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## **THE EFFECTIVENESS OF USING PADLET AND SLACK APPLICATION IN TEACHING WRITING**

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**Abstract:** The purpose of this research is to assess the effectiveness of using Padlet and Slack application as collaborative tools in teaching writing to extrovert and introvert students. The use of experimental design with 2x2 factorial design were conducted. The population of this study are the tenth grade students of SMAN 1 Tebing Tinggi. Two experimental classes were used in this study and tested about their writing achievement before and after using Padlet and Slack application. Both classes also divided into extrovert and introvert students. In analyzing the data, the researcher used SPSS v.23 in answering the research questions. This research found that utilizing Padlet and Slack application is effective for teaching writing to extrovert and introvert students. The result of students' post-test between extrovert and introvert students was higher than students' pre-test, it indicated that there was significant effect of using Padlet and Slack application in

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teaching writing to extrovert and introvert students. Meanwhile, there were no differences and relationships between Padlet and Slack application in teaching writing to extrovert and introvert students, it showed that both Padlet and Slack application were effective to be collaborative tools in teaching writing because both collaborative tools can improve the students' writing achievement.

**Keywords:** *extrovert, introvert, Padlet, slack application, teaching writing*

## INTRODUCTION

Nowadays, Technology is a vital part of our modern education. Technology has become a primary item that impacts our learning methods. Almost all teachers use Technology in the classroom. One of the 21<sup>st</sup>-century skills is using Technology in teaching and learning. Technology offers exciting innovations that allow teachers and students to build better under favorable circumstances (Taopan et al., 2023). Technology-driven education should be encouraged among learners and educators, as Technology allows teachers and students to replace paper-based activities with technology-based approaches. Students, in particular, as members of the millennial age, have always communicated with their virtual communities by clicking a button on their mobile devices, such as smartphones and tablets. In their learning activities, technology also supports individualized and independent learning by allowing students to study at their own pace, complete interactive activities rigorously in class or at home, and receive quick feedback (Wahyuni et al., 2019; Aryani et al., 2021). Teachers and students can integrate Technology into the classroom based on its functions. They have incorporated many sorts of Technology into classroom activities. Teachers may use Technology to transform learning for their pupils.

The Indonesian government had altered the curriculum to fit the educational aims of the digital era when students rely more on digital devices and online activities. Besides that, The Indonesian government also created this Curriculum for the millennial generation, which actively uses Technology in their activities (Rohimajaya et al., 2022). Emancipated Curriculum was made in the hope of producing students who can use Technology in their learning process, given that Technology plays a vital role in education, specifically with the emergence of electronic media as a source of learning and the development of students character can support them to become superior who know, are adaptive to Technology, are intelligent, responsible and have noble behavior in using Information and Communication Technology (Amalia, 2020; Rantelimbong et al., 2021). This means that both teachers and students should integrate Technology into their classroom activities.

Ghavifekr and Rosdy (2015) showed in their study that teachers that used ICT improves classroom management by promoting better student behavior and attentiveness. Furthermore, it also demonstrated that using ICT to develop lessons that are more engaging and entertaining helps students learn better. As a result, the participants agreed that incorporating ICT may help students study effectively. Meanwhile, Teachers also can use ICT to increase the quality of education, and students use ICT to develop their character and utilize Technology in their learning process. Teachers and students can use various ICT tools. Google Classroom, Social Networking Sites (SNS) such as YouTube, Instagram, Facebook, WhatsApp, and other applications and websites such as Padlet, Slack application, Moodle, and so on that can usually be used in teaching and learning (Waloyo et al., 2022).

In English language teaching, the integration and use of ICT can improves students' English language ability and creates a positive learning environment. ICT can help teachers teach different language skills, as well as aspects, such as grammar and vocabulary, effectively

in the teaching and learning process. One of the language skills that the students should attain is writing skill. Writing is one of the skills that is taught in an English classroom. Writing is a difficult linguistic skill. Writing is more challenging to perfect than the other three language abilities, even among native speakers. Writing requires understanding the subject's linguistic and non-linguistic aspects (Sholihin et al., 2023). Therefore, the use of technology tools is hoped to make the students give their opinions and understand how to write correctly through collaborative tools, which the students can collaborate and discuss with peers and teachers in the classroom.

However, there are some challenges that the students face while learning writing (Maghdalena et al., 2022). They are fearful of making mistakes because they are less motivated to practice. Meanwhile, the students sometimes only earn a particular grade for their writing without knowing the composition's strengths and weaknesses. Thus, they do not know how to enhance their writing to be a better one. Abid (2020) stated that students can extend their writing skills and receive direct feedback from the teacher during the writing process, which is an excellent contribution to how students improve their writing skills. Giving feedback while the students write is a vital way for teachers to enhance the students' writing achievement.

Besides that, there is also a challenge in teaching writing in the classroom with various students. The passive students fear giving their opinions in writing to the other students. Meanwhile, active students actively give their views to the teacher and other students. Active students and passive students connect to their personalities. It also becomes a problem the teacher should solve in the teaching activity. Teachers have to create a pleasant and exciting environment for their students. Students feel more confident in such a setting, which might help them develop their personalities.

Regarding the challenges and how to solve them, teachers should apply the right tools or media in teaching, which can improve students' writing achievement. Teachers can utilize collaborative tools

in ICT to teach writing. Teachers should evaluate the effect of collaborative teaching by utilizing collaborative tools. As stated by Dahal (2022), Piao (2023), and Suarez et al. (2022), collaborative tools that use technology allow students to study outside of the classroom, boost student involvement, and give more information about their colleagues. It may also help pupils enhance their skills, knowledge, and abilities by incorporating collaborative tactics into the classroom via technological platforms. Some platforms and websites can allow students and teachers to collaborate during the writing process. The teacher can give feedback to all of the students and make the extrovert and introvert students collaborate.

Many ICT tools can be implemented in the classroom activities. Padlet and Slack are the examples of ICT tools which can solve the problems. Both tools focused on making the students can collaborate in their activities through technology. Padlet and Slack application allow students to feel comfortable expressing their ideas and opinions in writing. Moreover, through these tools, the teacher can give direct feedback to enhance the students' writing skills. Several researchers have implemented Padlet as a tool in teaching activities. According to Musdir et al. (2018), Fadhilawati et al. (2022), and Nurramdaeni et al. (2021), Padlet might be an acceptable learning media that can enhance and raise students' enthusiasm in generating their own writing. At the same time, Sabin & Olive (2018), Ardiansah (2021) and Heryandi et al., (2020) stated about using Slack in teaching activities. Slack application can improve social connections both in and out of the classroom. It has established a robust collaborative environment in the course, which the students have welcomed. Slack applications influence students' knowledge in teaching writing and motivate them to enhance their writing skills. The students also gained more confidence in their writing skills and reacted to the teacher's corrections. Through these findings, it can be concluded that the application can be implemented in teaching writing.

This research is conducted to know the effectiveness of both collaborative tools for extrovert and introvert students in teaching writing. Many studies discussed about Padlet and Slack application in English class; however, there is no study focuses on using these collaborative tools for students with different personalities. Due to there are some differences in the classroom environment between extrovert and introvert personalities while the teachers are teaching. Extroverts appear to be better students than introverts in primary school because the teaching atmosphere is social, energetic and relaxed. However, in higher education, extroverts give way to introverted students when the setting is scholarly, serious, individual and occasionally lonely. Due to this differences, the researcher focused on the use of collaborative tools (Padlet and Slack application) as practical tools in teaching writing. Furthermore, the research questions of this researcher are formulated as follows:

1. How effective is the use of Padlet and Slack application in teaching writing to extrovert and introvert students?
2. How is the difference in effectiveness between Padlet and Slack application in teaching writing to extrovert and introvert students?

## **METHOD**

### **Research Design and Participants**

This study aims to determine the effectiveness of using Padlet and Slack application in teaching writing to extrovert and introvert students. Quantitative design was used in this research because it wanted to analyze the variables in this study. Creswell (2023) stated that quantitative research is a systematic examination that aims to quantify connections, behaviors, occurrences, or patterns by collecting and analyzing numerical data. An experimental design is adopted. This research focused on the effectiveness of using some tools in teaching. With the purpose of this research, experimental design is suitable in involving one or more independent variables to observe

their effect on one or more dependent variables, with the goal of establishing cause-and-effect relationships (Creswell, 2023). In this study, the independent variables are Padlet and Slack application as collaborative tools. The researcher utilized a factorial design in this experimental study, which modifies a true experimental design. Factorial designs are a variation of the between-group design in which the researcher examines two or more categorical, independent variables at two or more levels. This design aims to investigate the independent and concurrent effects of two or more independent treatment factors on a single outcome (Vogt, 2005). Using a 2x2 factorial design influenced the researcher to choose two population classes as the sample. Using two classes aims to illustrate the variation of the tested factor. For this research, X-1 was experimental class I with 36 participants, which used Padlet as the tool for writing narrative text, and X-3 was experimental class II with 36 participants, which used the Slack application to teach writing narrative text. Both classes consist of two different personalities: extrovert and introverted students. Table 1 is the number of students which is divided into extrovert and introvert students.

**Table 1.**

*The number of extrovert and introvert students*

Students Personalities	Classes	
	Experimental Class I (X-1)	Experimental Class II (X-3)
Extrovert Students	17	22
Introvert Students	19	14
Total	36	36

### **Instruments of the study**

Three instruments were used in this research. First, the test was used to examine the students writing achievement after and before using Padlet and Slack application in the classroom. The test was

related to the material the students learned from the book. It consisted of one direction that the students had to write in the worksheet and the students should finish the writing test in 40 minutes. Based on the direction, the students write a narrative text that must fulfill the text's language features and generic structure. Second, a questionnaire was used to know the students' personalities. The questionnaire came from Eysenck (1964) about Eysenck's Personality Inventory (EPI). However, some psychiatrists created a short version of the Eysenck Personality Questionnaire based on the original test forms. One of the questionnaires was created using Mclyntyre's (2006) fast test, which can be found at <https://www.yourofficecoach.com/coaching-resources/coworker-relationships/personality-differences/are-you-more-extroverted-or-introverted>. The researchers used this version in determining the extrovert and introvert students. It is distributed before teaching writing in their class. Twenty items in the questionnaire can categorize the students into extrovert or introvert students. Then, the observation sheet is also used to assess the student's participation during the teaching-learning process. The researcher asked the teacher to conduct and fill out the observation sheet to know the students' participation while the researcher teach in the classroom by using Padlet and Slack application.

### **Data Collection**

In this study, the researcher collected the data based on the instruments. The instruments distributed to the experimental class 1 which used Padlet as the collaborative tools and experimental class 2 which used Slack application as collaborative tools in the writing class. First, the researcher distributed the questionnaire sheet to the students in both experimental classes before they took the pre-test. The questionnaire consisted of the statements related with their personalities. Through the questionnaire, the researcher can know whether the students are extrovert and introvert. Then, tests were collected to gather data about students' writing ability. The students



were given a pre-test to assess their basic abilities linked to producing narrative text, which was carried out in both experimental classrooms. Then, the treatment was conducted by using Padlet for experimental class 1 and Slack application for experimental class 2. After the treatment was completed, a post-test would be administered to assess the student's learning achievement in producing the narrative text. This test was administered to both the experimental classrooms to determine the success rate of collaboration tools (Padlet and Slack application). The researcher compared the pre-test and post-test scores to determine the success of collaborative tools in teaching writing utilizing Padlet and Slack application. Furthermore, the researcher conducted the observations using the participatory observation approach from the beginning through the completion of the lesson, and the observer examined the students' responses and interests in collaborative tools such as Padlet and Slack in teaching writing.

### **Data Analysis**

The next phase of this research process is data analysis. The data from the test and questionnaire are quantitatively assessed. Then, the researcher employed parametric inferential statistical analysis, which tested population parameters using sample data. Initially, the researcher categorized students as introverts or extroverts. Following that, normality and homogeneity tests were performed to guarantee that the student's scores were normally distributed and homogeneous. The researcher then utilized a Paired Sample T-test to evaluate the efficiency of collaborative tools with the Padlet and Slack applications in teaching writing to students with diverse personalities. Then, the Independent Sample T-test was used to determine the significant difference between Padlet and Slack application as collaborative tools in teaching writing to extrovert and introvert students.

## FINDINGS

This study investigated the effectiveness of using Padlet and Slack application in teaching writing to extrovert and introvert students.

### The result of Students' Pre-Test and Post-Test in Experimental Class I and II

In comparing the students' pre-test and post-test, the researcher used SPSS v.23 to know the result of descriptive statistics of both tests. The table below presents the pre-test and post-test results for both classes. The table was as follows.

**Table 2.**

*Descriptive statistics of students' pre test*

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Experimental 1 Extrovert (Padlet)	17	70	90	76.41	5.969
Pre-Test Experimental 1 Introvert (Padlet)	19	71	81	76.89	3.143
Pre-Test Experimental 2 Extrovert(Slack Application)	22	67	87	75.64	6.122
Pre-Test Experimental 2 Introvert (Slack Application)	14	67	87	76.29	7.065
Valid N (listwise)	14				

Table 1 shows that the maximum score of experimental class I for extrovert students was 90, with a mean score of 76.41. Meanwhile, in experimental class I for introvert students, the maximum score was 81, with a mean score of 76.89. It can be concluded that the mean scores of both personalities were quite similar even though the maximum score of the extrovert students was higher than that of the introvert students. Furthermore, the maximum score of experimental class II

for extrovert students was 87, with a mean score of 75.64, and the maximum score of experimental class II for introvert students was 87, with a mean score of 76.29. It can also be concluded that there were similarities in the students' pre-test results for experimental class II.

**Table 3.**

*Descriptive statistics of students' post-test*

	N	Minimum	Maximum	Mean	Std. Deviation
Post-Test Experimental 1 Extrovert (Padlet)	17	77	92	85.88	4.256
Post-Test Experimental 1 Introvert (Padlet)	19	78	94	88.05	4.352
Post-Test Experimental 2 Extrovert (Slack Application)	22	77	92	84.68	4.684
Post-Test Experimental 2 Introvert (Slack Application)	14	72	94	85.57	6.235
Valid N (listwise)	14				

Table 2 shows the statistics of the students' post-tests. It can be seen that the maximum score of experimental class I for extrovert students was 92, with the mean score being 85.88. Meanwhile, in experimental class I for introvert students, the maximum score was 94, with the mean score being 88.05. It can be concluded that the maximum score of the introvert students was higher than the extrovert students, which was different from the pre-test before. Furthermore, the maximum score of experimental class II for extrovert students was 92, with a mean score of 84.68, and the maximum score of experimental class II for introvert students was 94, with a mean score of 85.57. It can also be concluded that there were quite a few similarities in the results of the students' post-test for the experimental class II; thus, the introvert students' scores were also higher than those of the extrovert students. Both tables indicated that students in experimental I had higher mean pre-test and post-test scores than experimental II students.

## The Effectiveness of Using Padlet in Teaching Writing to Extrovert Students

In calculating the effectiveness of using Padlet with extrovert students, the researcher used paired-sample statistics and t-tests. Table 4 was the Paired Sample Statistics, which discusses the score of using Padlet in writing class to extrovert students, and the table was as follows.

**Table 4.**

*Paired sample statistics of Padlet to extrovert students*

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test Experimental Class 1 Extrovert (Padlet)	76.41	17	5.969	1.448
	Post-Test Experimental Class 1 Extrovert (Padlet)	85.88	17	4.256	1.032

Based on the table, it is known that the mean score of the pre-test was 76.41, with a standard derivation of 5.969. Meanwhile, the mean score of the post-test was 85.88, with the standard derivation being 4.256, and both of the results of the tests came from 17 extrovert students. The data indicated that the students' post-test score was higher than the pre-test. This means that the student's writing improved after they used Padlet as a collaborative tool in the teaching and learning activities during the writing class.

Moreover, Table 5 shows the Paired Sample T-test of the pre-test and post-test in knowing the significant effect of using Padlet in teaching writing to extrovert students.

**Table 5.**

*Paired sample t-test of using Padlet to extrovert students*

		Paired Differences					t	df	Sig. (2-tailed)
		Std. Devia	Std. Error	95% Confidence Interval of the Difference					
		Mean	Mean	Lower	Upper				
Pair 1	Pre-Test Experimental Class 1 Extrovert (Padlet) - Post-Test Experimental Class 1 Extrovert (Padlet)	-9.471	5.501	1.334	-12.299	-6.642	-7.098	16	.000

Based on the table above, it presented that the significance value of the Paired Sample T-test between the pre-test and post-test was 0.000. It showed that the significance value was less than 0.05 ( $0.000 < 0.05$ ). It indicated that  $H_0$  was rejected and  $H_a$  was accepted, which means there was a significant effect of using Padlet in teaching writing to extrovert students.

### **The Effectiveness of Using Slack application in Teaching Writing to Extrovert Students**

The researcher used Paired Sample Statistics and Paired Sample T-tests to identify the significant effect of using the Slack application in teaching writing to extrovert students. The table below shows the Paired Sample Statistics:

**Table 6.**

*Paired sample statistics of Slack application to extrovert students*

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test Experimental Class 2 Extrovert (Slack application)	75.64	22	6.122	1.305
	Post-Test Experimental Class 2 Extrovert (Slack application)	84.68	22	4.684	.999

The experimental class II used the Slack application as the collaborative tool in their class. The table above presents the mean score, the number of students, and the standard derivation between the students' pre-test and post-test. The extrovert students who used the Slack application were 22 students. It showed that the mean pre-test score was 75.64, with a standard derivation of 6.122. Meanwhile, the mean post-test score was 84.68, with a standard derivation of 4.684. The data showed that the mean score of students' post-tests was higher than that of students' pre-tests, which means there was an improvement in the extrovert students' writing after using the Slack application in the teaching and learning activity during the writing class.

Furthermore, table 7 presented that the significance value of the Paired Sample T-test between the students' pre-test and post-test was 0.000. It indicated that the significance value was less than 0.05 ( $0.000 < 0.05$ ). It can be concluded that  $H_0$  was rejected and  $H_a$  was accepted, which means it was significant for extrovert students. The table below presented the Paired Sample T-test of the students' pre-test and post-test to know the significant effect of using Slack application in teaching writing to extrovert students.

**Table 7.**

*Paired sample t-test of using Slack application to extrovert students*

		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Devia	Std. Error	Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-Test Experimental Class 2 Extrovert (Slack application)	-9.045	5.802	1.237	-11.618	-6.473	-7.312	21	.000
	- Post-Test Experimental Class 2 Extrovert (Slack application)								

### The Effectiveness of Using Padlet in Teaching Writing to Introvert Students

In calculating the effectiveness of using Padlet for introvert students, the researcher used Paired Sample Statistics and Paired Sample T-tests. The table below was the Paired Sample Statistics, which discusses the score of using Padlet in writing class to introvert students; the table was as follows.

**Table 8.**

*Paired sample statistics of Padlet to introvert students*

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test Experimental Class 1 Introvert (Padlet)	76.89	19	3.143	.721
	Post-Test Experimental Class 1 Introvert (Padlet)	88.05	19	4.352	.998

Table 8 shows the mean score, the number of students, and standard derivation. It is known that the mean score of the pre-test was 76.89, with the standard derivation being 3.143. Meanwhile, the mean score of the post-test was 88.05 with a standard derivation of 4.352, and both of the results of the tests came from 19 introvert students. The data indicated that the score of the students' post-test was higher than the pre-test. This means that the student's writing improved after they used Padlet as a collaborative tool in the teaching and learning activities during the writing class. Furthermore, the table below shows the Paired Sample T-test of the pre-test and post-test to know the significant effect of using Padlet in teaching writing to introvert students:

**Table 9.**

*Paired sample t-test of using Padlet to introvert students*

		Paired Differences					t	df	Sig. (2-tailed)
		95% Confidence Interval of the Difference			Std. Deviation				
	Mean	Std. Error	Lower	Upper					
Pair 1	Pre-Test								
	Experimental Class 1 Introvert (Padlet) - Post-Test	-11.158	3.184	.731	-12.693	-9.623	-15.273	18	.000
	Experimental Class 1 Introvert (Padlet)								

Based on the table above, it presented that the significance value of the Paired Sample T-test between the pre-test and post-test was 0.000. It showed that the significance value was less than 0.05 ( $0.000 < 0.05$ ). It indicated that  $H_0$  was rejected and  $H_a$  was accepted, which means there was a significant effect of using Padlet in teaching writing to introvert students.



## The Effectiveness of Using Slack application in Teaching Writing to Introvert Students

In identifying the significant effect of using the Slack application in teaching writing to introvert students, the researcher used paired-sample statistics and t-tests. Firstly, Paired Sample Statistics presented the introvert students' test scores before and after using the Slack application as a collaborative tool in writing class. The table below shows the Paired Sample Statistics.

**Table 10.**

*Paired sample statistics of Slack application to extrovert students*

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test Experimental Class 2 Introvert (Slack application)	76.29	14	7.065	1.888
	Post-Test Experimental Class 2 Introvert (Slack application)	85.57	14	6.235	1.666

Table 10 presents the mean score, the number of students, and the standard derivation between the students' pre-test and post-test. The introvert students who used the Slack application were 14 students. It showed that the mean pre-test score was 76.29, with a standard derivation of 7.065. Meanwhile, the mean post-test score was 85.57, with a standard derivation of 6.235. The data showed that the mean score of students' post-tests was higher than that of pre-tests. This means that the introvert students' writing improved after using the Slack application in the teaching and learning activity during the writing class.

**Table 11.**

*Paired sample t-test of using Slack application to extrovert students*

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	Sig. (2-tailed)	
Pair 1	Pre-Test								
	Experimental								
	Class 2 Introvert								
	(Slack application)								
	- Post-Test	-9.286	5.608	1.499	-12.524	-6.048	-6.195	13 .000	
	Experimental								
	Class 2 Introvert								
	(Slack application)								

Meanwhile, table 11 presented that the significance value of the Paired Sample T-test between the students' pre-test and post-test was 0.000. It indicated that the significance value was less than 0.05 ( $0.000 < 0.05$ ). It can be concluded that  $H_0$  was rejected and  $H_a$  was accepted, which means there was a significant effect of using Slack in teaching writing to introvert students.

**The Difference between Padlet and Slack application in Teaching Writing to Extrovert Students**

Independent Sample T-test was used to determine the significant difference between Padlet and Slack application as collaborative tools in teaching writing to extrovert students. In this phase, the researcher calculated the students' achievement in writing class through the students' post-test in experimental class I, which was taught using Padlet, and experimental class II, which was trained using the Slack application. Table 12 shows the Group Statistics of students' post-test:

**Table 12.**

*Group statistics of Padlet and Slack application to extrovert students*

Class		N	Mean	Std. Deviation	Std. Error Mean
Students' Writing Achievement	Post-Test of Experimental Class 1 Extrovert (Padlet)	17	85.88	4.256	1.032
	Post-Test of Experimental Class 2 Extrovert (Slack application)	22	84.68	4.684	.999

Based on the table, it can be known that the mean score of students' post-test in experimental class I was 85.88, with the standard derivation being 4.256. This class consisted of 17 extrovert students who were taught using Padlet in their writing class. Meanwhile, the students' post-test of experimental class II was 84.68, with a standard derivation of 4.684. The score came from 22 extrovert students taught using the Slack application in their writing class. The data showed that the students' post-test of experimental class I, taught using Padlet, was higher than that of experimental class II, taught using the Slack application.

Moreover, it provides the result of the difference between Padlet and Slack application as collaborative tools in teaching writing to extrovert students. Table 13 shows the result of the Independent Sample T-test, which discussed the students' post-test in students' writing achievement through using Padlet and Slack application.

**Table 13.**

*Independent sample t-test of Padlet and Slack application to extrovert students*

	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
Students' Writing Achievement	.457	.503	.825	37	.414	1.201	1.454	-1.746	4.147
Equal variances assumed									
Equal variances not assumed			.836	35.965	.409	1.201	1.436	-1.712	4.113

Table 13 presented the Independent Sample T-test of the students' post-test after conducting Padlet and Slack application in learning and teaching activities during writing class. It showed a significant value in Levene's Test Equality of Variances, which was 0.503. The value indicated that it was higher than 0.05 ( $0.503 > 0.05$ ), which means that  $H_0$  was accepted and  $H_a$  was rejected. Based on this hypothesis, the significance value of the T-test for Equality of Means was 0.414, which showed that it was higher than 0.05 ( $0.414 > 0.05$ ). It is also indicated that  $H_0$  was accepted, and  $H_a$  was rejected. From these significance values, there was no difference between the effectiveness of Padlet and Slack application in teaching writing to extrovert students.

Furthermore, the effectiveness of using Padlet and Slack application in teaching writing to extrovert students can be seen in the students' post-test. It showed that the students' post-test scores were higher than the students' pre-test scores. Both Padlet and Slack application can improve the writing skill of extrovert students. These tools were effective because the Padlet and Slack application can be a collaborative tool that allows the students to collaborate and obtain feedback from their friends and teachers directly. However, the

researcher needs to find out which application is better for teaching writing. It can be seen from the mean score of students' post-tests of using Padlet and Slack application. The mean score of experimental class I, which used Padlet, was 85.88, and the mean score of experimental class II, which used the Slack application, was 84.68, which means the scores using Padlet were higher than the Slack application. It indicated that Padlet was the better media for teaching writing to extrovert students because of the features of Padlet, which were more flexible and easy to use during the teaching writing activity.

### **The Difference between Padlet and Slack application in Teaching Writing to Introvert Students**

In this phase, the researcher calculated the introvert students' achievement in writing class through the students' post-test in experimental class I, which was taught using Padlet, and experimental class II, which was trained using the Slack application. The data was calculated by using SPSS v.23. The table below shows the Group Statistics of students' post-test.

**Table 14.**

*Group statistics of Padlet and Slack application to introvert students*

Class		N	Mean	Std. Deviation	Std. Error Mean
Students' Writing Achievement	Post-Test of Experimental Class 1 Introvert (Padlet)	19	88.05	4.352	.998
	Post-Test of Experimental Class 2 Introvert (Slack application)	14	85.57	6.235	1.666

Table 14 shows that the mean score of students' post-tests in experimental class I was 88.05, with a standard derivation of 4.352. This class consisted of 19 introvert students who were taught using Padlet in their writing class. Meanwhile, the students' post-test of experimental class II was 85.57, with a standard derivation of 6.235. The score came from 14 extrovert students taught using the Slack

application in their writing class. The data showed that the students' post-test of experimental class I, taught using Padlet, was higher than that of experimental class II, taught using the Slack application.

Moreover, it provides the result of the difference between Padlet and Slack application as collaborative tools in teaching writing to introvert students. Table 15 shows the result of the Independent Sample T-test, which discussed the students' post-test in students' writing achievement through using Padlet and Slack application.

**Table 15.**

*Independent sample t-test of Padlet and Slack application to introvert students*

		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
Students' Writing Achievement	Equal variances assumed	2.398	.132	1.348	31	.187	2.481	1.840	-1.272	6.235
	Equal variances not assumed			1.277	21.965	.215	2.481	1.943	-1.548	6.510

Table 15 presented the Independent Sample T-test of the students' post-test after conducting Padlet and Slack application in learning and teaching activities during writing class. It showed a significant value in Levene's Test Equality of Variances, which was 0.132. The value indicated that it was higher than 0.05 ( $0.132 > 0.05$ ), meaning that  $H_0$  was accepted and  $H_a$  was rejected. Following this hypothesis, the significance value of the T-test for Equality of Means was 0.187, which showed that it was higher than 0.05 ( $0.187 > 0.05$ ). It

is also indicated that  $H_0$  was accepted, and  $H_a$  was rejected. From these significance values, it means that there was no difference between the effectiveness of Padlet and Slack application in teaching writing to introvert students.

Furthermore, the students' post-test shows the effectiveness of using Padlet and Slack application in teaching writing to introvert students. It showed that the students' post-test scores were higher than the students' pre-test scores. Both Padlet and Slack application can improve the writing skill to introvert students. These tools were effective because the Padlet and Slack application can be a collaborative tool that allows the students to collaborate and obtain feedback from their friends and teachers directly. However, to find out which application is better for teaching writing. It can be seen from the mean score of students' post-tests of using Padlet and Slack application. The mean score of experimental class I, which used Padlet, was 88.05. The mean score of experimental class II using the Slack application was 85.57, which means the Padlet scores were higher than the Slack application. It indicated that Padlet was the better media for teaching writing to introvert students because of its features of Padlet which were more flexible and easy to use during the teaching writing activity.

## DISCUSSION

The findings showed that using the Padlet and Slack applications effectively improved students' writing achievement. Padlet and Slack application can be used as collaborative tools in teaching and learning activities. While using them, students can actively collaborate with other students, and teachers can directly give feedback on the students' writing. Furthermore, Padlet and Slack application can be used by both extrovert and introvert students. Thus, they are appropriate as tools in teaching activities.

Several researchers have conducted Padlet as a teaching and learning activity tool, especially in writing. Musdir et al. (2018), Fadhilawati et al. (2022), and Nurramdaeni et al. (2021) stated that Padlet could be an appropriate learning medium can aid and boost

students' interest in creating their writing; it can be seen from these studies that there was a significant difference between the students' writing skill in content and organization of their writing before and after treatment and that utilizing Padlet was able to increase the students' writing ability. Kharis and Putri (2020) claimed that Padlet provides several benefits, including pushing students to write, giving a fresh experience for students to learn writing via new media, and providing introvert students with a calm environment in which to learn and discuss things.

In line with that, Rouhani (2020), Tasdemir & Yildirim (2017), and Lin et al. (2016) believe that using Slack as a communication and collaboration system may result in happier pupils. Therefore, it is reasonable to conclude that Slack in particular circumstances, with particularly responsive class, can improve successful learning and is suitable as a communication tool in such an environment. Aside from that, Slack gives a new way to work, collaborate, and communicate. Furthermore, the Slack application can also be used to teach writing. Heryandi et al. (2020) stated in their study that student questionnaires indicate that online classrooms improve students' comprehension of instructional materials. In writing skills, the teacher utilized the Slack application to emphasize and correct the students' writing. In reality, students acquired confidence in their writing skills by utilizing the Slack application in the classroom. The previous studies indicated that Slack is a precise tool in classroom activities where students work and collaborate with other students. The students can give their opinions through the elements of the Slack application. It can also increase participation and information sharing with peers and groups.

Following previous studies, the current research also defined that Padlet can be used by extrovert and introvert students to teach writing. Students with different personalities can actively collaborate in creating their writing with this tool. According to Bober and Hynes (2018), Padlet helps extrovert students to engage, making it an excellent tool for students with extrovert personalities. Padlet can also be utilized by introverted students. However, the teacher should provide



interactive media for the classroom. Using Slack as an online collaborative tool can be helpful as a teacher's strategy for improving students' writing achievement. Thus, from this research, it can be known that Slack application can also be used for extrovert and introvert students.

Therefore, based on the students' post-test, Padlet was more effective than Slack application for both students' personalities. Even though both tools can be used for both students' personalities as collaborative tools, the difference between the Padlet and Slack application is only in the features of these applications. A Padlet is a space like a wall in which the teacher and students can interact to give a reaction and comment. The teachers can freely post about the material/topic, and the students can freely post about their ideas and collaborate with the teachers and the other students. Meanwhile, the Slack application is like social media, where teachers can post material and respond to the topic. Through Slack, the teachers and students can also communicate with one another with direct messages if the students are uncomfortable giving their comments. Thus, both tools facilitate the teachers and students in writing class because the teachers can directly give the feedback so students can improve their writing through the teachers' feedback.

This research also found that there was no difference between Padlet and Slack application in teaching extrovert and introvert students. It is in line with the statement from Sutrisno et al. (2018) and Sucianik & Natasha (2018), both extrovert and introvert students may improve their writing skills using media and techniques provided by their teachers. Rahardi et al. (2024), and Warda et al. (2020) also claimed that the teachers may provide learning strategies that are tailored to the personalities of all students in the class, leading to effective learning, particularly when teaching writing. Extroverts who study language are often sidetracked from their studies since they have short attention spans. Introverts, on the other hand, are far more patient, can focus more on studying than extroverts, and excel in grammar and academic skills such as reading and writing, which do not require as much

interaction with others. In this situation, the Padlet and Slack applications might be utilized for teaching and learning during the writing lesson. Extrovert students may concentrate on their writing while utilizing the Padlet and Slack applications. Meanwhile, introvert students can enjoy sharing their views without worrying about their shyness in class.

## CONCLUSION

This study examines the effectiveness of using Padlet and Slack application in teaching writing to extrovert and introvert students. Even though Padlet outperformed the Slack application for teaching writing to extrovert and introvert students, as evidenced by higher mean post-test scores in the experimental class taught by using Padlet. As a result, it was determined that Padlet, as a collaborative tool, was more successful in teaching writing to extrovert and introvert students than Slack application since extrovert and introvert students showed a significant increase in their writing accomplishment after receiving treatment through using Padlet for teaching writing in the classroom. Besides the result of this research, Padlet and Slack application as collaborative tools were effective in teaching writing to both students' personalities. It also concluded that the teacher can use both Padlet and Slack application to make the students actively collaborate through using Technology technology in the teaching and learning activities.

In addition, Padlet and Slack applications can be helpful platforms if the next researcher is interested in conducting similar research from a different perspective, idea, or point of view to increase our contribution to the English subject, such as reading comprehension, speaking skills, or listening skills. Furthermore, further researchers can examine Padlet and Slack application with other external and internal factors such as learning styles, motivation level, learning habits, and many more points of view, or they can carry out similar research with varied genres of English text to students with different education levels such as elementary students, junior high school students or college students. As a result, this study may be

expanded to include a variety of other research perspectives that can significantly contribute to enhancing English teaching and learning.

## REFERENCES

- Abid. (2020). *Revisiting issues in English teaching and literature classrooms: Theory, practice, and reflection*. Gorontalo: Ideas Publisher.
- Ahmad, A., Rubayyi, Y. A., & Eftita, F. (2022). Students' perception of online learning-based Padlet during pandemic. *AL-ISHLAH: Jurnal Pendidikan*, 14(1), 487-494. <https://doi.org/10.35445/alishlah.v14i1.1095>
- Amalia, M. (2022). Inovasi pembelajaran Kurikulum Merdeka Belajar di era society 5.0 untuk revolusi Industri 4.0. *Senassdra: Seminar Nasional Sosialm Sains, Pendidikan, Humaniora*, 1, 1-6. <http://prosiding.unipma.ac.id/index.php/SENASSDRA>
- Ardiansah, D. (2021). The relationship between students' perceptions on online slack application and their motivations in writing skills. *E-Structural*, 4(01), 43-54. <https://doi.org/10.33633/es.v4i01.4431>
- Aryani, O. D., Linggar Bharati, D. A., & Astuti, P. (2021). Teachers practices in using educational mobile applications to teach English. *English Education Journal*, 11(1), 37-55. <https://doi.org/10.15294/eej.v11i1.40710>
- Bober, M., & Hynes, D. (2018). Tools for entertainment or learning? Exploring students' and tutors' domestication of mobile devices. *Networked Learning*, 149-166. [https://doi.org/10.1007/978-3-319-74857-3\\_9](https://doi.org/10.1007/978-3-319-74857-3_9)
- Creswell, J. W. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.)*. SAGE Publications.
- Fadhilawati, D., Rachmawati, D. L., & Hastari, S. (2022). Padlet as a creative wall for enhancing and evaluating students' writing of recount text in a higher education. *Jurnal Sinestesia*, 12(2), 587-597. <https://sinestesia.pustaka.my.id/journal/article/view/224>
- Ghavifekr, S. & Rosdy, W.A.W. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science (IJRES)*, 1(2), 175-191.
- Heryandi, Y., Said, I., & Herlina, R. (2020). Online teaching in writing by using means of slack application. *Journal of English Education*

- and Teaching (JEET), 4(1), 49-68.  
<https://doi.org/10.33369/jeet.4.1.49-68>
- Kharis, & Putri, D. E. R. (2020). Assessment of learning design with Padlet on the writing skills of German language level A2-B1. 4th *International Conference on Arts Language and Culture (ICALC 2019)*, 421, 584 – 590.  
<https://doi.org/10.2991/assehr.k.200323.069>
- Lin, B., Zagalsky, A., Storey, M. A., & Serebrenik, A. (2016). Why developers are slacking off: Understanding how software teams use slack. *Proceedings of the ACM Conference on Computer Supported Cooperative Work*, 333–336.  
<https://doi.org/10.1145/2818052.286911>
- Maghdalena, A. H., Faridi, A, & Hartono, R. (2022). The effectiveness of synchronous and asynchronous e-learning environments in teaching writing to different personalities. *English Education Journal*, 12 (3), 333346.  
<https://doi.org/10.15294/eej.v12i3.57801>
- Musdir, Z., Asriati, S., & Baso, Farisha A. (2018). The use of Padlet application (pa) to enhance students writing ability: An experimental research. *Journal of Computer Interaction in Education*, 1(2), 1–23.  
<https://ojs.fkip.unismuh.ac.id/index.php/JCIE/index>
- Nurramdaeni, N., Suryaman, M., & Mobit, M. (2021). Padlet-assisted descriptive text writing: How did Indonesian EFL senior high school students' experience?. *Jurnal Pendidikan Tambusai*, 5, 8910–8919.  
<https://jptam.org/index.php/jptam/article/view/239>
- Rahardi, P., Vina Oktaviana, Tri Himatul Aliyah, & Afi Normawati. (2024). The correlation between university students' personality and mastery of writing skills. *SAGA: Journal of English Language Teaching and Applied Linguistics*, 5(1), 19–28.  
<https://doi.org/10.21460/saga.2024.51.168>
- Rantelimbong, S., Todingallo, P., and Tandhayu, E.G.. (2021). Pendekatan konsep “Merdeka Belajar” dalam pendidikan era digital. *Prosiding Seminar Nasional Teknologi Pendidikan UKI Toraja*, 96-104
- Rohimajaya, N. A., Hartono, R., Yuliasri, I., & Fitriati, S. W. (2022). Kurikulum 2013 dan Kurikulum Merdeka dalam perkembangan bahasa Inggris untuk SMA di era digital: Sebuah

- analisis konten. *Prosiding Seminar Nasional Pascasarjana*, ISSN 26866  
(<http://pps.unnes.ac.id/pps2/prodi/prosidingpascasarjana-unnes>), 825–829.
- Rouhani, M. (2020). Utilizing Slack as a communication platform in a flexible learning trajectory course: Supporting the learning process. *ACM International Conference Proceeding Series*.  
<https://doi.org/10.1145/3442481.3442503>
- Sabin, J., & Olive, A. (2018). Slack: Adopting social-networking platforms for active learning. *PS - Political Science and Politics*, 51(1), 183–189. <https://doi.org/10.1017/S1049096517001913>
- Sucianik, & Natasha, H. (2018). The correlation between students' personality traits and their writing ability. *International Journal of Integrated English Language Teaching*, 4(1), 54–76.  
<http://dx.doi.org/10.24014/ijielt.v4i1.5143>
- Sutrisno, B., Rasyid, Y., & Rahmat, A. (2018). The effect of cooperative language learning and personality types towards essay writing. *English Review: Journal of English Education*, 6(2), 95 - 104.  
<https://doi.org/10.25134/erjee.v6i2.1259>
- Taopan, L. L., Mujiyanto, J., Fitriati, S. W., & Sakhiyya, Z. (2014). " Saya bukan guru yang mahir teknologi ": Implementasi teknologi digital di kelas untuk pembelajaran bahasa Inggris. 6 (1), 465–472.
- Tasdemir, H., & Yildirim, T. (2017). Collaborative teaching from English language instructor's perspectives. *Journal of Language and Linguistics Studies*, 13 (2). 632-642.
- Vogt, W. P. (2005). *Dictionary of statistics and methodology: A nontechnical guide for the social sciences (3rd ed.)*. Thousand Oaks, CA: Sage.
- Wahyuni, S., Fitriati, S. W., & Maharani, J. C. (2019). Use of mobile learning applications to support paperless classroom pedagogy. *Conference on the Environmental Conservation through Language, Arts, Culture and Education, Ceclace*, 51–54.
- Wahyuni, S., Mujiyanto, J., Rukmini, D., & Fitriati, S. W. (2020). Teachers' technology integration into English instructions: SAMR model. 443 (*Iset* 2019), 546–550.  
<https://doi.org/10.2991/assehr.k.200620.109>
- Waloyo, E., Hartono, R., Wahyuni, S., & Yulianto, H. J. (2022). The ICT literacy level of efl students at IAIN Syekh Nurjati Cirebon.

*International Conference on Science, Education and Technology*, 612–617.

Warda, R., Rahman, A., & Jabu, B. (2020). The effects of students' personality and motivation on English learning achievement at SMA Negeri 12 Makassar. *Student, English Education Department, Universitas Negeri Makassar, Indonesia*, 2008.

Yuvita, Y., Hartono, R., Wuli Fitriati, S., & Saleh, M. (2022). Perceptions of technology in language teaching among English pre-service teachers. *International Conference on Science, Education, and Technology*, 8(1), 206–209. Retrieved from <https://proceeding.unnes.ac.id/ISET/article/view/1752>