The Effect of Using Digital Sequence Pictures on Students' Ability in Writing an Explanation Text

Meisyani Gustri Fadila[1], and Fitrawati[2]
English Department
Faculty of Language and Arts
Universitas Negeri Padang
Email : meisyanifadila@gmail.com

Article History	Abstract
	The study aimed to investigate the effect of using digital sequence pictures on learners' competence in writing an explanation text. The study used quasi-experimental research design and had two classes which were the control class and the experiment class. Then, it had the grade eleven students of SMAN 1 Lengayang as the population. After that, the cluster random sampling was implemented in deciding samples. There were two classes were taken. They were eleven grade science one as the experiment class and eleven grade science two as the control class. The writing test was used as the instrument of the study which was writing an explanation text. The output of the study was anatomized by using the paired sample t-test. The value of paired sample t-test in the research stated that the sign 2-tailed is 0.000 which means that the value of the sign. 2-tail reduce than 0.05 so that the alternative hypothesis or the first hypothesis was admitted. Therefore, the findings of the data presented that there was an advancement from the learners in writing the explanation text through the digital sequence pictures. The output of the data recommended that the digital sequence pictures were able for learners to improve their competence in writing an explanation text.
Keywords: Writing, Explanation Text, Digital Sequence Pictures,	

A. INTRODUCTION

Writing is the English competence which is learnt at school. By definition, writing is a competence where people want to tell their ideas, emotions, or thoughts through a written form. Brown (2001) states that "Writing is a way of reflecting person through ideas. After she/he has gone through the thought process, she/he writes final written products based on the ideas." (Marhum, 2014). Muhsin (2014) agrees that writing is how expressing thoughts, feelings, and ideas into a written product by focusing on the correct grammatical tools (Zulfiani, 2017). Additionally, Byrne (2006) defines writing as a finding process that is implicating about how to

find out ideas, organize them and discover what the writer wants to tell in their written form to readers (Zathira, 2014). All those experts' views tell that writing is a process of person who wants to tell a message through a written form with a systematic process starting with finding out ideas, organizing, writing, and editing.

In Brown's opinion, the result of writing skill is a written product called a text. One of genre texts is explanation text which is studied at the senior high school level for the eleven grades. Kosasih (2014) defines an explanation text that is a text which is telling about charitable, cultural, or natural phenomena (Hutasuhut, Lubis, & Daulay, 2019). Dirgeya (2016) tells, explanation text is kind of genre text which aim to illustrate about the process of natural, social, or cultural phenomena (Saragih, Adisaputera, & Saragi, 2019). In addition, Mark Anderson & Kathy Anderson (1997) states that an explanatory text is a text describing the way how natural occurrences, scientific procedures, and socio-cultural events. They also explained the purpose of the explanation text which is to explain how a natural or socio-cultural phenomenon occurs (Ningsih, 2021). In short, an explanatory text is a text explaining about native, cultural, or charitable occurrences.

Therefore, in writing an explanation text, the writers or the learners must examine about the text structure and grammar language tools. The text structure is defined as the systematic structure of the text while the language feature is defined as the grammatical or language used in the text. Mark Anderson & Kathy Anderson (1997) expresses, the text structure of the explanatory text included (1) General Statement, which is telling about the event or the topic in the text, (2) collection of Sequence Paragraphs, which is telling about the reason and process of the topic in the text, and (3) Concluding Paragraph, which is telling about the conclusion of the text or the closing paragraph. They also explain about the language feature or the grammar feature of explanatory text; they are nouns (generic participant) such as rain, action verbs, using simple present and future tense, conjunction, and usually using chronological sequence words (Pulungan, 2018).

However, writing an explanation text is arduous for learners by pondering the text structure and grammar language. In fact, the researcher found that learners appear many issues in writing it. The first issue, the learners are difficult to develop their ideas while writing a text. The issue also found in a journal by Satriani (2021). She states that most students are not interested in writing because they cannot develop their ideas through a written form and the researcher had done pre-research about this case. Wirawan (2015) also states similarly about students' problems in writing. He defines that students' lack of ideas and the tedious class that they have. Most students cannot get what the teachers teach to them because of the way of teachers' teaching method or strategy. As the result, when the students are asked to write a text like an explanatory text as an assignment, they cannot develop ideas to write it.

The next problem, the students are difficult in arranging words into sentences while they are writing a text, and actually writing a text is more complex than any other English skill. Hutapea & Pulungan (2012) also states a similar issue in their journal. They explain that students do not understand about how to arrange words to make a coherent paragraph or sentence. Due to these issues, the students must be able to develop their thoughts, organize the text context, use appropriate grammar,

select appropriate lexical and structural forms, and present appropriate punctuation and spelling based on the text. In solving the issues, teachers must provide a good and appropriate way in lecturing writing skill. One of the good ways is preparing a good media for the students so that they are not boring and can develop their ideas through the media presented. There are so many good media that teachers can use such as digital sequence of pictures.

According to Yunus (1981:49) tells that the picture sequence is a series of sequences made up of several related composite pictures (Satriani, 2021). Additionally, the implementation of the sequence of pictures will apply by using digital or technology which is PowerPoint slides. The development of technology is growing very rapidly in this era so that the teachers should utilize this digital. According to Rouse (2005) states that digital refers to electronic or mechanical devices. It means that the information can be presented through electronic or mechanical devices and in this case, it presents the sequence of pictures (Hamdy, 2017). Then, this media can help students in generating and developing their ideas since they represent a story or a set of events. It can also assist students in organizing their writing by providing a sequence of pictures that allow them to see the processes and order in which they should be completed.

The picture series or sequences has been investigated by many people to increasing the writing competence. The first research is by Zathira (2014), she found in the findings that there is an increasing of students' scores between before giving and after giving the treatment. In the same way, Marhum (2014) also found, it was an advancement of learners' competence in writing procedure text through sequence pictures as treatment. Also, he suggested the sequence of pictures as a media which can develop students' writing skill. Even though, there are so many investigators who have already researched about the sequence of pictures but this research has a novelty which is digital sequence pictures. This research focuses on utilizing the digital which is popular in this era for applying sequence pictures to find out how learners' competence in writing an explanation text.

Briefly, the digital sequence pictures are a kind of media utilizing digital to implement a collection of pictures in chronological sequence. Then, this research aims to know the media (digital sequence pictures) effects on learners' competence in writing an explanation text.

B. METHOD
1. Research Design
The investigation was quasi-experimental research design. Mitchell & Jolley (2010) in their book stated, quasi-experimental research is an experiment where participators are not randomly given a treatment in order to know the effect. The classes were the experiment class and the control class.

2. Population and Sample
Eleven grades of SMAN 1 Lengayang was implemented as the population in this study. Then, in this study, the cluster random sampling was used for deciding the samples. After doing cluster random sampling with the lottery, the writer had the eleven grade science one and the eleven grade science two. In conclusion, the writer

decided that eleven grade science one as the experiment class and eleven grade science two as the control class.

3. Instrumentation

The writer used the writing test as the tools in the study for submitting the data. The writing test in this study was pre – test and post–test for both classes which were the control class and the experiment class. The writer requested the learners to write an explanation text from the issue that teacher provided. Then, learners wrote explanatory text from it. Moreover, when they wrote the text, they must write the text posit the digital sequence pictures which the researcher presented to them. Learners also wrote it in three paragraphs related with the generic structure of the explanation text and they must write at least 100 words. For the issues, the writer provided two topics and the topics were shown in the table below.

Table 1 Topics of Explanaion Text

No	Topics	Types of Phenomena	Types of Explanation Text
1.	The process of the rain	Natural phenomena	Sequential
2.	The process of electing the Indonesian president	Social phenomena	Sequential

3.1 Validity

Winter (2000) explains that the validity shows how actually the instrument is and tells about what it measures, explains or describes (Cohen, Manion, & Morrison, 2018). In validating the instrument, the researcher used content validity. Fraenkel and Norman (2006) define the content validity aims to make sure the content of the instrument (test) is appropriate (Zulfiani, 2017). Because the researcher created the writing test posit on the lesson that the learners had studied, the researcher consulted the test with the expert who was skilled about writing. In the study, the writer decided to asks lectures of the English department in Padang State University and the lecture was an expert on the writing skill. Finally, the instrument can be validated.

3.2 Reliability

Gay & Airisian (2000, p. 169) explain, reliability is the consistency which a test value what it is supposed to measure (Zulfiani, 2017). Also, Brown (2004) states that a reliability test is suitable and persistent. It implies that the result of the instrument was consistent and can use anytime. Then, in the study, the writer used the types of reliability which was inter-rater by using Cohen's Kappa formula. The formula can be seen in the picture below.

Picture 1 Cohen's Kappa Formula

$$k = \frac{P_o - P_e}{1 - P_e}$$

P_o = the observed proportionate agreement = $\frac{a + d}{a + b + c + d}$

P_e = the probability of random agreement:

$$P_{Ya} = \frac{a+b}{a+b+c+d} \cdot \frac{a+c}{a+b+c+d}$$

$$P_{Tidak} = \frac{c+d}{a+b+c+d} \cdot \frac{b+d}{a+b+c+d}$$

$$P_e = P_{Ya} + P_{Tidak}$$

After that, to know the result of the reliability, the researcher decided the level of the reliability based on the interpretation of Cohen's Kappa. McHugh (2012) shows the interpretation of Cohen's Kappa which can be seen in the picture below.

Picture 2 The Interpretation of Cohen's Kappa

Value of Kappa	Level of Agreement	% of Data that are Reliable
0-.20	None	0-4%
.21-.39	Minimal	4-15%
.40-.59	Weak	15-35%
.60-.79	Moderate	35-63%
.80-.90	Strong	64-81%
Above .90	Almost Perfect	82-100%

McHugh (2012) also explains about how to analyze data that is reliable took in line with the table interpretation above. He states, the minimum score of kappa for the reliability of the data is 0.080 because the data error only achieves 20% so that the level of the data reliability is higher. As the result, the data of the instrument can be reliable if the data interpretation after Cohen's Kappa formula was above 0.80 (> 0.80).

4. Procedure of the Research

The first procedure was that learners took the pre-test to get the equivalency of learners' competence. Then, the writer implemented the digital sequence pictures in the experiment class and the writer did not use the digital sequence pictures in the control class. The time for treatment was 90 minutes during 6 meetings. After giving the treatment, the next stage was giving the post-test for the students in the experiment class and the control class. This post-test aimed to investigate the impact after providing the treatment which was the digital sequence of pictures.

5. Technique of Data Collection

The writer collected the data from the test. In addition, the writer used the writing test which is writing the explanatory text and also the test was pre-test and post-test in both classes which were control and experiment class. The writer provided 2 topics which consisted of natural phenomena and social phenomena. The topics were "The process of the rain" and "The process of electing the Indonesian president". The types of the phenomenon were a natural phenomenon topic and a social phenomenon topic. The type of explanation text of the topics was sequential. The students chose one of them as their topic in writing explanation text. Also, the test had complied with the criteria of writing explanation text. It had 3 paragraphs which was describing each generic structure of the explanation text and students should write at least 3 paragraphs.

6. Technique of Data Analysis

6.1 Students' Scores Analysis

In the first step, the researcher identified learners' mistakes in their worksheets from the two tests and gave the score. In assessing the learners' writing, the researcher used the rubric evaluation. According to Huck (2015) in his book explains that there are two types of writing rubrics available nowadays. An analytic score offered distinct features or criteria sub-scores, whereas a holistic rubric yields a single score for the entire piece or portfolio. Brown (2004) also states in his book

that a holistic rubric has a systematic scale of the score. As the result, the researcher used the holistic rubric to assess students' writing.

6.2 Normality Test

The writer peels the score by utilizing the paired sample t-test. However, before analyzing it, the data of students' marks should be normal distribution and homogeneous. It anatomized the normality test and homogeneity test. The normality test in the study was analyzed by utilizing SPSS with Kolmogorov-Smirnov. Then, the researcher determined whether the data is a normal distribution related the result assumption of the normality test. The assumption is if the sign was higher than (>) 0.05, it means the data was normally distributed and if the sign was lower than (<) 0.05, it means that the data was not normally distributed.

6.3 Homogeneity Test

After that, the homogeneity of the data was analyzed in SPSS and the result of the homogeneity based on the assumption of the homogeneity test. The assumption was if the sign in the "based on mean" is higher than (>) 0.05 that implies the distinction of the output was homogeneous and if the sign in the "based on mean" was lower than (<) 0.05 that implies the distinction of the ouput was not homogeneous.

6.4 Hypothesis Test

The writer anatomized the data with paired sample t-test in SPSS to prove the hypothesis. According to Sugiyono (2013) the formula of paired sample t-test is:

Picture 3 Formula of Paired Sample t-test

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2} - 2r\left(\frac{s_1}{\sqrt{n_1}}\right)\left(\frac{s_2}{\sqrt{n_2}}\right)}}$$

In which:

$\bar{x}_1$ = Mean of pre-test

$\bar{x}_2$ = Mean of post-test

s_1 = Standard deviation of pre-test

s_2 = Standard deviation of post-test

s_1^2 = Variance of pre-test

s_2^2 = Variance of post-test

r = Correlation

Then, the writer decided result related to the assumption of the paired sample t-test. If the sign of two-tailed is lower than (<) 0.0.5, it implies that the null hypothesis was declined and the alternative hypothesis was admitted. However, if the sign of two-tailed was higher than (>) 0.05, it implies that the null hypothesis was admitted and the first hypothesis is declined.

C. RESULT AND DISCUSSION

1. Result

1.1 Data Description

After doing the tests to control and experiment class, the data were anatomized in SPSS to know the data description such as mean, the lowest score, the higher score, and standard deviation. Then, the result of data description based on the pre-test and post-test in SPSS can be shown in the table below.

Table 2 Data Description

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Pretest Experiment	36	37	54	43.33	3.942
Posttest Experiment	36	65	85	76.50	5.245
Pretest Control	36	38	63	47.42	6.648
Posttest Control	36	51	84	68.61	6.119
Valid N (listwise)	36				

According on the table above, in the pre-test of the experiment class, from 36 students, the higher score that learners got was 54 and the lowest score was 37. However, in the post-test of the experiment class, there was an upgrading in learners' scores and the lowest score of the learners was 65 and the higher score that learners can achieve was 85. In addition, the average between the pre-test and post-test in the experiment class was different. In the pre-test, the average of the data was 43.33 while in the post-test, the average of the data was 76.50. As the result, the average of the data in the post-test was supreme than the average data in the pre-test of the experiment class.

In the table, it was also seen minimum and maximum scores in the control class. Similar to the data in the experiment class, in the control class for the pre-test score, from 36 learners, the minimum score of the learners was 38 which was quite high than the minimum score of learners in the pre-test for the experiment class. Additionally, the highest score that learners achieved in the pre-test for the control class were 63. In the post-test for the control class, there was also a significant change. The minimum score in the post-test was 51 and the maximum score was 84. Furthermore, there was also diversity of the average of the data between the pre-test and the post-test for the control class. In the pre-test, the average of the data was 47.22 and the average of the data in the post-test was 68.61. Then, the average of the data in the post-test was supreme than the average of the data in the pre-test.

1.2 Normality Test

The next step, the writer anatomized the normality test. Then, the result of the normality test in SPSS was seen in the table below.

Table 3 The Result of The Normality Test

Test of Normality		Kolmogorov-Smirnov[a]		
	Class	Statistic	df	Sig.
Students' score	Pretest Experiment	.140	36	.073
	Posttest Experiment	.140	36	.071
	Pretest Control	.127	36	.155
	Posttest Control	.141	36	.067

According to the table above, the data in the experiment and control class was distributed normally because in the experiment class the sign. value was 0.073 and 0.071 which implies higher than 0.05. Moreover, the sign. value was 0.155 and 0.067 in the control class which was also higher than 0.05. Ass the result, the data in this research was distributed normally.

1.3 Homogeneity Test

The researcher anatomized with Levene statistics in SPSS to analyze the homogeneity for the sample variance in this research. Then, the output of the normality test in SPSS can be seen in the table below.

Table 4 The Result of The Homogeneity Test

Test of Homogeneity of Variance		Levene Statistic	df1	df2	Sig.
Students' score	Based on Mean	2.250	1	70	.138
	Based on Median	1.491	1	70	.226
	Based on Median and with adjusted df	1.491	1	60.256	.227
	Based on trimmed mean	2.209	1	70	.142

Then, the significance score in "based on mean" was 0.138 and it was supreme than 0.05 which implies the sample variance in this research was proved homogenous.

1.4 Hypothesis Test

The writer anatomized the hypothesis by implementing the paired t-test in SPSS. However, the data that the writer anatomized was the data from the experiment class because the purpose of the study aimed to investigate whether the implementing of a digital sequence of pictures affects learners' competence in writing an explanation text or not. Then, the data of the paired sample t-test can be seen in the table below.

Table 5 The Result of Paired Sample T-test

Paired Samples Test									
		Paired Differences							
			Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
		Mean			Lower	Upper			
Pair 1	Pre test - Post test	-33.167	6.185	1.031	-35.259	-31.074	-32.173	35	.000

From the table above, it was seen that the sign. value (2-tailed) is 0.000 which implies that the sign. value was lower than (<) 0.05. As the result, the null hypothesis (H0) was declined and the first hypothesis (H1) was admitted.

2. Discussion

The data findings in this study indicates that the digital sequence pictures impact on learners' competence in writing an explanation text. It means that the use of digital sequence of picture had been proved which can rectify learners' ability especially in writing an explanation. The fact was seen from the result of the paired sample t-test on the hypothesis test. The output of paired sample t-test stated that the value of sign 2-tailed is 0.000 which means that the value of the sign. 2-tailed lower than 0.05 so that the alternative hypothesis or the first hypothesis was admitted. Additionally, in the data description, it also showed the advancement of learners' competence in writing an explanation text. It was seen from the comparison of the average from the experiment class because the writer applied the treatment in the experiment class. The average of the pre-test in the experiment class was 43.33 and the average for the post-test was 76.50. This data presented that the average of the post-test is supreme than the average of the pre-test and proved that there was an advancement of learners writing competence especially writing an explanation text.

In addition, the writer established the result of the data in the study helped learners in understanding the lesson about an explanation text such as purposive, text structure and grammar used and it was in line with the theory about the picture media by Stokes (2011) in (Hutapea & Pulungan, 2012). In fact, the concept of an explanation text was very important for students especially when the teacher asked them to write an explanation. Briefly, the material of an explanation text was directly proportional with students' ability in writing an explanation. If the students understand about the concept of an explanation text, they could write the text easier and vice versa. The researcher found this fact from the result of students' post-test score and how students' learning during the treatment.

Furthermore, the writer investigate that the learners were able to develop their ideas so well when they were asked to write an explanation text. This issue also appeared in the introduction. Then, this output was also in line with the previous research from Ramadhani et al., (2016) stated, it was a progressing about learners' writing skill especially in generating the ideas for the text. Also, according to the findings of the data analyzing, the writer could see that the learners could write sentences with correct grammar. In learners' worksheet, the writer found that learners were able to arrange the sentences correctly and their sentences were also coherent with each other. As the result, the ideas from the text were delivered clearly. In conclusion, this writer showed that the use of digital sequence of pictures was really effective in order to improve learners' competence in writing an explanation text which was supported with the result of the data in this study.

D. CONCLUSION

The investigation was quasi-experimental design which aimed to investigate the impact of using a digital sequence of pictures on learners' competence in writing an explanation text. The research was conducted for eleven grade learners at SMAN 1 Lengayang with two classes. One of them became the control class while the other becomes the experiment class. In conclusion, there was an effect of using the digital sequence of pictures on learners' competence in writing an explanation text. It can be proved by the data findings and discussion. The data findings showed that the

significant value of 2-tailed was lower than 0.05 (< 0.05) which means the null hypothesis in the research is refused. As the result, the first hypothesis was accepted and it proved that the use of a digital sequence of pictures was effective on learners' ability in writing an explanation text.

REFERENCES

Brown, H. D. (2004). *Language Assessment Principle and Classroom Practice*. (W. Plains,Ed.) (2nd ed.). New York: Pearson Education.

Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education 8th Edition* (8th ed.). Oxon: Routledge.

Hamdy, M. F. (2017). The Effect of Using Digital Storytelling on Students' Reading Comprehension and Listening Comprehension. *Journal of English and Arabic Language Teaching*, 8(2), 112–123. Retrieved from http://ejournal.uin-suska.ac.id/index.php/jealt

Huck, G. J. (2015). *What Is Good Writing?* New york: Oxford University Press.

Hutapea, N. L., & Pulungan, A. H. (2012). *The Effect of Series of Pictures Media on Students' Achievement in Writing Narrative Text*. Universitas Negeri Medan, Medan.

Hutasuhut, I. A. R., Lubis, M., & Daulay, S. (2019). Teaching Material Development of Explanation Text Based on Multiple Intelligences on 11th Grade Students in Vocational High School 1 Padangsidimpuan. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*, 2(4), 363–370. Retrieved from https://doi.org/10.33258/birle.v2i4.523

Marhum, M. (2014). Developing Students' Ability in Writing Procedure Text by Using Sequence Pictures. *Journal of English Language Teaching Society (ELTS)*, 2(2), 1–10.

McHugh, M. L. (2012). Interrater reliability: the kappa statistic. *Biochemia Medica*, 22(3), 276. Retrieved April 2, 2022 from https://doi.org/10.11613/bm.2012.031

Mitchell, M. L., & Jolley, J. M. (2010). *Research Design Explained*. (J. Potter, R. Rosenberg, N. Albert, & R. Guzman,Eds.) (7th ed.). Belmont: Wadsworth.

Ningsih, A. (2021). *The Influence of Using PQRST (Preview, Question, Read, State/Summarize, Test) Strategy Toward Students' Ability in Reading Explanation Text at The Eleventh Grade of SMAN 1 Tanjung Sari South Lampung in Academic Year 2020/2021*. UIN Raden Intan Lampung, Lampung.

Pulungan, N. T. (2018). *An Analysis of Students' Reading Comprehension in Explanation Text at Grade XI SMA Negeri 3 Padangsidimpuan*. IAIN Padangsidimpuan, Padangsidimpuan.

Saragih, J. Y., Adisaputera, A., & Saragi, D. (2019). The Effect of Reasoning Skills on Writing of Explanation Text Assessed from the Social Economic Status of Parents in Class VIII, SMP Negeri 2 Raya, Simalungun District, Indonesia. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*, 2(3), 58–67. Retrieved from https://doi.org/10.33258/birle.v2i3.354

Satriani, W. (2021). *The Effectiveness of Using Picture Series in Teaching Writing Narrative Text to The First Year Students at MAN 1 Makassar*. Alauddin State Islamic University of Makassar, Makassar.

Sugiyono. (2013). *Metode Penelitian Kuantitatif Kualitatif dan R&D* (19th ed.). Bandung: Alfabeta.

Wirawan, H. (2015). The Effect of Using Picture Series to Tenth Grade Students' Writing Ability of SMK PGRI 3 Kediri in Academic Year 2015 / 2016. *Journal of Universitas PGRI Kediri*, 1–9.

Zathira, N. M. (2014). *The Effectiveness of Picture Sequence in Teaching Narrative Text Writing (A Quasi Experimental Study at the Eighth Grade Students of SMP)*. UIN Syarif Hidayatulla, Jakarta.

Zulfiani, N. (2017). *The Effect of Using Picture Sequence on Students' Ability in Writing Narrative Paragraphs at The Second Year of State Junior High School 34 Pekanbaru*. UIN Sultan Syarif Kasim Riau, Pekanbaru.