The Effectiveness of Local Object-Based Augmented Reality in Writing Descriptive Text among Junior High School Students in Sorong Regency

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ABSTRACT

The purpose of this study was to determine the effectiveness of augmented reality media based on local wisdom in writing descriptive text among Junior High School Students in Sorong Regency. The method used is true experiment with research design posttest only control design that using two different groups that were designated as the control group and the experimental group. The researchers used 2 schools in Sorong district, namely Muhammadiyah Junior High School 2 Mariyai and Junior High School 11 Sorong Regency. The population is 235 consisting of 2 schools. The sampling technique used is simple random sampling to reduce bias in favor of certain population members and identify standard errors in the study. A sample of 23 students was in group VII A of SMP Muhammadiyah 2 Mariyai and 25 students in Group VII C of SMP 11. The results show that the application of augmented reality media is more effective in learning outcomes of writing descriptive text than picture card media. Data analysis shows that the application of augmented reality media has an average learning outcome value of 75.12, with the highest score of 90 different from picture card media which only has an average value of 58.43, with the highest score of 78. Furthermore, the results of the hypothesis test shows that the sig value is $0.001 < 0.005$ so it is assumed that Augmented Reality media is more effective in improving writing skills of descriptive text.

Keywords: Augmented Reality; Local Wisdom; Writing Skills

INTRODUCTION

Learning to write in junior high school has a very important role as a basis for writing skills to develop students' creativity, because without creativity students are not necessarily able to produce good work. According to Nurgiyantoro (2010: 422) which states that writing activity is a form of manifestation of language abilities and skills that are most recently mastered by students after the ability to listen, speak, and read. Therefore, writing skills must receive serious attention because it demands the intelligence and creativity of students.

Writing is a language skill that is taught in an integrated manner with the other three language skills. Writing skill is the activity of giving birth to a thought in the form of an

idea into a piece of writing. It can also be interpreted that writing is communicating expressing thoughts and feelings and will by someone in writing. This is reinforced by Tarigan's statement (2008), that the components in language skills are listening (listening skills), speaking (speaking skills), reading (reading skills), and writing (writing skills).

Learning to write is not only knowledge for students to simply understand the definition or meaning of writing, but the rest can train students to be creative in terms of expressing their ideas and ideas in text form. This is in line with the opinion of Sasmita Candrawati, et al (2015), that learning Indonesian is taught not just as knowledge of the language, but as a text that has the function of being a source of self-actualization of its users in an academic socio-cultural context. Language skills have four components, namely listening, speaking, reading, and writing skills. Each skill has a close relationship with the other three skills. language skills of each student is not the same. Among the four skills, Writing is considered the most difficult because it requires knowledge and ability. All these skills do not come by themselves but need continuous practice.

Learning to write in junior high schools tends to be text-based, both writing observation texts, writing explanatory texts and writing descriptive texts, but teaching materials in the form of media used by teachers in learning are still limited, due to the lack of teacher creativity in making varied and updated learning media, especially in learning writing descriptive text, both learning media that are information technology and those based on local wisdom, that is what causes students to feel less interested and less interested in writing, and students feel bored, bored, and lazy in learning to write. According to Astuti, YW, & Mustadji, A. (2014), in learning Indonesian, the teacher focuses more on aspects of knowledge or language rules and does not train students in the skills to use language to communicate. This often causes students to be less interested in learning Indonesian, so that the achievements they achieve are less than optimal. Therefore, currently teachers are required to teach more creatively and not be boring. To create this, the teacher must be good at innovating in the use of appropriate methods in learning. Unfortunately, at this time variations in learning methods, especially writing skills, are still rarely used by teachers, besides that teachers need learning media as part of teaching aids. so that the performance achieved is less than optimal. Therefore, currently teachers are required to teach more creatively and not be boring. To create this, the teacher must be good at innovating in the use of appropriate methods in learning. Unfortunately, at this time variations in learning methods, especially writing skills, are still rarely used by teachers, besides that teachers need learning media as part of teaching aids. so that the performance achieved is less than optimal. Therefore, currently teachers are required to teach more creatively and not be boring. To create this, the teacher must be good at innovating in the use of appropriate methods in learning. Unfortunately, at this time variations in learning methods, especially writing skills, are still rarely used by teachers, besides that teachers need learning media as part of teaching aids.

Based on these phenomena and problems, there needs to be a new breakthrough in learning to write, especially writing descriptive text. Many media can be used to teach writing skills, but each media has a different level of effectiveness. The success of the learning process cannot be separated from the role of the media, because the media is an integral part of the education process. According to Oemar Hamalik (in Arsyad, A. 2011), learning media are tools, methods and techniques used in order to make communication and interaction more effective between teachers and students in the process of education and teaching in schools.

Based on the background presented, it was concluded that the main problems in teaching writing, especially writing descriptive texts for students, were the limited learning media and the lack of teacher creativity. As a result, the implementation of learning to write for students cannot be carried out effectively. Based on these objective conditions, the purpose of this study was to determine "The Effectiveness of Local Wisdom-Based Augmented Reality Media on Writing Descriptive Text Writing Skills in Junior High School Students in Sorong Regency".

LITERATURE REVIEW

Descriptive Text in Writing

Writing a descriptive text is a text that describes an object or event based on the results of the author's observations, feelings, and experiences. According to (Ahmad Rofi Uddin et al, 2001: 117) suggests that description is a form of essay that describes an object (in the form of students, objects, places, events and so on) with words in actual circumstances. In a description essay the author shows the shape, appearance, sound, smell, taste, atmosphere, situation of an object. In showing something, the author seems to present something to the reader, so that it is as if the reader can see, hear, feel, feel the object presented by the author. According to Eka Irma Wati et al (2017),

Suparno, (2007: 4.6). The word description comes from the Latin word describere which means to describe or give something. In terms of terms, description is a form of essay that describes something according to the actual situation, so that the reader who imagines (sees, hears, smells and feels) what is described is in accordance with the image of the author. Furthermore according to (Muhammad, Didin Nashruddin, 2013), that in writing a description, the writer transfers his impressions, transfers his observations and feelings to the readers, he conveys the nature and all the details of the form that can be found in the object. The goal to be achieved by students who write descriptions is to create or enable the creation of imagination in readers,

Based on the opinions of experts about writing the decryption text, it can be concluded that, writing a descriptive text is an essay that contains a description of a thing or situation so that the reader seems to see, hear, or feel that thing. Descriptive writing is writing that seems to paint a picture. Describing is the key word for understanding descriptive writing, and on that basis it can be understood that descriptive writing is giving an image to the reader. In writing descriptive text, the writer makes every effort so that the reader can see, experience, feel, what is being described. In other words, descriptive writing is used by writers to describe a situation or situation, the character of an object in a comprehensive manner, relying on vocabulary.

Learning Media

Media comes from the Latin medius which literally means: middle, intermediary, or introduction. In Arabic, media is an intermediary or message delivery from the sender to the recipient of the message. Gerlach and Ely (in Rodhatul Jennah 2009) say that if the media is understood broadly, it is material people, or constructive events.
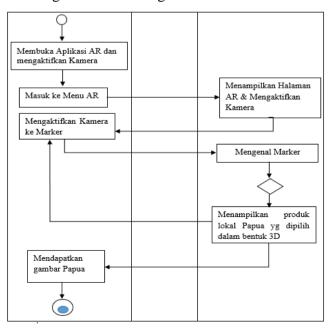
Augmented Reality

The development of increasingly advanced technology, of course, affects various sectors of human life. This development also plays a role in the development of a learning media. Learning media is becoming more interesting and more concise even though it does not reduce the essence of the material. One of the developments in learning media that is currently still new is learning media using Augmented Reality. Augmented Reality is an application that combines the real world with the virtual world in two-dimensional and three-dimensional forms that are projected in a real environment at the same time. Augmented Reality is often also called tethered reality (Mustakim, I. 2017).

Augmented Reality is the concept of merging the virtual world into the real world. The creation of a virtual world is done to evoke the user's perception to understand information from recognized objects. Augmented Reality is defined as the use of real-time digital computers and other special hardware and software to produce a simulated world or alternative environment, which is believed to be real or true for the user (Nia Saurina 2016).

The operating system in Augmented Reality media learning has three characteristics 1) a combination of real and virtual, 2) interactive and in real time, 3) presented in three dimensions. At first the marker is detected using a camera. Detection methods can involve various algorithms such as image processing algorithms. The data obtained from the tracking process is used in the reconstruction of the real world coordinate system. Besides that, objects will be added to the real environment, real objects and markers that have been installed will be detected by the camera, then information from the camera is forwarded to the graphics system in the form of camera position, which contains virtual object graphical data.

The virtual images meant in this case are pictures mixed with local products, namely views of Um island, pictures of Noken and traditional musical instruments, typical Papuan batik, and views of Raja Ampat Island. These images will be displayed in a virtual graphic object. Information in the form of images will be forwarded into the video merger, information from the graphics system combined with real video from the camera. The results of the merger will be displayed on the smartphone layer which is already in the form of augmented reality. Until finally the display will be described by students. The following is the design of the learning media:

METHOD

Design and Sample

This research is a type of experimental research using a quantitative approach. The method used in this experimental research is the true experimental method with a research design *Posttest Only Control Design.*This design uses two different groups which will be designated as the control group and the experimental group. In this study, researchers used two schools in Sorong district, namely Muhammadiyah 2 Mariyai Middle School and Sorong District 11 Middle School. The population in this study was 235 consisting of two schools. While the sampling technique used is Simple Random Sampling, namely selecting samples randomly, this technique was chosen on the grounds that it can reduce bias or tend to favor certain members of the population and can detect standard errors in research. Based on this technique, a sample of 23 students was obtained in group VII A at SMP Muhammadiyah 2 Mariyai and 25 students in VII C SMP 11, Sorong Regency.

Instrument and Procedure

In this study, using data collection techniques in the form of a test consisting of a posttest given to the control group and the experimental group. The research process was carried out by making VII A at SMP Muhammadiyah 2 Mariyai the control group and class VII C SMP 11 Sorong Regency as the experimental group. In the control class the researcher applied picture card media and in the experimental class the researcher applied augmented reality media, then after applying the media to each group, it was followed by giving a posttest to see the learning outcomes in the form of the effectiveness of the media applied in writing descriptive text skills.

Data Analysis

The collected data were then analyzed using descriptive statistical analysis by performing calculations. In the analysis test in this study using the Validity and Reliability Test on the instrument used, as well as the analysis prerequisite test, namely the Normality Test which is used for further statistical analysis and finally the Hypothesis Test using the T Test.

RESULT AND DISCUSSION

The research, entitled The Effectiveness of Local Wisdom-Based Augmented Reality Against Descriptive Text Writing Skills at Sorong District Junior High Schools, was conducted for approximately one month by making two schools as research objects namely Muhammadiyah 2 Mariyai Middle School and Sorong District 11 Middle School, with a sample of each in the group class VII A, which consisted of 23 samples at SMP Muhammadiyah 2 Mariyai and VII C, 25 samples at SMP 11, Sorong Regency. Based on the results of research and data analysis, it can be shown in the following table:

Table 1. Categorical Statistics and Frequency of Learning Outcomes Writing Descriptive Texts in the Control Group and Experimental Group (Posttest)

Description	Picture Card Media for Group VII A SMP Muhammadiyah 2 Mariyai (Control Group)		Augmented Reality Media group VII C SMP 11 Sorong Regency (Experiment Group)	
	Posttest		*Posttest*	
	Score	F	Score	F
	20	5	50	1
	60	5	60	2
	65	2	65	1
	70	4	70	3
	75	4	75	2
	78	3	78	6
			80	8
			85	1
			90	1
Max Value	78		90	
Min Value	20		50	
Amount	1344		1878	
Average	58.43		75,12	
Category	Currently		Tall	
N	23		25	

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Based on the data above, it can be seen that the values obtained by students in class VII A at SMP Muhammadiyah 2 Mariyai or the control group with the application of picture card media, of the 23 students in the control class, there were 5 students who scored 20 and 60, there were 2 students who received 65. , and there were 4 students who each got a score of 70 and 75, and there were 3 students who got a score of 78. So it can be concluded that the average score obtained by students was 58.43, or in the medium category with a total student score of 13 .44, the highest score obtained is 78 and the lowest value is 20.

Furthermore, statistical descriptions and categories in the experimental group were carried out in class VII C of SMP 11 Sorong Regency by applying Augmented Reality media to see its effectiveness in writing descriptive text skills. In the data presented in the table above, it is known that of the 25 students there is one student each who gets a score of 50, 65, 85 and 90. Then, there are 2 students each who get a score of 60 and 75. Then , there were 3 students who got a score of 70, while those who got a score of 78 and 80 were 6 and 8 students. Furthermore, based on the value data obtained by students, it is known that the total value is 1878, with an average acquisition of 75.12 or is in the high category.

Then, the results of the normality test that has been carried out beforehand will be presented for the next hypothesis test. Following are the results of the data normality test by applying the Kolmogorov Smirnov test:

One-Sample Kolmogorov-Smirnov Test

		VAR0000 1	VAR0000 2
N		23	25
Normal Parameters, b	Means	58.4348	75.1200
	std. Deviation	21.60140	8.72888
Most Extreme Differences	absolute	.311	.269
	Positive	.183	.208
	Negative	-.311	-.269
Test Statistics		.311	.269
asymp. Sig. (2-tailed)		.000c	.000c
a. Test distribution is Normal.			
b. Calculated from data.			
c. Lilliefors Significance Correction.			

Based on the normality test above, it is known the valueSig. (2-tailed)of 0.000 <0.05, so it can be concluded that the data is normally distributed.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Differences	std. Error Difference	95% Confidence Interval of the Difference		
									Lower	Upper	
	Equal variances assumed	12,469	001	-3,562	46	001	-16.68522	4.68488	-26.11538	-7.25505	
	Equal variances not assumed			-3,454	28,516	002	-16.68522	4.83069	-26.57237	-6.79806	

The following table is the main table from the independent sample t test analysis. The two-way significance value (t-tailed) is 0.001 <0.05. So that there is a significant difference in value between the control and experimental groups. Based on the descriptive value, it was proven that the experimental group with the application of Augmented Reality media got a higher score.

Based on research data and analysis of inferential statistical data, it can be concluded that the application of augmented reality media is more effective in learning outcomes in writing descriptive text compared to the application of picture card media. This is reinforced by the results of data analysis which shows that the application of augmented reality media has an average value of learning outcomes of 75.12, with the highest score of 90 different from the application of picture card media which only has an average value of learning outcomes of 58.43 , with the highest score of 78. Furthermore, it was reinforced by the results of the hypothesis test which showed a sig value of 0.001

<0.005 so it was assumed that Augmented Reality media was more effective in improving student learning outcomes in decryption text writing skills.
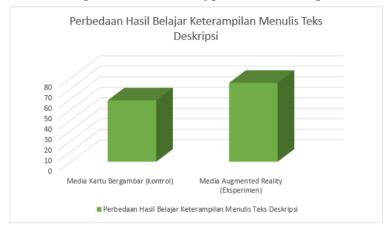

Figure 1: Data on Learning Outcome of Student

CONCLUSION

Research with the formulation of the problem is Augmented Reality media based on local wisdom effective in teaching Descriptive Text writing skills for students at SMP Negeri Sorong. On the basis of the formulation of the problem, a study was carried out, with a sample of students in two schools in Sorong district, namely Muhammadiyah Mariyai Middle School, and Sorong District 11 Middle School, based on the results of the research, discussion, and data analysis that had been carried out, it can be concluded that the application of Augmented reality media based on local wisdom is effectively used in learning descriptive text writing skills, or in other words,It can be seen that the two-way significance value (t-tailed) is 0.001 <0.05. So that there is a significant difference in value between the control and experimental groups. Based on the descriptive value, it was proven that the experimental group with the application of Augmented Reality media got a higher score.

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