A Comparative Study on the Implementation of Padlet and Jamboard Toward Students' Motivation

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Abstract. Digital technology offers a lot of new applications which are available to support learning activities and improve students' motivation. The objectives of this experimental research were to compare the implementation of Padlet and Jamboard as e-learning applications toward students' motivation in learning English at SMA N 3 Padang. The population of this research was 353 students at grade ten of SMAN 3 Padang in the 2021/2022 academic year. The samples, which were selected using cluster random sampling, were categorized as the experimental class and control class. The experimental class was taught by using Padlet application and the control class was taught by using Jamboard application. The data were collected through the questionnaire of motivation. Independent sample t test formula was used to investigate whether there is significant difference between the experimental class and the control class on students' motivation. The results of the research found that sig.2 tailed (0.422) is higher than the significance alpha 0.05. It means that Ho is accepted because sig. > 0.05. It is $0,422 > 0.05$. It can be concluded that there is no significant difference between Padlet and Jamboard, both of applications are equally and beneficial to boost students' motivation in learning English. Thus, the teacher is suggested to apply both applications and may use them interchangeably to enhance students' motivation.

Keywords: E-learning application · Jamboard · Motivation · Padlet

1 Introduction

In the trend of globalization, the most significant language being used among countries, institutions, organizations, businesses, and individuals all over the world is the English language. Currently, there are about a billion individuals worldwide are learning English. In fact, in the process of teaching and learning English, in most cases that commonly happens in nations where English is taught as foreign language such as in Indonesia, many teachers find that the students still cannot use the language actively in real communication. There are so many factors behind it, both from the teacher (the method of teaching, material, teacher's attitude, media, etc.) and students (learning strategies, motivation, confidence, learning style, etc.). Among them, motivation is primarily seen as affecting the rate of learning that should be considered by the teacher [1]. It has been

judged that the effectiveness of foreign languages learning determined by the motivation of students [2].

The teacher needs to motivate students in learning English because learning activities will have better output if the students have the motivation to learn. It has been addressed by some studies which emphasize the importance of motivation for learning environments. Wimolmas (2013) in his study found that motivation is recommended for enhancement and improvement of language learning. Juniar (2016) claims that both learning and motivation are important for students' performance. Learning facilitates students to acquire knowledge and skills, whereas motivation encourages students to learn English better. Generally, students who are motivated will be easy to achieve the goals in learning English. Thus, it is critical to determine whether or not students are motivated to build more effective teaching and learning activities.

Furthermore, different experts have proposed to classify the type of motivation become two major kinds, they are; intrinsic motivation and extrinsic motivation [5]–[10]. Intrinsic motivation is when a person is motivated without the need for external stimuli because he or she has a strong desire to perform something. Whereas extrinsic motivation is a motivation that is triggered because of external stimuli, it is usually stimulated from the outside by a certain environment.

However, in the learning process, teachers usually have no control over intrinsic motivation, but can create a learning environment to engage students' extrinsic motivation, then generate intrinsic motivation by stimulating the personal interest of students. According to the theory of Keller (2010), there are four indicators to engage students' motivation that are called ARCS Model. It stands for Attention (A); it refers to how much a student's interest is piqued, maintained, or increased through time. The teacher must rely on students' interests, what they already know and what activities may engage students' attention. Students' curiosity needs to be stimulated and maintained in order to be motivated in learning. Relevance (R); it refers to the teaching learning process is related to personal need and career objectives. Instruction must be perceived as relevant to personal values in achieving desired goals. Confidence (C); it refers to the feeling confident of the students, they believe they can succeed by their own efforts and exertion of control. They must believe in their own ability to succeed, so the teacher helps the students to build positive learning experience. Satisfaction (S); refers to students' experience satisfying outcomes on their learning. The teacher provides a feedback which of course can create a sense of satisfaction in students. Students who can fulfil all those indicators will have high motivation and tend to be ready, make the classes more fun, do hard work, and also solve various difficulties, which then leads to a better performance in learning [11].

Similar to this theory, Dörnyei's [9] framework of motivation, states there are four indicators of motivation related to course specific motivational. They are interest, relevance, expectancy and satisfaction. Interest is linked to intrinsic motivation and revolves around a person's desire to learn. Relevance concerns to the degree to which the student believes the teaching learning activity is tied to individual needs and goal. Expectation refers to the self-confidence of the students and self-efficacy on a broad level, in smaller level of the instruction, expectancy refers to the learner's willingness to try new things, facing task complexity, the quantity of work required, the amount of accessible support

and guidance, the assignment given, and understanding of the sort of task were all taken into consideration. Satisfaction refers to rewards like recognition or high grades (extrinsic) and rewards like enjoyment and pride (intrinsic) as a result of an activity. Extrinsic incentives like recognition or high grades and intrinsic incentives like pleasure and pride.

Related to the importance of motivation in learning, there are many ways that can be implemented by the teacher to promote students' motivation to learn. It has become a current phenomenon to use ICT for the improvements of learning, encouraging creativity, and enhancing motivation [12]–[14]. The current students are digital natives and indeed the development of technology digital and information is accelerating, providing a solution for developing teaching and learning methods.

Nowadays, there are numerous quantity of applications and online tools that available to promote learning such as features of Google workspace for education, Quizizz, Padlet, and so on[15]. Technology offers a lot of new applications and many of them are fascinating for the students [11]. It is vital for the teacher to create more opportunities for the students to get inspired, motivated, and engaged in learning activities by utilizing the application provided in the internet and smartphone. Teachers should encourage students to use their smartphones, which are common among today's students, for something worthwhile, such as for learning.

There are many applications which can be used by the teacher in teaching English. Among them are Padlet and Jamboard. Padlet (https://padlet.com/) is a free interactive wall that support engagement both between the teacher and the students and among students that encourages class involvement as a whole (Fuchs, 2014). Students are able to share their ideas through a virtual post. While Jamboard (https://jamboard.google.com/) is a web-based whiteboard system that allows learning interactions. It gives students a free and easily accessible platform that allows for more equitable participation than the conventional physical whiteboard or Power Point presentation [16]. Both of these e-learning applications can be browsed on any smartphone, tablet or laptop. Thus, it is really appropriate for students to engage their motivation to learn; bring them a new learning environment from traditional white board to digital ones.

Furthermore, numerous researches had been conducted related to the use of Padlet within the EFL setting. Some researches focus on the use of Padlet to improve writing skills [17]–[21]; reading skill [22]; Speaking skill [23]. Also, research conducted by Chen (2021); Setiawati (2020); Susanti & Marlinda Ayuni (2018) revealed that Padlet in the instruction can be used to attain learners' positive perception. Based on those researches, it can be inferred that the use of Padlet application can improve students' skill, present positive attitude and can be effectively used to facilitate collaborative learning.

On the other hand, there were some previous studies about Jamboard. Maulida & Yulianto [27] did experimental research with the design of One Group Pretest Posttest Design to investigate the effect of Jamboard in brainstorming towards students' writing ability. The finding showed that there was an effect on students' writing ability through brainstorming using Jamboard. Next, Melvina [28] conducted a study to identify the level of acceptance of PISMP students in Malaysia towards Google Jamboard in teaching and learning. The result reveals positive on the acceptance of Google Jamboard. Then, Sweeney et al., (2021) did a study on facilitating virtual learning in medical education by using Jamboard. The findings showed that this tool allows the teacher to investigate

opportunities for collaborative virtual education without regard to cost or geographical constraints.

Regarding the research that has been carried out by several researchers about the use of Padlet and Jamboard in learning process, it can be seen that these studies only investigate those applications separately. Therefore, the current research finds the gap to the study by comparing both applications, Padlet and Jamboard. Furthermore, it is important to compare these applications for reason that similar application provide same function, such as Zoom meeting with Google meet, Quizizz with Kahoot, WhatsApp with Messenger, Padlet with Jamboard, so that the teacher can explore intensively the use of the appropriate application which consider better and effective to use in teaching learning activities. Besides, considering the pivotal of motivation in learning and the effect of using applications toward students' motivation, the researcher is curious to compare the two applications with regard to students' motivation, which of both walls virtual can give high motivation to students in learning English.

2   Method

This study was characterized as an experimental study using comparative design. The population was 353 students of grade tenth at SMAN 3 Padang. The samples, which were selected by using cluster random sampling, were categorized as the experimental class who taught by using Padlet and control class who taught by using Jamboard. Both groups had the same topic and the duration of time. After getting the treatment, experimental class and control class were given questionnaire of motivation. The questionnaire consisted of 26 items after doing validation in the form of likers scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The items of students motivation were developed based on ARCS model [29] and course specific motivational [9]. The scores of the two class were compared to determine the effectiveness of Padlet and Jamboard toward motivation.

In analysing the data, normality testing and homogeneity testing were important for pre-requisite analysis. In this research, the normality of students' motivation questionnaire was analysed by using Shapiro Wilk on SPSS 24. The data are categorized into normally distributed if the significant value is higher than significant alpha 0.05. Then, the homogeneity testing was analysed by using Variance test with Levene Statistic test on SPSS 24 to find out whether the data are categorized into homogenous or not. The data are categorized into homogenous if the significant value is higher than significant alpha 0.05. Lastly, the hypothesis was tested by using t-test formula.

3   Finding and Discussion

The students' motivation scores were taken after the treatments were given to the students for both, experimental class (taught by using Padlet) and control class (taught by using Jamboard). It was done to know the students' motivation after treatments. The descriptive statistic was presented in the following Table 1.

After analysing the data from both experimental and control class, it was found that the maximum score of students' motivation score in experimental class was 128 and the

Table 1. Descriptive Statistics after the Treatment

	N	Min	Max	Sum	Mean	Std. Deviation	Variance
Experiment	18	82	128	1964	109.11	14.652	214.693
Control	18	82	121	1898	105.44	12.287	150.967
Valid N (listwise)	18						

Table 2. Result of Normality Testing

Class	Shapiro-Wilk		
	Statistic	df	Sig.
pre-exp	.921	18	.137
post-exp	.929	18	.183
pre-cont	.932	18	.210
post-cont	.915	18	.103

minimum score was 82, the mean score was 109.11, the standard deviation was 14,65 and the variance was 214.69. While, the maximum score of students' motivation in control class was 121 and the minimum score was 82. The mean score was 105.44, the standard deviation was 12,28 and the variance was 150.97. Based on analysis, it was found that the mean score of the students' motivation in experimental class was higher than the mean score of students' motivation in control class.

Before testing the hypothesis, pre-requisite analysis in analysing the data was normality testing and homogeneity testing. While the criteria of acceptance or rejection of normality are: If the significant value on Shapiro-Wilk < sig. $\alpha = 0.05$, the data is not normal distribution. If the significant value on Shapiro-Wilk > sig. $\alpha = 0.05$, the data is normal distribution. The normality of students' motivation score in experimental and control class can be seen in the following Table 2.

The table above shows the data analysis of students' motivation in both experimental and control class are normality distributed, it was proven by the significance value of each group were higher than 0.05.

The homogeneity testing using Levene statistic was used to find out the homogeneity of the data about students' motivation score. While the criteria of acceptance or rejection of homogeneity test are: If the significant value on Levene < sig. $\alpha = 0.05$, it means the data is not homogenous. If the significant value on Levene > sig. $\alpha = 0.05$, it means the data is homogenous. The result of data analysis can be seen on the Table 3.

Based on the table above, it was found that the significant value of students' motivation in pre and post both classes, experiment and control class was higher than significance alpha 0.05. It means that the data are homogenous. Furthermore, the homogeneity of variance for both classes can be seen on the significance value 0.527. It indicates that the variance of those groups of data analysis were homogeneous.

Table 3. The Result of Homogeneity Testing.

	Levene Statistic	df1	df2	Sig.
Based on Mean	.749	3	68	.527
Based on Median	.735	3	68	.535

Table 4. Independent Sample Test

		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
Learning Motivation	Equal variances assumed	1.048	.313	.814	34	.422	3.667	4.507	-5.493	12.826
	Equal variances not assumed			.814	32.998	.422	3.667	4.507	-5.503	12.837

After verifying the normality and homogeneity of the data, the next step is to test the hypothesis. The hypothesis can be seen as follow:

Ho: There is no significant difference on students' motivation by using Padlet and Jamboard in learning English at SMA N 3 Padang.

Ha: There is significant difference on students' motivation by using Padlet and Jamboard in learning English at SMA N 3 Padang.

To prove the hypothesis, the data were calculated by using independent sample t-test formula with assumption as follows: Ha is accepted if sig.(2 tailed) is lower than 0.05 and Ha is rejected if sig.(2 tailed) is higher than 0.05.

Based on analysis by using independent sample t-test on SPSS 24, the result of the hypothesis showed that there is no significant difference on students' motivation between the students who were taught by Padlet and Jamboard. The result of the data analysis of students' motivation by using independent t test in both experimental and control class can be seen in the Table 4.

Based on the data above, it can be seen that sig. 2 tailed is 0.422. It is found that sig. 2 tailed (0.422) is higher than significance alpha 0.05. It means that Ho was accepted. Consequently, Ha was rejected. It means that there is no significant difference on students' motivation who taught by using Padlet and Jamboard.

The fact above showed that there is no significant difference between the two applications, both of them are equally in increasing students' learning motivation. It can be accepted because there were some common features and function between Padlet and Jamboard. Most of the students were engaged by the features on both application in doing collaborative learning. Teachers and students can add anything such as picture, link, diagram, mapping and others to the wall at anytime and anywhere. This condition is similar to Martín (2019) who state that Padlet is an effective media in which students learn both through instructions from their teacher and from interaction with each other. Students' motivation may rise and their ability to remember material may be helped by collaborative learning.

In addition, infusing both of applications into classroom activities engage students to the authentic learning environment where the students are responsibility to finish their task on their own gadget. Every student should take participation in doing collaboration learning that make them aware on their process in learning. When the students aware in learning process, it will boost their confidence and they tend to be more critical, more self-sustaining as EFL students [31]. These result in line with Nagamani (2021), he found Jamboard can be used for assigning a group project to promote collaboration, peer learning and to promote creative thinking skills.

Dealing with the implementation of both applications in classroom, some points can be highlighted. Those applications have some features which lead to similar advantages, provide collaboration, boosts the level of motivation, creates responsibility and self-discipline. It can be concluded that whether Padlet or Jamboard can improve students' motivation. As a result, both applications are highly recommended to be implemented in classroom.

4   Conclutions

The motivation of students is considered one of the major factors that determine students learning process. Motivation makes the students engage in the learning activities. Typically, there is no significant difference between both applications. Padlet and Jamboard provides more features for students to develop their creativity, provides warm up to whole-class discussion, provide a proper procedure that improve students' motivation in learning. Consequently, it is suggested for the teacher to use them interchangeably or may choose freely one of them which is appropriate to some considerations, such as language skill or the content being delivered in teaching learning English.

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