findings, it can be said that metacognitive scaffolding facilitates learning and that to teach metacognitively is one promising solution to the problems most of the English writing teachers. This research, therefore, intends to introduce some key points as an alternative solution to overcome the writing problems. There must be a shift in the way writing should be delivered to improve the students' writing achievement. The previous method which does not give exposure for students to do adequate writing practices will never make students dig up their writing skills. In addition, making the students aware of their learning process is believed to be able to improve the students' participation and achievement. Giving them scaffolding to activate their awareness may become one solution.

For these cases, this research is conducted with the goals to examine the effects of collaborating metacognitive

problematized scaffolding, process writing approach, and Edmodo as an online media to eliminate the students' obstacles in learning writing. The main questions addressed in this research are; (1) does Edmodo-assisted process writing with problematized scaffolding significantly help the students improve their writing quality? (2) Is there any differences between the students' improvement in the traditional writing and in the Edmodo-assisted process writing with the problematized scaffolding writing class.

METHODS

This research is quasi-experimental research with one-group pre-posttest as the research design. The subjects of this research are the second-semester students of the English Department at the Islamic University of Darul Ulum, Lamongan. There are 13 students in the class, and all of them take part in the research. In the meantime, the students are taking the paragraph-based writing course, which aims to enable them to compose an exemplary English paragraph. The course is designed to have 14 meetings; six meetings before the midterm test, and then continued with six meetings after the midterm test. The students get a traditional way of writing instruction during meeting 1-6. In meeting 8-13, they receive writing instruction using Edmodo-assisted process writing with the problematized scaffolding. Meeting 7 and 14 are the evaluation for each method of teaching.

To collect the data, in the control class, the researcher conducts a pre-test in the first meeting and posttest in the seventh meeting. Similarly, pre and posttest are also done in the eighth and thirteen meetings to measure the students' writing quality improvement after the implementation of Edmodo-assisted process writing with the problematized scaffolding. Besides, an interview is also done in the experimental class to capture their perception after the implementation of Edmodo in the writing course. In addition, a graph to show every student's writing scores in each step of process writing is also presented and described.

Dependent and independent t-tests are utilized to analyze the results. The pre-posttest are in the form of writing task, which is evaluated by using an analytic scale for writing composition by Brown and Bailey (cited in Brown, 2004). Meanwhile, the interview and graphs are analyzed qualitatively to support the findings. The steps of process writing used in the experimental class are followed steps of process writing suggested by Oshima and Hogue (1994). It consists of pre-writing, planning (outlining), and writing and revising stages.

RESULTS AND DISCUSSIONS

To answer research question number one, in which the author wants to know the improvement of students' writing quality in the experimental class, the researcher does a pre-test in the eighth meeting of the course. In this case, the students are asked to write a paragraph of a particular topic.

After the pre-test, for five meetings, the students get writing instruction by using Edmodo-assisted process writing with the problematized scaffolding. During this process, the students are facilitated to produce a final product of writing through a sequence of the writing process including pre-writing, planning (outlining), and

writing and revising (Oshima & Hogue, 1994) both in the class and online by using Edmodo. The teacher-researcher gives online and offline feedback for each step so that the students could improve the quality of their writing before going through to the next step of writing.

A peer review is also conducted during the revising steps to provide student-student interaction. In addition, to stimulate the students' metacognitive skills and to see the role of metacognitive thinking to the students' writing, before each online submission of the product, the researcher provides some questions as a form of problematized scaffolding. This problematized scaffolding is made to activate students' metacognitive process as well as remind the students about the things they need to do in each step of writing. Table 1 presents the problematized scaffolding which is provided online via Edmodo to support the students' writing process.

Table 1 Online Problematized Scaffolding

Steps of Process Writing	Problematized Scaffolding
1. Pre-Writing	
a. Choosing and Narrowing A Topic	a. When you are starting to write, what do you do to find and choose a topic/idea? Do you narrow down a topic?
b. Brainstorming (Listing, free writing, clustering)	b. To extend your idea, do you do brainstorming? Make clustering? Listing? Freewriting? c. Do you think that narrow down the topic and brainstorming stages are beneficial for your process of writing? Why?
2. Planning (Outlining)	
a. Making subsists	a. After getting a topic, do you make an outline to help you develop your paragraph writing?
b. Writing the topic sentence	b. Do you decide your topic sentence afterward?
c. Outlining	
3. Writing and Revising Drafts	
a. Writing the first rough draft	a. When you are starting to write your first draft, do you consider the elements of a paragraph? How do you consider it?
b. Revising content and organization	b. When writing your draft, do you make sure your draft has a good paragraph structure like we have discussed in the class? Explain! c. Do you make sure your second draft has a unite idea? How do you make sure? d. Do you think that your second draft is coherent? Why do you think so?

Table 1 Online Problematized Scaffolding (Continued)

Steps of Process Writing	Problematized Scaffolding
c. Proofreading the second draft	a. The Organization: Do you think the organization/structure of the writing has followed the model? Explain!
d. Writing the final copy	b. The content/idea: Do you think the idea is original and interesting? Do you think the content of the entire text goes smoothly and neatly elaborated? Explain! c. Vocabulary: What do you think about the vocabulary used in the text? d. Grammar: Do you give any correction to the grammar? What are they? e. Mechanics: Do you give any correction regarding the punctuation? What are they?
	a. Do you consider the proof-reader's comment when writing your final copy? b. How do you finalize your writing? Do you double check your organization, content, vocabulary you use, grammar and mechanics?

A post-test is conducted to end the Edmodo writing course. Students' writing products both in the pre-and-posttest are evaluated by using an analytic scale for writing composition by Brown and Bailey (cited in Brown, 2004). It assesses the students' works in terms of its organization, content, grammar, choice of words, and punctuation. The posttest score of students is taken from the final product of students' writing after going through all steps of process writing.

A statistical analysis is conducted after getting the data. First of all, a normality and homogeneity tests are done to see if the data are normal and homogeny. Table 2 and 3 show these results.

Table 2 Tests of Normality

Groups	Kolmogorov-Smirnova		
	Statistic	df	Sig.
Value Pre-test	0,221	13	0,083
Post-test	0,192	13	0,200*

Test of normality as shown in Table 2 indicates that the data are normally distributed. It can be seen from the significant value of pre-test (0,083) and post-test (0,200) which are more than 0,05.

Test of Variance Homogeneity also notes that the significant value is 0,809, or more than 0,05. It means that the data are homogeneous or the distributions of scores (variance) of the two groups are considered equal.

Since the data are normal and homogeneous, a

comparison test is done by using parametric dependent paired T-test. Table 4 shows the result of this analysis.

Table 3 Test of Homogeneity of Variance

		Levene Statistic	Sig.
Value	Based on Mean	0,060	0,809

Table 4 Paired Samples Test

		t	Df	Sig. (2-tailed)
Pair 1	Pretest-Posttest	-9,691	12	0,000

The dependent paired t-test results indicate that there is a significant difference between the students' writing quality before and after the implementation of Edmodo-assisted process writing with the problematized scaffolding. It can be seen from the significant value (0,000) which was below 0,05. Furthermore, in line with the finding, Figure 1 shows that the students' writing scores in each step of process writing are always increasing. Hence, it can be said that Edmodo-assisted process writing with the problematized scaffolding helps the students improve their writing quality.

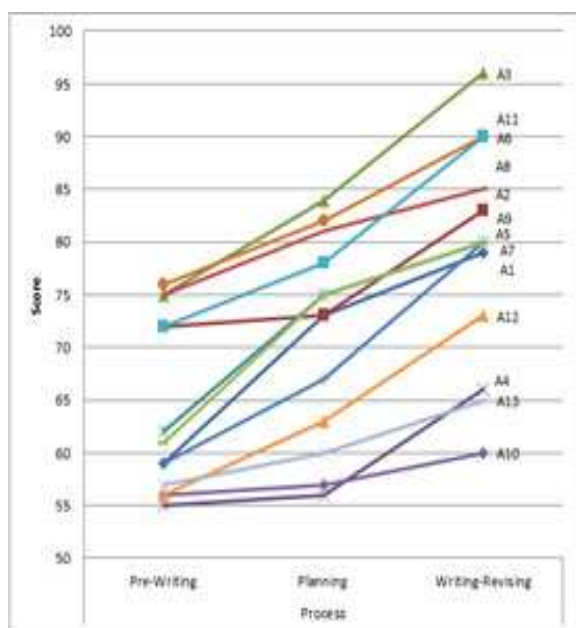


Figure 1 Writing Scores of Each Process Writing Step

In addition, to know the students' perception towards the application of Edmodo-assisted process writing with the problematized scaffolding in the writing course, an interview is conducted. The analysis of interview notes that; (1) the students are benefited by the use of process writing because as they go through the process of writing, they can write and revise their manuscripts based on the review from the teacher and friends. It gives them time to practice and improve the quality of their final writing. Their works are also not merely a one-time product-oriented anymore, yet process-oriented writing. (2) Online learning by using

Edmodo gives the students opportunities to continue, consult, and submit their works off the class. It resolves one of the disadvantages of classroom learning, in which the students have a limited time to do all the stages of process writing. (3) Feedback from the teacher in each step of process writing helps them a lot to increase the quality of their writing. Peer-editing is also helping, yet since not all students give comments to others' writing seriously, thus they prefer teacher feedback to their friends' comments. (4) The questions they have to answer initially to their online submission as a form of problematized scaffolding, make them remember things to do for each step of writing. It helps them activate their metacognitive thinking to recheck the component of their writing.

Question two of this research is made to see if the improvement happens in the experimental class significantly outperformed the improvement of students' writing scores in the traditional class. To answer this question, statistical analysis is conducted. A normality and homogeneity test are first done to make sure the data are ready to be analyzed parametrically.

Table 5 Tests of Normality

		Kolmogorov-Smirnov ^a		
Classes		Statistic	df	Sig.
Value	Control	0,176	13	0,200*
	Experiment	0,160	13	0,200*

Table 5 indicates that the data are normal since the significance value of the control (0,200) and experiment (0,200) class are more than 0,05.

Table 6 Test of Homogeneity of Variance

		Levene Statistic	Sig.
Value	Based on Mean	2,591	0,121

The result of variance homogeneity test as shown in Table 6 told that the data are homogeneous. It can be seen from the significance value (0,121) which is more than 0,05. After knowing that the data are normal and homogeneous, a parametric independent paired T-test is utilized.

Table 7 Independent Samples Test

		t-test for Equality of Means			
		Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CID Lower
Value	Equal variances assumed	0,002	-0,21141	0,06154	-0,33843

The independent paired t-test results indicate that there is a significant difference between the students' writing quality improvement in the experimental and control class.

It can be seen from the significant value (0,002) which is below 0,05. It means that the students' writing improves significantly in the Edmodo-assisted process writing with the problematized scaffolding class rather than in the traditional class of writing.

Teaching a large class may become a burden for some teachers, moreover, if the course requires intensive practices and feedbacks. Time allotments which have been set inside the classroom will never enough to produce the expected results but a few. However, the development of technology may help in solving this matter. Cheng (2005) has said that the rapid advancement of technology has changed education paradigm, in which nowadays, learning may occur effectively outside of the classroom. This research's results have shown the same point. The use of online media, namely Edmodo, has significantly supported the process of writing and helped the students improve their achievements. This finding then strengthens the encouragement of utilizing Edmodo into classroom setting for its tremendous advantage for students' learning (Durak et al., 2017).

Furthermore, the significant difference between the students' improvement in traditional product-oriented writing and digital process-oriented writing indicates that students are benefited by the implementation of the process approach in their writing class. Some of them even comment through the interview session that opportunities to revise and the feedback given by the teacher in each step of process writing helps them a lot in improving the quality of their final writing. This result is in line with the previous research which finds that process writing improve the quality of students' writing (Al-Naibi, Al-Jabri, & Al-Kalbani, 2018).

Besides, the higher improvement of students' writing quality in the process writing class which integrated the problematized scaffolding also shows that with metacognitive scaffolding in each writing step, the students are reminded and stimulated to activate their meta-thinking to review their works again before submission. Thus their works' qualities are better. In other words, the problematized scaffolding can support students' learning of writing (Jafarigohar & Mortazavi, 2016).

CONCLUSIONS

Based on the findings of this research, it can be concluded that the use of Edmodo-assisted process writing with the problematized scaffolding significantly improves the students' writing skills and that the students' score improvement is significantly higher than in the traditional class. Therefore, the usage of this media is highly recommended.

These findings may contribute to the field of EFL writing instruction, especially on the use of process-oriented teaching method and digital teaching media. The insertion of metacognitive scaffolding into a writing course also enriches the body of knowledge for EFL writing instruction. In this case, teachers can modify their teaching and encourage students realizing each step of their learning process by giving metacognitive scaffolding.

However, this research is limited for its number of participants. Classes in the English Department at Darul Ulum Islamic University, Lamongan are not big. One class commonly only consists of 13-25 students. This limitation yet does not cancel the researcher's intention to conduct researches to improve the quality of teaching and learning

process.

Furthermore, the author encourages future researches to examine the effects of other online media in the language classroom. Besides, since this research only focuses on problematized scaffolding and metacognition in an individual setting, the future research investigates the other scaffolding and the role of metacognition in the social setting is seen to be worth to research.

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