

Collaborative Discussion Using Padlet-based Materials in Writing for ESP Course

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Submission date: 30-Nov-2023 09:10AM (UTC+0700)

Submission ID: 2242575033

File name: 432-3022-1-PB_5.pdf (244.58K)

Word count: 3680

Character count: 21447

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DOI: 10.35445/alishlah.v13i1.432

Article Info

Keywords:
Collaborative Discussion
Padlet-based materials

Kata kunci:
Kolaboratif
Diskusi
Materi berbasis Padlet

Abstract

Collaborative discussion is a purposeful means for lecturers to assist students' ideas in writing. This research, therefore, aims to determine the effect of collaborative discussion using Padlet-based materials that have been previously developed by researchers for Mechanical Engineering students to enhance learning outcomes. This research was conducted at second-year undergraduate in a class of 40 students. This research was classified as a pre-experimental design. Moreover, the quantitative data were collected by using pre-test and post-test to the sample class. The finding revealed descriptive statistics of the sample studied, pre-test and post-test. For the pre-test value, an average learning outcome or mean of 60.13 is obtained. While for the post-test score, it was obtained the average value of learning outcomes of 77.25. Furthermore, the correlation coefficient or correlation is equal to 0.867 with a significance value (Sig.) of 0.000. The finding indicates that Collaborative learning using Padlet-based teaching materials in Mechanical Engineering class could influence students' writing outcomes.

Abstrak

Diskusi kolaboratif menjadi salah satu media dosen dalam mengembangkan ide-ide mahasiswa dalam menulis. Oleh karena itu, penelitian ini bertujuan untuk mengetahui pengaruh diskusi kolaboratif menggunakan materi berbasis Padlet yang telah dikembangkan sebelumnya oleh peneliti untuk mahasiswa Teknik Mesin dalam meningkatkan hasil belajar. Penelitian ini dilakukan pada mahasiswa tahun kedua Teknik Mesin yang terdiri dari 40 siswa. Penelitian ini termasuk dalam desain pra eksperimental. Pengumpulan data kuantitatif dilakukan dengan pre-test dan post-test kepada kelas sampel. Penemuan tersebut mengungkapkan statistik deskriptif dari sampel yang dipelajari, pre-test dan post-test. Untuk nilai pre-test diperoleh rata-rata hasil belajar atau mean 60,13. Sedangkan untuk skor posttest diperoleh nilai rata-rata hasil belajar 77,25. Selanjutnya koefisien korelasi atau korelasi adalah sebesar 0,867 dengan nilai signifikansi (Sig.) sebesar 0,000. Temuan tersebut menunjukkan bahwa pembelajaran kolaboratif dengan menggunakan bahan ajar berbasis Padlet di kelas Teknik Mesin dapat mempengaruhi hasil menulis siswa.

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INTRODUCTION

The branch of English Language Teaching, which can be divided into two groups according to whether students need English for academic purposes or English for occupational purposes, is English for specific purposes or well known as ESP. English does not constitute a particular type of language or technique for particular purposes, nor does it consist of specific teaching material. Therefore, ESP is a teaching approach in which content and process considerations are focused on the rationale for learning from students (Sari & Atmanegara, 2018). Hence, Petkovska (2015) states that the lecturers have to be more creative in offering learning materials that contribute to the advancement, which will be an essential reference for universities.

Etfita & Wahyuni (2020) state that a rising number of research projects provide English for specific purposes courses to satisfy the expansion of students' needs from different aspects. Those researches indicate the change in educational study, especially English, for specific purposes that have been reported in the context of technological growth. For example, from the conventional teaching process in the classroom to the mobile ones. Mobile devices have become common devices used at all subject and level of education, including teaching and learning foreign languages. The term 'mobile learning' has emerged in connection with the use of mobile devices in learning and teaching activities (Demir & Akpınar, 2018). This process began from accidental listening to music, often in English, to highly deliberate learning practices inside different mobile applications or a mobile device learning management system (Simonova, 2016).

In addition, today's world is swallowing us in a pond of electronic means and devices. Technology has already been a part of teaching methods and learning media in education (Alhassan, 2016). A successful approach to scaffolding learning may look closely at language learning by incorporating technical resources and applications. In this situation, educators should incorporate technology in a particular learning process to assist students and improve their comprehension. As stated in Haris et al. (2017) and Albán Defilippi et al. (2020), one of the technologies that can be used is Padlet, an application for an online interactive website where anybody can work on an idea or do activities anywhere at any time.

In line with that, from the global environment to formal classrooms, technology is practicable and has merged education to a significant extent with the need for learners. For instance, students conveniently access lecture materials and the lecturer can easily design materials using a web-based application. As web-based applications that support the online learning environment, Padlet provides virtual walls to add text, images, rearranging content, and links to other videos, documents, or websites. In other words, such a combination generates Padlet to be a suitable application for lecturers to design a web-based material.

Furthermore, lecture materials is an important matter that must be taken into account because it has a major role in achieving learning goals. Improving learning outcomes and assisting lecturers and students in the learning and learning process are some of the significant functions of teaching materials. Wahyuni & Etfita (2019) mention that some lectures prefer to use conventional instructional materials such as softcopy and hardcopy textbooks, handouts, etc. It was also mentioned that students often do not want to print e-books because they incur expenses and cannot read them because they find it difficult to concentrate on discovering the critical reading idea. That situation influences the decrease in learning outcomes.

De Berg (2016) mentions that she used Padlet as a preferred blackboard for Virtual Learning Environment (VLE). Her research aims to design a digital repository module, create a collaborative learning project, and engage students outside the classroom in a dialogue. In addition, Padlet has created a supportive space for collecting and cooperating in the classroom because learners are motivated to contribute and learn from each other. Students can learn at any time, anywhere with internet-enabled devices such as smartphones, laptops, and tablets through Padlet (Setiawati, 2020).

According to Teng et al. (2020), several studies of collaborative learning technologies can promote learning in an online learning environment. Using collaborative learning resources, the tool like blogs, wikis and padlet can encourage student self-regulation in learning activities such as reading, writing, and discussing texts online. Furthermore, integrating various types of collaborative learning resources in learning could facilitate the engagement between learners as it encourages students not only to be passive users of the available tools but also to create, share, contribute and comment on content through a variety of file formats that can be accessed or updated online and improve student-centered learning environments. This means that higher education lecturers need to be mindful of the instructional value of collaborative learning tools and be prepared to investigate and incorporate collaborative learning tools to support students' learning through social experiences and cognitive processes during collective learning.

Aderibigbe et al. (2021) emphasize that learning using instructional and social computing software such as web message forums, blogs, and wikis could improve students' learning. When face-to-face instruction is mixed with online experiences, students' skills learning and education will probably increase. It is also said that online discussion boards enable students to read, participate, and develop critical thinking skills. Furthermore, online discussion boards can be easily accessed by mobile technology and from any place, guaranteeing learning both within and outside the classroom. Furthermore, online discussion boards encourage metacognitive thinking, analytical skills, customized, immersive, and experiential learning opportunities for students from confined areas or time.

Moreover, Ojha & Acharya (2021) support that collaborative learning could engage students' performance. They found that Blogs can help to solve the difficulties faced by students, by including them in collective writing. Engaging students in community writing assignments can help students appreciate the importance of each other and learn to collaborate in teams to engage in discussions. In addition, teamwork may create a level of commitment and excellence in students when learning from peers. They also mention that collaborative discussion indicates collective writing and peer review practices promote student writing skills which can be integrated across subjects and disciplines in higher education institutions in diverse contexts.

As a lecturer, we are obligated to contribute to education to build effective teaching media for students (Ahmad, 2017). Therefore, Padlet based materials for Mechanical Engineering students have been designed in the previous research to enhance students' English ability. Moreover, materials developed are in listening, speaking, reading, and writing skills, consisting of 6 topics. Thus, based on the phenomenon stated above, the researcher was encouraged to conduct collaborative discussions using Padlet-based materials for the students in learning writing. This research aimed to investigate the effect of collaborative discussion by using Padlet-based materials on Mechanical Engineering students' writing ability.

METHODS

This research aims to investigate the effect of collaborative discussion in improving the writing ability of Mechanical Engineering students on the usage of Padlet based materials as a means of teaching. Additionally, the research employed pre-experimental research. Pre-experimental research was conducted to observe the learning outcomes before and after the treatment. This design is suitable and accurate for the purposes (Akhir, 2017). As Lestari & Wahyuni Chasanatun (2018) stated, Pre-experiment is a form of research that uses a single object to assess the possible correlation between independent variables and dependent variables without any external variables. This research has no control group, such as experimental research, which investigates whether there is a relation between independent and dependent variables. Simply described, the control variable is the independent variable, and the dependent variable is the influence variable (Wahyuni & Etfita, 2019). Some variance or improvement in the dependent variable is assumed to arise from the independent variable (Rogers & Revesz, 2019).

The research was conducted at Mechanical Engineering major of Universitas Islam Riau. The samples were the 4th-semester students who enrolled in English subjects in a class of 40. The samples of this research were selected using a random sampling technique. Therefore class 4A was selected. The instruments used in this study were written pre-test and post-test. The test was distributed in the form of essay topics to measure the students' writing ability. First, the issues for the pre-test was given to participants in the pre-experiment class to determine their current English writing ability. Then, four weeks later, they have learned writing through collaborative discussion using Padlet based materials. The participants were then asked to fulfill the post-test. The items were the same one with pre-test but have been purposely rearranged from the original number of arrangements to see their performance.

Finally, in analyzing the data, the researcher used paired sample t-test by using SPSS. First, the researcher used paired sample statistics to analyzed and compared the mean score before and after learning through collaborative discussion. Then, to show the correlation test results or the relationship between the two data, paired sample correlation is used. The last, to know whether there is or no effect of a collaborative discussion on the students' writing ability by using padlet, the researcher used paired sample test. Based on the significant value from paired sample test, the researcher can formulate the hypothesis as if Sig. (2 tailed) < 0.05, Ho is rejected, and Ha is accepted if Sig. (2-tailed) > 0.05.

FINDINGS AND DISCUSSION

Pre-test and post-test were conducted to identify whether there was a significant effect on students' learning outcomes of writing through collaborative discussion using Padlet-based teaching materials. The first test had been carried out before applying the collaborative discussion using Padlet-based teaching materials. The test was assigned before the students achieved some treatments. It is called pre-test. Furthermore, the post-test had been carried out after learning writing through collaborative discussion using Padlet-based teaching materials. The treatments were applied for four appropriate meetings with an adapted semester learning plan. The result of the SPSS using paired Sample T-Test from the pre-test and post-test can be seen in table 1:

Table 1. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	60.13	40	12.377	1.957
	Posttest	77.25	40	11.320	1.790

The output in table 1 figures out the pre-test and post-test results of a single sample study in descriptive statistics analysis. For the value of the pre-test, an average learning outcome or mean score of 60.13 was obtained. While for the post-test score, it was obtained an average value of learning outcomes of 77.25 with a total of 40 students. In addition, The standard deviation's value in the pre-test is 12.377, and the post-test was 11.320. Therefore, it could be mentioned descriptively that there was a difference in the average learning outcomes before and after applying collaborative discussion using Padlet-based materials in writing. The mean score of pre-test post-test marked the difference.

In addition, to prove whether there was a significant difference or not, the researcher used the calculation of the paired-sample t-test. The result is shown in table 2:

Table 2. Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pretest & Posttest	40	.867	.000

Table 2 shows the correlation test result that enclosed by the two data. It indicates the relationship between the Pre- Test with Variable post-test. Based on the output written in Tabel 2, it is found that the correlation coefficient or correlation is equal to 0.867 with a significance value (Sig.) Of 0.000. This indicates the influence of the collaborative discussion using Padlet-based teaching materials towards student writing outcomes in Mechanical Engineering class.

Tabel 3. Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pretest - Posttest	-17.125	6.190	.979	-19.105	-15.145	-17.497	39	.000

Furthermore, the results of the Paired Samples Test were described in Table 3. In the table, the result of Paired Sample Test presented the value of Sig. (2-tailed) is 0.000 < 0.05. In other words, H_0 is rejected, and H_a is accepted. The Paired output table Sample Test can also be seen that the Mean Paired Differences value is -17.125. This result indicated the difference between pre-test and post-test average writing outcomes with the difference between -19,105 to -15,145 or 95% confidence interval. In conclusion, this research revealed an average difference between the pre-test and post-test writing outcomes. To sum up, there is a significant effect on implementing collaborative discussion using Padlet-based teaching materials in improving students' writing outcomes at English for Mechanical Engineering major of Universitas Islam Riau.

The findings of this research are also supported by a previous study about electronic communication tools in developing collaborative learning skills. Khalil & Ebner (2017) claim that it is critical to building collaborative learning abilities since they are seen as crucial in learning. Individuals engage with one another, enhance higher-order thinking abilities, learner pedagogy focused, active learning, and associative thinking. In addition, they suggested to employees asynchronous communication tools such as padlet or blog rather than synchronous communication technologies for developing collaborative learning capabilities.

Furthermore, the implementation of online collaborative learning has the possibility to improve students' interaction, ideas, and performance. The use of online collaborative learning could also allow students to coordinate their study and home duties. It was mentioned that an online collaborative learning strategy could help them manage the obligations of study, job, and family, which would improve their performance and retention in the course. It enabled regular collaboration with other students and the lecturer-in-charge, bypassing the physical distance barrier (Peter & Lois, 2020).

CONCLUSION

Based on the results and the discussion of the research, it can be implied that the implementation of collaborative discussion using Padlet-based materials effectively improves students' writing ability at Mechanical Engineering major. This implication can be seen in the scores obtained by students before and after implementing collaborative discussion using Padlet-based materials. For the pre-test, an average learning outcome or mean of 60.13 is obtained. While for the post-test score, it was 77.25 with a total of 40 students. Besides, the effect of applying collaborative discussion is also known based on the calculation of the t-test. Comparison of the results of the pre-test and ability post-test shows that the value of Sig. (2-tailed) is 0.000 < 0.05. This matter shows that the research hypothesis submitted was accepted.

In addition, when lecturers are challenged to broaden their knowledge of blended learning approaches to enhance their educational content, this method is suitable to be implemented while teaching especially writing. This study sheds light on students' learning and interaction through online discussion. To conclude, lecturers are suggested to use online discussion as a media for teaching English.

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