

**THE USE OF DIGITAL STORYTELLING AND NON-DIGITAL
STORYTELLING AS MEDIA ON STUDENTS' WRITING ABILITY**

A PAPER

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By

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DECLARATION

I hereby declare the paper entitled **“THE USE OF DIGITAL STORYTELLING ON STUDENTS’ WRITING ABILITY”** is completely my own work. I am fully aware that I have quoted some statements and ideas from many resources. All quotations are properly acknowledged in the text. Should there be a claim on the originality of this paper, I would be prepared to take any legal responsibility.



PREFACE

Alhamdulillah rabbil 'alamin, the writer expresses her gratitude to Allah Subhanahu Wa Ta'ala for the blessing, opportunity, and health, to finish this research paper that entitled “The Use of Digital Storytelling on Students' Writing Ability”. This paper is submitted to the English Language Education Study Program Faculty of Teacher Training and Educational Sciences of Pakuan University as a partial fulfillment of the requirements for Sarjana Pendidikan examination. The writer also would like to thank to all people who have given their support, contribution, and motivation to her. Hopefully may Allah replies the helps and bless them all. She realizes that this paper is still far from perfect in arrangement and content, therefore, reader's critics, comments, and suggestions may make this paper will be better. She also hopes, this paper can helps the readers to gain more knowledge about the research.

Bogor, May 2024

Dita Amanda

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Alhamdulillah rabbil'alam, the writer expresses her gratitude to Allah Subhanahu Wa Ta'ala for the blessing, opportunity, and health to complete this paper. This paper entitled " The Use of Digital Storytelling on Students' Writing Ability " to submitted to the English Language Education Study Program Faculty of Teacher Training and Educational Sciences of Pakuan University as a partial fulfillment of the requirements for Sarjana Pendidikan examination. In writing this paper, a lot of people have supported and provided motivation and advice to the writer. Therefore, the writer would like to express her gratitude to Dra. Atti Herawati, M.Pd. as the supervisor, and Mursidah Rahmah, M.Pd. as the co-supervisor because of their guidance, correction, comments, and kindness all this time, the writer is able to finish this paper well.

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ABSTRACT

This research aims to find out whether there is different effect of the use of digital storytelling and traditional whiteboard on students' writing ability. This research used a quasi-experimental design with a quantitative approach.. The population of this study was class VI students of SDN Cariu 1. The experimental class was VI B and the control class was VI A. The experimental class was taught using digital storytelling and the control class was taught using non-digital storytelling which was traditional whiteboard. The results after being given treatment showed that the experimental class score was higher than the control class. This research found that there is a different effect of the use of digital storytelling and traditional whiteboard. The mean of the experimental class is 39.9 and the control class is 18.5. Based on the calculations that have been obtained in the t-test, the result is 2.64. Test results can be shown to be $1.68 < 2.64 > 2.42$. The results of the data analysis showed that by using of t-test formula, that t calculating value was higher than tt (t-table). Thus, the alternative hypothesis (H_a) was accepted; which indicates that there is a difference effect of the use of digital storytelling and traditional whiteboard on students' writing ability.

Keywords : *writing, digital storytelling, narrative text*

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CHAPTER I

INTRODUCTION

A. Background of the Study

Writing is a productive skill that focuses on making information in a written form. Students are required to have creative ideas, word choices, mechanics, variations of vocabulary, and the use of correct grammar. As Harmer (2007:265) cited by Giawa (2022) cited productive skills are the term for speaking and writing skills where students actually have to produce language themselves. Writing can be made as a means to share experience, reports, or stories. Thus, some types of texts have to be studied.

Considering the fact that information has been growing and getting complicated day by day, students should have multimedia literacy skills to access to all kinds of texts including traditional texts and visual texts. (Thesen & Soteriou, 2011). However, students have to struggle with writing difficulties. Besides, teachers must also choose the appropriate media to liven up the atmosphere, and minimize the difficulties faced by students.

In primary school, students are also expected to be able to write narrative text in the context of daily life. Narrative is a kind of text which tells about the story of past events and entertains the reader.. Therefore, the teacher is obliged to choose appropriate media to liven up the atmosphere and minimize the difficulties faced by students. Students experience various

difficulties in writing English texts, which are caused by several factors. One of which is less appropriate learning media, so it makes learning is not optimal. The teacher carried the teaching and learning activity in a traditional way. As Indrilla and Ciptaningrum (2018) stated that teacher's role is needed to guide students and to achieve the learning objective. For example, for example the teacher uses an appropriate media to the learning process and gives feedback on students writing the teacher carried the teaching and learning activity in a conventional way. (Zainudin 2015, as cited in Fitriani et al., 2019) Therefore, the teacher must be able to choose appropriate learning media to overcome students' writing difficulties. Thus, to overcome the problems, various kinds of learning innovations are needed so that learning can still be optimal and a suitable learning model to optimize in the current era is digital technology-based learning model.

Due to the condition that students faced difficulties in writing, teacher needs to solve the problem by applying an appropriate approach, media, method, strategy, or technique of learning. Sanaky (2013:4) has defined that Learning Media is a tool used to convey learning messages. Dogan & Robin (2009) stated one type of narrative writing activity that uses technology such as digital storytelling can be expected to make the reader or audience more interested and fun. Digital storytelling is a process that blends media to enrich and develop spoken language. Digital storytelling is the modern expression of an old art (Frazel, 2010). This means that digital storytelling can become an educational technology media wherein this era

most people use technology in their daily activities. In addition, digital storytelling can be used in various conditions, not only during online learning but also in face-to-face learning.

B. Reason for Choosing the Topic

Students face the difficulties in writing text, one of them is less appropriate learning media, so it makes learning is not optimal. Before conduct the research the writer observe to the class and the teacher carried the teaching and learning activity in a traditional way. Thus, students will feel bored when teacher explains narrative texts and also writing narrative texts without media, and they find it difficult to imagine stories and to make or conclude a story. Students must understand the story, know the characteristics of each character, be able to imagine the plot and setting of the story, then apply it in written form. Digital storytelling can fit the learning process in the current era.

Digital Storytelling is an alternative that can implemented to process digital content, which of course will continue to adapt to the development of this all-digital era. Digital storytelling is not just about transferring art storytelling into a multimedia format that contains images, videos and sounds. Digital storytelling is a modern expression of the ancient art of storytelling. Digital storrtelling have narrative overlays and sometimes have background music; or it may combine, in various ways, images, audio, and video to tell a story or make a factual presentation.

Based on the explanation above, digital storytelling is an interesting media to use for teaching. The writer is certain of the use of digital storytelling writing narrative text is worth to investigate. In this case, the writer intends to see the effect of digital storytelling on students' writing ability.

C. Statement of the Problem

The statement of the problema are:

1. Does the use of digital storytelling affect students' ability to write narrative text?
2. Does the use of traditional whiteboard affect students' ability to write narrative text?
3. Is there any difference between the research result in experimental class and control class?

D. Aim of the Research

The aim of this research are :

1. If there is an effect of using digital storytelling on students' ability to write narrative text.
2. If there is an effect of using traditional whiteboard on students' ability to write narrative text.
3. If there any difference between the research result in experimental class and control class.

E. Limitation of Study

Digital storytelling in this research is limited on animated video, while non-digital storytelling is limited on traditional whiteboard and writing ability will be measured in terms of content, capitalization and spelling.

F. Hypothesis

In order to conduct the research, the alternative hypothesis (H_a) is proposed:

1. There is an effect of Digital storytelling on students' ability to write narrative text.
2. There is an effect of traditional whiteboard on students' ability to write narrative text.
3. There any difference between the research result in experimental class and control class.

G. Operational Definition

The following definitions are given to make the readers have the same perception or understanding for some terms used in this study. They are also expected to avoid ambiguity or misinterpretation.

1. Digital storytelling

Digital Storytelling is essentially a process of combining images, sound, text, and videos to tell or describe something. (Frazel, 2010).

2. Writing ability

Writing ability is the capacity of someone to produce a written message from words, into sentences, into text, into coherence whole where the readers can understand the meaning. (Bram,1995).

3. Narrative text

A narrative text is also a imaginative text or story intended to entertain the public. The text contains a meaningful sequence of events told in words or sentences. Structure time is always involved in this text's order.

(Imroah, 2017)

H. Research Significances

The writer expects that the findings of this study will give contibution to the teaching of writing narrative text. It is also expected that it will encourage students to develop their imagination and ideas to write narrative texts.

CHAPTER II

THEORETICAL FOUNDATION

A. Digital Storytelling

1. Definition of Digital Storytelling

Digital Storytelling is an application of technology that is sited to help teachers overcome barriers to using technology in the classroom into a productive thing, namely creating digital stories or fairy tales. The process is similar to make a story traditionally, including choosing a theme, conducting simple research on the theme, writing a script, and developing it into an interesting story. These steps are then combined with several types of multimedia, including computer-based images or graphics, audio recordings, digitally generated text, video clips, as well as music, which can then be played on a computer, uploaded to websites, social media, YouTube, or "burned" onto a Digital Video Disc (DVD). Hett (2012) thought that nowadays, new-generation storytelling starts with digital storytelling which integrates pictures, music, and audio through computers. Therefore, it means that digital storytelling can be a media of educational technology because in this era most people use technology in their regular activities. Thus, they are able to use technology to using an educational product in technology to teach.

As Reinders (2011) mentioned, digital storytelling is a compelling activity for the language classroom which is easy to use for writing practice. It can be a good way to motivate students to use the language both inside and outside the classroom. According to Lambert (2012), Digital Storytelling is narrative

entertainment that reaches its audience via digital technology and media microprocessors, wireless, signals, the web, DVD, and so on. Lambert has implemented digital storytelling firstly in Middlebury. Lambert and Paulos make innovations to teaching English, they insert the picture, sound to convey the story. According to Heriyana (2014), Digital storytelling media has the advantage that Digital storytelling can be used in a variety of student learning styles, arouse students' interest in learning, increasing student attention and motivation in the classroom. It is a new form of storytelling.

Commonly a story is written and illustrated on a piece of paper, while in Digital Storytelling using a computer application, a story is embodied in a video that comes complete with sound, images, text, and animation so it's more interesting. On the other hand, Digital Storytelling can cover a wide variety of topics not limited to classic stories only, video results can be anything, and use various software available. As Robin and McNeil (2012) defined, there are a variety of reasons for using digital story in the classroom, such as; motivates students and involves them in the writing process, and helps improve writing skill by having students learn to write with a concise point of view. In this way, teaching writing will become more enjoyable.

2. Type of Digital Storytelling

Robin (2016) stated that there are many different types of digital storytelling, but the major types can be categorized into the following three major groups:

a. Personal narrative

As Lambert and CDS (center of digital storytelling) have provided training and assistance to people interested in creating and sharing their personal narratives. CDS' describe a variety of personal narratives for example: Personal events, adventure stories, character stories, memorial stories, stories about what should do, then recovery stories.

b. Historical documentaries

This is a form of conveying historical information through digital media, such as video, animation, interactive websites, and multimedia presentations.

c. Story that informs or instructs.

This is a form that reflects instructional material in content such as math, science, education and instructional technology. This type of digital story is used to convey instructional material in many different areas.

3. Media and Model Digital Storytelling

Alexander (2011) stated that there are two models of digital storytelling, as follows :

a. Video games

The online game is the first kind of computer-based completely enjoyable ever invented, making it the "Grandfather" of all virtual interactive entertainment. Video games, without a doubt, excel at a wide range of tasks. Overall success experiences are what games are. Aside from that, computer games are fantastic at making it life-like and open in ways that

are not possible in linear entertainment. In which the whole lot is locked into place. With AI, computer-managed characters can behave a great deal like actual humans, changing their responses and behaviors according to how they are treated.

b. The Web

The web is an information page provided via the internet so that it can be accessed throughout the world as long as it is connected to an internet network, it is also a collection of components consisting of text, images, sound and animation. Web shorts improve the most attention when they are built around a strong subject or have an unusual point of view. It is powerful emotional themes are always a central element of stories, on the Web or anywhere else, though handling them well takes significant writing skill. Web audiences enjoy humor and like being surprised, and these elements, when used skillfully, can add to the effectiveness of a piece.

4. Elements of Digital Storytelling

Miller (2011:15) claimed that digital storytelling has several elements, and now it cites seven steps of digital storytelling : Owning the insight, owning the emotions, finding the moments, seeing the story, hearing the story, assembling the story, and sharing the story. While, the elements of Digital storytelling are included ; An interesting questions to answer, Impact, a clear point of view, economy, the power of the voice and the last one is the art, that help tell the story and the soundtrack

5. The Benefits of Digital Storytelling

As Yuksel (2012: 4-5) has explained that there are many benefits of digital storytelling. It can assist the students to motivate their writing skill by using digital storytelling in learning to write a narrative text. The benefits of digital storytelling are: Digital storytelling uses a wide variety of multimedia, making it more fascinating and engaging for the viewer, digital storytelling utilizing audio can be enjoyed by people suffering from blindness, digital storytelling enables students to increase their topic knowledge, writing skill, technical skill, and presentation skill, digital storytelling assists students to enhance all of the skills specified in the question, digital storytelling enables students to improve their research skills, improved overall academic performance.

B. Writing

1. Definition of Writing

Writing is one of the skills in English that must be improved because writing requires complex skills such as the creation of ideas, variations in vocabulary, and also the use of good and proper grammar. As Rachmawati (2017) stated that writing skills are complicated and difficult to teach, because not only of grammatical and rethorical elements, but also of conceptual and judgment elements are required in writing mastery. However, there are many definitions to explain about writing. Writing is a continuous activity that requires people to think about what they are going to say and how they are going to say it. Writing is not simply words written

down on paper. To obtain this ability, people need to make an effort and get through a lot of processes, because writing is not a one-step action. Pillai (2010) stated writing skill is essential for achieving career and business goals. It is an important medium of communication. It is also regarded as an indicator of students' success in learning English as well as their future professional jobs. Writing is a way to express personal meanings through to compose. Individuals create their own opinions on a specific subject. It is considered as a difficult skill because the writers have to make some aspects in writing such as content, organization, purpose, vocabulary, punctuation, and spelling in a balanced way.

2. Elements of Writing

Elements of the Writing according to Wilbers (2015), there are five elements of effective writing:

a. Central idea

This element of good writing involves focusing on a clear, manageable idea, argument, or thesis around which to organize the material. It includes selecting subordinate ideas that support and reinforce the central idea.

b. Organization

This element of writing has to do with a coherent arrangement of material. It involves keeping the reader oriented to central and

subordinate ideas. Good organization is logical and sequential. It guides the reader between divisions of the material.

c. Supporting Material

Explanations, examples, statistics, and quotations make the ideas and information presented meaningful and memorable for the reader. In the exposition, the role of supporting material is to clarify; in an argument, to persuade.

d. Word Choice and Point of View

Language is clear, specific, accurate, and appropriate to the audience, purpose, and material. Variety in sentence structure and length creates emphasis.

e. Spelling, Grammar, and Punctuation

This element of good writing counts only when it's wrong. Fair or not, the readers will notice the spelling, grammar, or punctuation only when the writer makes a mistake.

This means, in writing, the writer needs to provide the supporting evidence of the statement. Not merely stating personal opinion. The content of the writing must also fulfill the topic demand. The content and language of the writing must consider the readers as well.

3. Process of Writing

Harmer (2004) has explained that there are general steps of writing process, they are: discovery\investigation, prewriting, drafting, revising, and editing. The first process is considering the goals of the writer and model of the reader, and then

gathering ideas. There is a technique that can be divided into three categories. The first group is about free activities exploring the topics for gathering ideas. This involves brainstorming and quick writing. The second category consists of activities in finding further information about the topic. This could take in the form of questioning (who, why, where, when). The third group consists of techniques that help learners gather and organize ideas at the same time. The activities could take the form of arranging ideas according to their importance, and the last is organizing ideas. The aim of organizing the ideas is to classify the ideas into several groups so that it would be easier for the writers to grasp the ideas into text form.

C. Narrative text

Anderson (in Wulandari, 2016: 17) stated texts are divided into two broad genres, namely literary genres and factual genres. The aim of the literary genre is to stir the emotions and imagination of the reader. Genre literature makes readers or listeners cry, laugh and reflect on themselves or purify themselves. Narrative text (short, novel), poetic, and dramatic literature are the three forms of genre literature. The aim of narrative text is to tell something, poetic text aims to express feelings or impressions of something, and dramatically aims to communicate ideas or experiences through action on stage. These three types can be in the form of oral or written. Factual genre aims to describe, tell, and convince readers or listeners. Some texts included in the factual genre include exposition text, descriptions, procedures, observational reports, and others. However, it mainly consists of three parts in narrative text such as orientation,

sequence of events, complication and resolution. Anderson & Anderson, (1997: 7) also defined that a narrative text is a piece of text that tells a story that is presented to entertain and to inform the readers. Narrative presents crises the characters encounter and how they are solved. A narrative text should show how the crises are built inside the 37 stories and how they end in the end of the story. Besides the mastery of past tense, writers' sensitivity in distinguishing all phases in this text type is crucial as the purpose of writing the text is to make the readers intrigued and entertained. Sulistiyo (2013) has stated that generic structure is divided into five element, they are:

a. Orientation (introduction)

It includes the thesis of the text. This level tells about the characters of the story, introducing who the character was, where it took place, and when it happened.

b. Sequence of Events (complication)

This part tells the sequence of the story. The problem faced by the character. The complication makes the story more interesting because the Character is prevented from reaching his or her wants. It is in the middle of the story.

c. Resolution

It tells the reader (students). How the problem was solved is also called solving the problem. A satisfying narrative will give the resolution of the problem.

d. Re-orientation

It retells the narrative or retells the character, and it carries a moral value for the readers. Those elements must exist in narrative text. It goes into further detail in order to make the tale more clear and understood. However, the students may discover more than one complication and resolution.

e. Coda

It is an option that shows the change that happens to the characters and the moral value of the story.

D. Traditional Whiteboard

A study conducted in China on the design and evaluation of cross-object user interface for whiteboard interaction says that teachers have been utilizing whiteboards for a long time as one of the most significant instruments for teaching and communication, and it was found that it was very effective (Liljedahl, 2016). Students in the traditional whiteboard condition were found to be more engaged, and students in the traditional whiteboard condition paid greater attention to the learning information on the board (Mayer & Estrella, 2014). Whiteboards have been ones as the longest teaching tools used in the means of pedagogy. Traditional whiteboards make teaching and learning processes become more managed since the ample provisions of visual necessities are met (Al-Drees, et al, 2015).

E. Related Research

The related research is research written by Fany F. A, and Ermawati Z.N (2023) entitled “The influence of digital storytelling on story writing skills of class II elementary school students”. This study used a quantitative approach. This type of research is pre-experimental design with the one group pretest posttest design method. The sample is 25 students. The instrument is a test in the form of an essay question. The research design used the One Group Pretest-Posttest. The difference between this research from previous research is the population and the use of the method.

The second related research is the research by Wulandari, Ulfa, and Ridwan (2019) in a study entitled ”The effect of zimmer twins as digital storytelling on students’ writing narrative text”. The sample of this research, the Eleventh of MA YASI, those are XI- 1 class as the experimental class, and the X1-2 class as the control class consisted of 20 students. The method in this research was a quantitative method. In addition, the design used was quasi-experimental research, and the instrument used a test. The research was taken by using non-random sampling. Moreover, this research was conducted through the following procedures: giving pre-test, applying treatments and giving post-test. The result showed that Zimmer twins' media as Digital storytelling can be effective as media teaching the writing ability of narrative text at the eleventh-grade students of MA Yayasan Sirojul Islam Sukolilo. The difference between this research from previous research is the population and sample.

CHAPTER III

RESEARCH METHODOLOGY

A. Research Method and Design

The writer used quantitative research in this research. As Ary (2010:39) has said that quantitative research deals with questions of relationship, cause and effect, or current status that researchers can answer by gathering and statically analyzing numeric data. In this research, the writer decides to use a quantitative research design to know the result by the number to seek and measure the effect of Digital storytelling on students' writing ability.

Quasy experimental research is used in this research, it was done to get the accurate data that can be calculated and also prove the research hypothesis. The writer uses a quasy experimental design and a pre-test-post-test design. The writer chose two groups to conduct a pre-test and post-test. For the experimental class, the writer used Digital storytelling as treatment, while the control class was treated by non-digital storytelling as media, the non-digital storytelling is taditional whiteboard.

The writer gave a pre-test to students and asked students to write narrative text. This research aims to determine students' ability to write narrative text before being given treatment. After getting the pre-test results, students was given treatment by the writer. After the treatment was given, the writer gave a post-test to determine students' writing abilities in writing narrative texts.

The design used by the writer comes from (Fairuza, 2020) as follows:

Table 3.1
Two Groups Pretest Posttest Design

Groups	Test	Treatment	Test
Control group	Pretest	Freewriting technique	Post test
Experiment group	Pretest	Digital Storytelling	Post test

B. Population and Sample

1. Population

Ary et al (2010: 148) stated as cited by Oriharbour (2019) that a population is defined as all members of any well-defined class of people, events, or objects. It ensures that the population is a group or place that interested to be observed. Population refers to the larger group to which a researcher wishes to generalize. This group comprises all members of a specified class of individuals, activities or objects. The participants in this study is 9 grade students of SDN Cariu 1. It consists of 2 classes.

2. Sample

According to Ary et al (2010:148) as cited by wirastuti (2023) said that a sample is a small group that is observed. A sample is a population part. It means that sample is a direct target of an experiment that will be

observe and analyzed by the writer. It means that sample is direct target of an experiment that will be observed. In this research, she used cluster sampling. As Ary et al (2010:154) has explained the cluster sampling in which the unit chosen is not individual but, rather, a group of individuals who are naturally together. The writer chosed two classes from two classes as representative examples, namely class VI A and VI B.

C. Data Collection Technique

In this research, the writer used the test as the instrument of the research. Ary (2010:201) cited by Lumbatobing (2022) explained that a test is a set of stimuli presented to an individual in order to elicit responses based on which a numerical score can be assigned. It means the test is an instrument to measure students' ability. In this study, the writer performs the writing test to collect data. Writing test is used to measure students' writing ability would be to have them write. In this case, the writer instructed students to write a story (narrative text). The test is used to collect the students' writing that must be analyzed to identify students' ability on writing narrative text. The writer used pre-test and post-test as the instrument to know the students' writing scores before and after learning using Digital storytelling. Pres-test is the test that was given in the beginning of the teaching learning process and post-test is test that is given in the end of teaching-learning process. The

scoring writing included: 1) Content, 2) Capitalization, 3) Spelling. Those aspects of score has different range score.

As explained above that the technique of collecting data in this research is written test. The writer took the score from the students' answers when the writer asked the students to do the worksheet about narrative text. There are some steps of collecting the data:

a. Pre-test

Pre-test was held by the writer before treatment. The purpose is to measure students' writing ability before the writer does the treatment.

b. Treatment

In this step, students were asked to write a narrative text. The experimental group were taught to write narrative text using digital storytelling and explanation about narrative text. While control group were taught using traditional whiteboard as media and tell the students about the instruction of what they have to do.

c. Post-test

Post-test was held after all treatments were conducted. This test was used to measure students' writing ability after they were

given treatments. The writer gave a test which similar to the pre-test. In post-test, students made a narrative story based on the pictures provided by the writer. After that, she compared the result of pre-test to post-test, because the writer wanted to know the effect of Digital storytelling on students' writing ability also to know if there is any different data after students are taught using Digital storytelling and traditional whiteboard. The result of test was analyzed statistically.

D. Data Analysis

In this research, the writer's aim is to see if there is effect on students' writing ability after using Digital storytelling. In analyzing the data, the writer will apply T-test to find out whether the mean differences between them are significant or not.

The following formulas are taken from Arikunto (2013) cited in Zulfa (2017). The process is shown below.

1. The Mean

$$M_x = \frac{\sum D_x}{N_1}$$

$$M_y = \frac{\sum D_y}{N_2}$$

Note :

M_x : Obtain means (experiment class)

M_y : Obtain means (control class)

2. Standar Deviation

$$SD_x = \sqrt{\sum Dx^2 - \frac{(\sum Dx)^2}{N_1}}$$

$$SD_y = \sqrt{\sum Dy^2 - \frac{(\sum Dy)^2}{N_2}}$$

Note :

$\sum Dx^2$: sum of quadrat gain (experiment class)

$\sum Dy^2$: sum of quadrat gain (control class)

N : Population

3. T-test Formula

T-test will be counted to determine the hypothesis whether it is accepted or rejected (Hartiwi, Sutisna, and Kurniati: 2018). After calculating the mean of the gain, the writer will calculate the t-test to find out t-test value with the formula as follow:

$$t = \frac{M_x - M_y}{\sqrt{\left(\frac{SD_x^2}{N_x} + \frac{SD_y^2}{N_y}\right) \left(\frac{1}{N_x} + \frac{1}{N_y}\right)}}$$

The formula above was used to analyzed the data get from pre-test and post-test of one class sample. The following details information are given of the formula:

t : t-test

SD_x : Standar deviation of experimental class

SD_y : Standart deviation of control class

M_x : obtained means (experiment class)

M_y : obtained means (control class)

N_x : Number of student (experiment class)

N_y : Number of student (control class)

4. Hypothesis testing

$$d.f = N_x + N_y - 2$$

Note :

N_x : Number of student (experimental class)

N_y : Number of student (control class)

5. Calculating Normalized Gain

$$N\ Gain = \frac{Score\ posttest - Score\ Pretest}{Score\ ideal - Score\ Pretest}$$

The interpretation of obtaining N-Gain value can be seen the table below :

Percentage (%)	Interpretation
<40	Ineffective
40-55	Less Effective
56-75	Effective Enough
>76	Effective

CHAPTER IV

RESEARCH FINDING AND DISCUSSION

A. Research Finding

This research was conducted to the sixth grade students of SDN Cariu 01. This study started from December 8, 2023 to February 23, 2024. The sample was taken from class VI (B) as the experimental class and VI (A) as the control class. Each class consisted of 23 students. In collecting the data, the writer gave two written tests, namely pre-test and post-test. Before the post- test, she gave different treatments. For the experimental class, she gave treatment using digital storytelling while the control class was given treatment using traditional whiteboard. The results of the pre-test and post-test were analyzed using a t-test to determine the effect of using digital storytelling on students' writing ability.

1. The Result of Pretest and Posttest Score of experimental class

In this study, the students in experimental class were given treatment using digital storytelling. From the results of the pretest and posttest, the data show that the total score of the pretest is 1003, with an average of 43. The highest score is 58 and the lowest score is 25. In addition, the posttest results show that the total score is 1920 with an average of 83, the highest score is 91, and the smallest score is 66. From the data above, there is a

difference between the pretest and posttest. Based on the data that was calculated, the score is shown in table 4.1:

Pretest and Posttest Score of Experimental Class

Table 4.1

No	Respondents	Score		Gain $d=(X2-X1)$	Dx^2
		Pretest(X1)	Posttest(X2)		
1	AKA	33	75	42	1764
2	AAN	46	91	45	2025
3	APKR	54	91	37	1089
4	AAA	54	87	33	1089
5	DAA	41	75	34	1444
6	DJPF	46	83	37	1369
7	DRASH	46	91	45	2025
8	FA	46	87	41	1681
9	MRAZ	25	83	58	2500
10	MAA	41	79	38	1156
11	MAH	46	91	45	1089
12	MNRP	41	83	42	1681
13	MD	33	75	42	2116
14	MYM	50	83	33	2500
15	NNA	58	91	33	1681
16	NRPF	33	91	58	2401
17	NRA	41	83	42	1369
18	NAA	33	75	42	841

19	RB	54	91	37	2116
20	SP	33	66	33	1089
21	SMIM	54	75	21	1089
22	ZK	54	87	33	841
23	Z	41	87	46	1444
	TOTAL	1003	1920	917	36399

2. The Result of Pretest and Posttest Score of Control Class

The students in control class were given non-digital storytelling after the pretest. The total pretest score was 1048, with an average of 45.78. In addition, the highest score for the control class was 66 and the smallest score was 25. The total score for the posttest was 1474 with an average of 65.50, and the highest score was 91, and the lowest score was 41. Based on the data calculated, the scores are shown in table 4.2:

Table 4.2
Pretest and Posttest of Control Class

No	Respondents	Score		Gain $d=(X_2-X_1)$	Dx^2
		Pretest(X_1)	Posttest(X_2)		
1	AA	66	71	5	25
2	AA	50	66	16	256
3	AM	54	66	12	144
4	ASN	25	50	25	625
5	DRF	54	79	25	625
6	FRA	41	58	17	289

7	JSP	66	87	21	441
8	KS	25	66	41	1681
9	LS	65	75	10	100
10	MDAM	33	54	21	441
11	MFA	54	66	12	144
12	MFFH	50	91	41	1681
13	MIM	41	50	9	81
14	MRK	33	50	17	289
15	MRR	60	75	15	225
16	NN	54	66	6	36
17	NPS	46	79	33	1089
18	PRNS	41	75	34	1156
19	RD	33	41	8	64
20	RP	41	54	13	169
21	SER	33	41	8	64
22	SKDN	50	79	29	841
23	TULS	33	41	8	64
	TOTAL	1048	1474	426	10530

3. Calculating the mean of experimental class and control class

After analyzing the results of the pre-test and post-test of the experimental class and the control class, the mean was calculated to get the average of all scores in the data set. The average was calculated by dividing the results of the entire score by the number of students. ($\bar{x}$) is the mean of the

experimental class, and (my) is the mean of the control class. The calculation of the mean is shown as follows:

a. Calculating the mean of experiment class :

$$M_x = \frac{\sum D_x}{N_1}$$

$$M_x = \frac{917}{23}$$

$$M_x = 39.9$$

b. Calculating the mean of the control class :

$$M_x = \frac{\sum D_x}{N_1}$$

$$M_x = \frac{426}{23}$$

$$M_x = 18.5$$

From the results of the calculations above, there are differences in the average results of the experiment class and control class. The mean of the experimental class is 39.9 while the control class has a mean of 18.5. The difference between the experimental class and the control class is only 21.4. It means that the experimental class has higher results than the control class.

4. Calculating Standard Deviation SDx and SDy

The standard deviation calculation is the indicator value of a sample to see how close the data is to the mean value. This is used to determine whether the sample data used in the calculation can represent the entire

population. The standard deviation is symbolized by SD_x and SD_y. The calculation of the standard deviation is as follows:

a. Standard Deviation of experiment class

$$SD_x = \sum Dx^2 - \frac{(\sum Dx)^2}{N_I}$$

$$SD_x = 36399 - \frac{(917)^2}{23}$$

$$SD_x = 36399 - \frac{840889}{23}$$

$$SD_x = 36399 - 36560$$

$$SD_x = 1453$$

b. Standard Deviation of control class

$$SD_x = \sum Dx^2 - \frac{(\sum Dx)^2}{N_I}$$

$$SD_x = 10530 - \frac{(426)^2}{23}$$

$$SD_x = 10530 - \frac{181476}{23}$$

$$SD_x = 10530 - 7890$$

$$SD_x = 2640$$

From the calculation results above, it can be concluded that the standard deviation of the experimental class is 1453, while the

standard deviation of the control class is 2640. It can be concluded that the standard deviation of the control class is higher than the experimental class.

5. Calculationg t-test value by using t-test formula

After getting the calculation of the mean and standard deviation of the experimental class and control class, the next step is to calculate the t-test, where the t-test is one of the tests used to test the truth or falsity of the hypothesis and to find out whether the method used is acceptable or not. The calculating of the t-test:

$$t = \frac{M_x - M_y}{\sqrt{\left(\frac{SD_x + SD_y}{N_x + N_y - 2}\right)\left(\frac{1}{N_x} + \frac{1}{N_y}\right)}}$$

$$t = \frac{39.9 - 18.5}{\sqrt{\left(\frac{1453 + 2640}{23 + 23 - 2}\right)\left(\frac{1}{23} + \frac{1}{23}\right)}}$$

$$t = \frac{21.4}{\sqrt{\left(\frac{4092}{44}\right)\left(\frac{2}{23}\right)}}$$

$$t = \frac{21.4}{\sqrt{(93.008)(0.09)}}$$

$$t = \frac{21.4}{8.088}$$

$$t = 2.64$$

6. Finding the degree of freedom

The value of the degree of freedom is used to test hypotheses (df). After obtaining the t-test value, the degrees of freedom are determined. This is done in order to get the t-table value.

The formula is as follows:

$$d. f = (N_x + N_y) - 2$$

$$d. f = (23 + 23) - 2$$

$$d. f = 46 - 2$$

$$d. f = 44$$

The calculation results show that the degree of freedom is 44. Based on the t-table, the 44 degrees of freedom at the 0.05 significance level is 1.68, while at the 0.01 significant level it is 2.42. Based on the calculations that have been obtained in the t-test, the result is 2.64. Test results can be shown to be $1.68 < 2.64 > 2.42$. This means that the t-counting value is higher than the t-table value, and it can be concluded that the alternative hypothesis (H_a) is accepted.

7. Calculating Normalized Gain

N-Gain aims to determine the effectiveness of using a method (treatment) by calculating the difference between the pre-test and post-test.

Table 4.3
N-Gain score

Groups	N-Gain Score	Interpretation
Experimental Class	70%	Effective enough
Control Class	34,76%	Ineffective

Based on the results of the N-Gain test calculation above, it shows that the N-Gain value for the experimental class (digital storytelling) is 70%, which is in the effective enough category. While the N-gain value for the control class (free writing) is 34,76 %, including to the less effective category. Thus, it can be concluded that the use of digital storytelling is effective enough to write a narrative text and free writing is less effective for writing narrative text.

B. Discussion

Based on the data analysis that has been done, the results of this study indicates that digital storytelling has an effect in writing narrative text for students of sixth grade of SDN Cariu 01 where this study were conducted. The writer performed several tests and treatments. The research results have answered the research question whether digital storytelling has an effect on students' ability to write narrative text, and the second question whether any differences between experimental class and control class. At the first meeting, students were given a pretest to determine their ability to write narrative text. When the pretest was

conducted, the students were a little confused about the what they were going to wrote. Then some students were also hampered in writing because of the difficulty of the first thing to write in the first word in the pre-test paper, so that a few students only wrote 2-3 sentences on the pretest paper.

According to the assessment category, some of the students' writings are similar to those of their friends, but there are also some detailed errors in using capital letters, capitalization and the similar content. This shows that writing is a complicated skill, and there are many components that must be considered. This is in accordance with Kurnia & Tavriyanti, (2014) statement that writing is the most challenging skill for second-language and foreign-language learners.

After the pretest, the students were given treatment in the experimental class using digital storytelling, while the control class using traditional whiteboard as media. Meanwhile, in the control class, when the treatment was given, some students still had difficulty writing narrative text, whether it was the content of the narrative text and the spelling. Some students also looked less enthusiastic when they were given this treatment.

The results of the research carried out by the writer is supported by related research, where the results of research in related research stated that there is a quite significant effect on students' writing ability using digital storytelling. The related research is research written by Fany Frestiya Adiyawati and Ermawati Zulikhatin Nuroh (2023) entitled "The influence of digital storytelling on story writing skills of class II elementary school students"

CHAPTER V

CONCLUSION AND SUGGESTION

A. Conclusion

Based on the analysis of the findings, it is proven that the use of digital storytelling was effective enough to write narrative text. It is because there is a significant difference between before and after using digital storytelling in writing activity. It can be concluded that digital storytelling improved students' ability to write narrative text. Its improvement can be viewed at the research analysis in experimental class. Based on the t table the 44 degrees of freedom at the 0.05 significance level is 1.68, while at the 0.01 significant level it is 2.42. Based on the calculations that have been obtained in the t-test, the result is 2.64. Test results can be shown to be $1.68 < 2.64 > 2.42$. The results of the data analysis showed that by using of t-test formula, that t calculating value was higher than tt (t-table). It means that the use of Digital Storytelling media on students' writing ability is effective enough. Thus, the alternative hypothesis (H_a) was accepted while the null hypothesis (H_o) was rejected. There was also a significant difference between post-test results of students' narrative writing by using Digital Storytelling 6th grade students' of SDN Cariu 01 is improved.

B. Suggestion

According to the research finding, there is an effect of using digital storytelling on students writing ability; this strategy can increase students' scores in writing. Thus, the writer gives suggestion to the teacher, and the next researchers. First, the writer suggests that the teacher use digital storytelling for teaching writing. The students will not get bored because they watch, observe and listen to the stories through audio-visual on digital storytelling, which can increase their interest in writing. Suggestion for the next researcher is they can do research on the use of Digital Storytelling in another subject and another language skill.

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The result score pretest and posttest experimental class

No.	Respondents	Pretest		Mean
		Guru 1	Guru 2	
1	AKA	33	33	33
2	AAN	50	41	46
3	APKR	58	50	54
4	AAA	50	58	54
5	DAA	41	41	41
6	DJPF	50	41	46
7	DRASH	50	41	46
8	FA	41	50	46
9	MRAZ	25	25	25
10	MAA	41	41	41
11	MAH	50	41	46
12	MNRP	41	41	41
13	MD	33	33	33
14	MYM	41	58	50
15	NNA	66	50	58
16	NRPF	33	33	33
17	NRA	41	41	41
18	NAA	33	33	33
19	RB	50	58	54
20	SP	33	33	33
21	SMIM	58	58	58
22	ZK	58	50	54
23	Z	41	41	41
24	TOTAL	1013	987	1003

No.	Respondents	Pretest		Mean
		Guru 1	Guru 2	
1	AKA	75	75	75
2	AAN	91	91	91
3	APKR	91	91	91
4	AAA	91	83	87
5	DAA	75	75	75
6	DJPF	83	83	83
7	DRASH	83	83	83
8	FA	91	83	87
9	MRAZ	83	83	83
10	MAA	75	83	79
11	MAH	91	91	91
12	MNRP	83	83	83
13	MD	75	75	75
14	MYM	83	83	83
15	NNA	91	91	91
16	NRPF	91	91	91
17	NRA	83	83	83
18	NAA	75	75	75
19	RB	91	91	91
20	SP	66	66	66
21	SMIM	75	75	75
22	ZK	83	91	87
23	Z	75	83	79
24	TOTAL	1916	1924	1920

The result of pretest and posttest control class

No.	Respondents	Pretest		Mean
		Guru 1	Guru 2	
1	AA	66	66	66
2	AA	58	41	50
3	AM	58	50	54
4	ASN	25	25	25
5	DRF	50	58	54
6	FRA	41	41	41
7	JSP	66	66	66
8	KS	25	25	25
9	LS	66	65	65
10	MDAM	33	33	33
11	MFA	50	58	54
12	MFFH	41	58	50
13	MIM	41	41	41
14	MRK	33	33	33
15	MRR	60	60	60
16	NN	58	50	54
17	NPS	46	46	46
18	PRNS	41	41	41
19	RD	33	33	33
20	RP	41	41	41
21	SER	33	33	33
22	SKDN	58	41	50
23	TULS	33	33	33
24	TOTAL	1056	1038	1048

No.	Respondents	Pretest		Mean
		Guru 1	Guru 2	
1	AA	66	75	71
2	AA	66	66	66
3	AM	66	66	66
4	ASN	58	41	50
5	DRF	75	83	79
6	FRA	66	50	58
7	JSP	91	83	87
8	KS	66	66	66
9	LS	75	75	75
10	MDAM	50	58	54
11	MFA	66	66	66
12	MFFH	91	91	91
13	MIM	58	41	50
14	MRK	58	41	50
15	MRR	75	75	75
16	NN	66	66	66
17	NPS	75	83	79
18	PRNS	75	75	75
19	RD	41	41	41
20	RP	50	58	54
21	SER	41	41	41
22	SKDN	75	83	79
23	TULS	41	41	41
24	TOTAL	1491	1465	1474