ASYNCHRONOUS ONLINE COMMUNICATION OF THE LEARNING MANAGEMENT SYSTEM FOR STUDENTS' WRITING ABILITY

by

Lilis Sholihah

English Education Department, FKIP, University of Lampung, Bandar Lampung Indonesia
email: lilissholihah1986@gmail.com

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Abstract:
The Internet is one solution to the communication problems during the covid-19 pandemic. Online activity, especially English, is preferable to be synchronous and asynchronous online communication. This research focuses on using the learning management system asynchronous online communication to enhance students' writing ability in pre-intermediate writing subjects during the covid-19 pandemic. The research method is a quantitative method with One-Group Pretest-posttest design. The research population is second-semester students, and the research sample is pre-intermediate writing class C. The data analysis results show that the student's average score on the pre-test is 76.96, and the mean score of the post-test is 79.83, which means that the mean score of the post-test is higher than the mean score of the pre-test. In other words, the gained score is 2.87. Wilcoxon test for non-parametric statistics is applied to decide the hypothesis. The calculation of the test statistic showed that the z tests-test is 2.62 test 2-tailed significance is 0.009. It indicates that the result is significant since 0.009 is less than 0.05 (0.009 < 0.05). It means that the Null hypothesis (H_0) is rejected, while the Alternative hypothesis (H_1) is accepted. Therefore, it can be concluded that there is a significant effect of using asynchronous online communication of the learning management system (www.schoology.com) on students' writing ability. The study implies that this LMS model is visible in ELT, especially to improve the students' four skills, such as writing ability.

Keywords: Asynchronous online communication, learning management system, writing ability

INTRODUCTION

Few studies did report the use of Schoology as a type of LMS to enhance the writing ability of university students. Many scholars reported the use of other learning management systems (LMS) such as SPADA (Hudha et al., 2018), Moodle (Lambropoulos, Faulkner, & Culwin, 2012), blackboard (Lin, 2008), MOOCS (Greene, Oswald, & Pomerantz, 2015; Keshavarz &
Ghoneim, 2021; Luik & Lepp, 2021). Their study had positive benefits other than the students' writing ability in a different learning context. Therefore, visible potential gaps were identified to disclose in the current study.

The current study focused on investigating the other LMS types, such as Schoology (www.schoology.com), in the context of ELT at the university level. The study's objective is to investigate if the Schoology the effect of using an asynchronous learning management system (LMS) of Schoology on the students' writing ability. Many other scholars reported the use of synchronous media, such as Zoom (Serembus & Kemery, 2020), Google Classroom (Syakur, 2020), and Microsoft Team (Rojabi, 2020). However, their studies were other than writing ability in qualitative and quantitative methods. Henceforth, this study's context is in the English Education study program of FKIP Universitas Lampung during the covid-19 outbreak 2019-2022.

This study is to harvest empirical evidence of how Schoology influences the students' writing ability. It is also to share knowledge with international scholars as part of the author's contribution (Turmudi, Saukah, & Cahyono, 2020) and update the development of the Schoology use in a specific context. In this regard, the authors share knowledge in English amid the massive development of English scholarly publishing in Industrial Revolution 4.0 (Turmudi, 2020a) to build authorship, authority, and authorization (Rathert & Okan, 2015, pp. 364–365). However, the scope is limited to the English Education study program at the University of Lampung. The students were assigned to write the cause and effect and a comparison and contrast paragraph.

The expected outcomes are essential for the author and scholars concerned about developing writing ability at the university level using the Schoology website. The disappearing covid-19 outbreak does not guarantee that students' mood insisted on choosing offline learning since the culture of synchronous and asynchronous have changed over time (Hockly, 2014, 2015, 2018; Hockly & Dudeney, 2018). Moreover, the current context occurred during the covid outbreak.

During the covid-19 pandemic, all learning activities at all levels of education changed to online learning. The teaching and learning activity usually occurs face-to-face and changes into online activities (Serhan, 2020). The possible way to adapt to this situation is the changing
The perspective that online learning is an alternative solution to tackle the problem in the teaching-learning process and a pivotal way to create a classroom environment (Hockly & Dudeney, 2018). Teaching writing in such a situation makes the teachers look for the appropriate method for students to have their writing ability mastery because writing is one of the productive skills that should be mastered by the students of foreign languages, especially English (Turmudi, 2020b).

The perspective of writing in ELT has been a concern for many scholars. Hyland (2003) states that writing is a way of sharing personal meanings and writing courses emphasize the power of the individual to construct his or her views on a topic. The writer can generate ideas to construct their views of the topics (Hyland, 2003, p. 9). This process is not merely an easy task for students since writing is considered a complex task that needs the writer to originate content, organize structure, formulate goals and plans, execute writing mechanics and revise (Bereiter & Scardamalia, 1982), as cited in Kulikowich (Kulikowich, Mason, & Brown, 2008). The writing product should be constructed with good content and structure, clear goals and plans, and good mechanics by doing such revision to make good results (Turmudi, 2017).

The students' writing problems occurred because they could not generate ideas and construct good writing, despite many ungrammatical sentences. Saddler (2006) confirms that poor writers usually deal with significant difficulties at two levels. The lower levels tend to make grammar, spelling, and punctuation mistakes, while the higher levels find it difficult to cope with generating ideas, sequencing the content, and revising. To some extent, the student's writing level still has various ability levels. So, the teacher must have an appropriate method of teaching writing (Saddler, 2006).

Scholars also voice further proposals concerning writing. Nunan et al. (2003) state four principles for teaching writing. It can be adapted to any learning situation, understanding students' reasons for writing, providing many opportunities for students to write, making feedback helpful and meaningful, and clarifying how their writing will be assessed (Nunan, D., Terrell, T. D., and Brown, 2003). Teaching writing in online classes should focus on four points such as learning outcomes, students' activity in writing, making feedback not only
teacher's feedback but also peer feedback, and the scoring rubric for students' product of writing.

Online teaching should be defined since it needs the Internet for conducting the process. Stephenson (2001) describes online teaching as a more productive approach to education, which comes as a new medium to share new resources with the larger community. It has successfully eliminated the limitation of time and space for conducting a learning process (Stephenson, 2018). In line with this definition, Heuer and King (2004) propose the theory about online instruction that shares unique attributes—flexibility at any time and place. The students can conduct the learning in various situations without coming to the class since they can learn at home (Heuer & King, 2004). It makes students less effort to go to Campus at risk of being infected with the coronavirus.

In teaching writing from an online perspective, two modes of communication are delivered through the Internet: synchronous online communication and asynchronous online communication. Asynchronous communication is more learner-centered in that participants have more control over what to say and when. The learner-centered nature of asynchronous communication allows learning to be more inductive, explorative and oriented to problem-solving in a virtual learning environment (Berge, 1999) as cited in (Wang & L.G., 2007).

In asynchronous communication, participants do not have to be online simultaneously. The message sender does not expect the recipient to be able to respond immediately. It gives participants time flexibility in responding (Wang & L.G., 2007, p. 69). The students have time flexibility to write a draft, edit and revise the draft, and publish the final product. Before the students begin to write, they should follow the steps to generate or brainstorm ideas and outline. This process needs higher thinking ability so that they will decide on suitable topics for their writing. Examples are video conferencing, text chat, file transfer, and whiteboard (Hassan, 2021). I believe that the designated examples can trigger the students’ learning mode.

On the other hand, according to Wang et al. (2007), the asynchronous communication tools consist of Email, a mailing list, a discussion board, and a new group. Technical and practical constraints in synchronous communication can often drive people to choose asynchronous communication for viability. Synchronous communication in web-based instruction requires stable, continuous network connections between participants (p.71).
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There are several learning management systems utilized for online teaching. One of them is www.schoology.com. Using this LMS is that it has free access for all people, even though this platform is specified as a user-friendly LMS. In a nutshell, using asynchronous online communication for the student's writing ability in pre-intermediate writing class of the learning management system (LMS) is a salient process that cannot be denied (Pireva, Imran, & Dalipi, 2016).

Upon all, I meant to investigate the students' writing ability; therefore, I formulate the research questions as follows: what is the effect of using an asynchronous learning management system of Schoology on the students' writing ability?.

METHOD

Design

The research method is quantitative research with one group pre-test and post-test design. In this research, the researcher utilized the One-Group Pretest-posttest design (Setiyadi, 2018). This research aimed to determine whether there is any significant effect of using asynchronous online communication by comparing the results between pre-test and post-test. The Independent variable or X variable is the treatment of using schoology.com, while the dependent variable or Y variable is the students’ writing ability.

Participants

The research population is the second-semester students of the English Education study program at the University of Lampung for 2019/2020. The writer took the research sample by using the cluster random sampling technique. After the researcher did the lottery for the three classes of the total population, Class C was chosen as the research sample, with the total number of students being 23 students.

Instrument and Data type

The research instrument is the writing tests. The test consisted of two kinds, namely pre-test and post-test. The students' worksheets for both pre-test and post-test were prepared as writing activities. The students were asked to write a paragraph on the cause-and-effect relationship and a comparison and contrast paragraph. However, the data output
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was interval data, the score from paragraph writing for both cause and effect, and comparison and contrast paragraph.

Data Collecting Technique

The researcher conducted pre-test, treatment, and post-test. At the beginning of the research, the researcher gave a pre-test, then continued the treatment process, divided into four meetings. The treatment applied during the teaching process utilized a learning management system called www.schoology.com. The writer asked the students to actively participate in the discussions’ teaching process by brainstorming ideas, outlining, comparison contrast paragraphs, and cause-effect paragraphs. Having done After, the researcher continued to give a post-test to the students.

Data Analysis Technique

After getting the pre-test and post-test data, the following steps tabulated the result of both tests by obtaining the means score of the pre-test and post-test. Then, the data were analyzed to know the normality distribution of the test. Hypothesis testing was done using SPSS 2020 to know whether there is any positive effect of asynchronous online communication of the learning management system (www.schoology.com) on students' writing ability. In addition, a statistics test was applied to know the result in both pre-test and post-test. For that reason, I used Kolmogorov Smirnov to know the normality distribution of the data. Then I used another test, knowing that the data was not normally distributed. The statistics test was Kolmogorov Smirnov to know the normality distribution of the data (Hatch & Farhady, 1981). Finally, I used Mendeley referencing tool to manage the intext and list of references called offline automatic citation (Turmudi, 2020a).

FINDINGS AND DISCUSSION

This research collected the data from pre-test and post-test to know the effect of an asynchronous learning management system on writing ability. The result of the pre-test can be described as follows:
a. The Result of Pre-Test

Table 1. The Frequency Distribution of the Students' Writing Ability in the Pre-Test

| PRE-TEST | The Students' Score | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------|---------------------|-----------|---------|---------------|--------------------|
|          | 65                  | 2         | 8.7     | 8.7           | 8.7                |
|          | 70                  | 4         | 17.4    | 17.4          | 26.1               |
|          | 75                  | 8         | 34.8    | 34.8          | 60.9               |
| Valid    | 78                  | 1         | 4.3     | 4.3           | 65.2               |
|          | 80                  | 6         | 26.1    | 26.1          | 91.3               |
|          | 85                  | 2         | 8.7     | 8.7           | 100.0              |
| Total    | 23                  | 100.0     | 100.0   |               |                    |

| Mean     | 76.96               |

Table 1 shows the frequency and percentage of initial students' listening scores before the treatment. According to the pre-test result, it can be seen that the students' scores ranged from 65 to 85. The average score in the pre-test was 76.96, with the lowest score being 65 and the highest being 85.

b. The Result of Post-Test

Table 2. The Frequency Distribution of the Students' Writing Ability in the Post-Test

| POST-TEST | The Students' Score | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|---------------------|-----------|---------|---------------|--------------------|
|           | 70                  | 2         | 8.7     | 8.7           | 8.7                |
|           | 75                  | 3         | 13.0    | 13.0          | 21.7               |
|           | 77                  | 1         | 4.3     | 4.3           | 26.1               |
| Valid     | 78                  | 5         | 21.7    | 21.7          | 47.8               |
|           | 80                  | 6         | 26.1    | 26.1          | 73.9               |
|           | 85                  | 2         | 8.7     | 8.7           | 82.6               |
|           | 86                  | 1         | 4.3     | 4.3           | 87.0               |
|           | 88                  | 1         | 4.3     | 4.3           | 91.3               |
|           | 90                  | 2         | 8.7     | 8.7           | 100.0              |
| Total     | 23                  | 100.0     | 100.0   |               |                    |

| Mean      | 79.8261             |

Table 2 presents the frequency and percentage of students' scores in post-test. The table shows that students' scores ranged from 70 to 90. It means that the minimum score for the pre-test was 70, and the maximum one was 90, while the average score was 79.82. Therefore, it can be justified that students' scores in listening comprehension scores improved after the
treatment implementation-test and post-test results were used to know the normality distribution of the data by using Kolmogorov Smirnov.

Table 3. Testing Normality Distribution

| Normal Parameters | Pretes | Postes |
|-------------------|--------|--------|
| N                 | 23     | 23     |
| Mean              | 75,96  | 79,63  |
| Std. Deviation    | 3,28   | 5,45   |
| Most Extreme Differences |    |        |
| Absolute          | .33    | .23    |
| Positive          | .33    | .23    |
| Negative          | -.23   | -.11   |
| Kolmogorov-Smirnov Z | 1,60  | 1,09   |
| Asymp. Sig. (2-tailed) | .008  | .174   |

The data in table 3 describes that the pre-test result with a level significance of 5% was 0,008, and the post-test result was 0,174 with a significance level of 5%. After testing of normality distribution, it is known that the result was that the pre-test was not distributed normally, and the post-test had a normal distribution.

Since the pre-test has no normal distribution, the researcher decided to utilize statistic non-parametric, the Wilcoxon test.

Table 4 The Result of the Wilcoxon Test

| Ranks | Pretes - Postes | N | Mean Rank | Sum of Ranks |
|-------|----------------|---|-----------|--------------|
| Pretes | Postes | 14 | 10,36 | 145,60 |
| Negative Ranks | 4 | 6,50 | 26,00 |
| Positive Ranks | 5 | 23 | |
| Ties | Total | |
| 23 | |
| Test Statistics | Pretes - Postes | |
| | | |
| | | |
| | Z | Asymp. Sig. (2-tailed) | -2.62 | .009 |

Then, the result of the Wilcoxon test indicated that the probability value or asymptotic significance 2-tailed was 0,009 less than the level significance of 0,05, which means that the null hypothesis is rejected and the alternative hypothesis is accepted. So, there is a significant effect of using asynchronous online communication on the writing ability of the pre-intermediate writing students.
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Discussion

The current study reveals that schoology.com influenced the students' ability to write a paragraph of cause and effect and compare and contrast. Prior studies are confirmed that any LMS had a significant influence on the students' learning outcomes of Basic Physics online lecture using SPADA (Hudha et al., 2018), the quality of active participation embedded in Moodle (Lambropoulos et al., 2012), hybrid learning using blackboard (Lin, 2008), Predictors of Retention and Achievement in MOOCs (Greene et al., 2015). All of these LMS are not only different in the use of the x variable but also various y variables. It means that the use of schoology.com in the current context is rare, particularly in the experimental method.

As for the use of other tools, such as Zoom, it was reported to provide philosophical and pedagogical background in creating dynamic learning rather than using Zoom for writing context (Serembus & Kemery, 2020). It was also reported that the use of Google Classroom but the context was in the English learning media (Syakur, 2020), and the use of Microsoft teams in online learning rather than writing in specific (Rojabi, 2020). Hence, I realize that the current study is novel in both media and focus variables and the research design. I conclude that the current study has a clear contribution to knowledge development. However, the subsequent study using the otherwise method is recommended to harvest more solid empirical evidence.

Further, the process of online learning using asynchronous online communication of a learning management system (www.schoology.com) has a valuable contribution. The success of this research leads the students to gain the ability to write, especially in generating ideas and writing drafts, editing and revising their drafts, and publishing their writing due to the students' time flexibility in writing a draft and teachers' access to the threads. The flexibility of access is considered the most significant advantage (Barnes, 2000; Ellis, 2001; Tiene, 2000). Secondly, in the learning process, the students have to post a message on the thread given by the teacher. It also helps the teacher monitor the student's access to the teacher; students do not have to be online simultaneously. The teacher had to keep posting her views and asked for more ideas and thoughts on the subject to motivate the students to post more. There are many follow-up responses to the threads, and the thread shows a synergistic interaction pattern. It indicates collaborative learning and social networking in this forum (Jyothi, McAvinia, & Keating, 2012). Besides, asynchronous online communication can also increase a person's ability to
process information (Hrastinski, 2008). The students have more time to comprehend a message because an immediate answer is not expected.

CONCLUSION

Asynchronous online communication of the learning management system (www.schoology.com) significantly affects students' writing ability in pre-intermediate writing subjects. The result of the Wilcoxon test indicated that the value of asymptotic significance 2-tailed was 0.09, which is less than the level significance with the probability value of 0.05. It means the alternative hypothesis was accepted. The recommendation for conducting similar research can be made by considering some points. Further researchers can utilize the same LMS (www.schoology.com) or synchronous online communication for writing ability. The use of synchronous online communication for writing ability, such as video conferencing or text chat, can contribute to the various media used in teaching writing in an online setting.

IMPLICATION

The study implies that a learning management system may cause positive or negative impacts on the students' learning achievement. The LMS variant can be a good option for teachers to boost their teaching process, stressing the students-center approach.

LIMITATION

This study was limited to using pre-test and post-test to gain the data. Other aspects were abided by the author due to the disgraceful situation. The test was applied online, which might have a bias because the presence of teachers and students were in different locations. Technological influences such as gadgets might happen during pre-test and post-test.

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BIO-PROFILE

Lilies Sholihah is one of the lecturers at the University of Lampung, majoring in the English Education Study Program. She got her bachelor's degree from Sultan Ageng Tirtayasa University in 2008. She continued her study at the State University of Malang for a post-graduate English Language Teaching program and graduated in 2011. Her research interests are teaching English, online, and English language teaching. Her corresponding Email: lilissholihah1986@gmail.com
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