

# THE EFFECT OF AURASMA AUGMENTED REALITY (AR) TO ENHANCE YOUNG LEARNERS' VOCABULARY MASTERY

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## Abstract

The aim of this study is to analyze the difference of young learners' vocabulary mastery through Aurasma Augmented Reality (AR). The research was conducted in SDN 1 Jayagiri Lembang and the sample of this study was gained from two classes of sixth grade. One class was treated using AR, while another class was treated without AR in teaching vocabulary. The data were gathered from pre-test and post-test. The result of this study revealed that young learners could improve their vocabulary mastery through augmented reality (AR). It can be inferred that there is a significant difference from students' pre-test and post-test result. Furthermore, the data from observation displayed a positive attitude during the students' learning through Aurasma AR. Most of students participated actively in the classroom, they showed high curiosity, and they enjoyed and felt enthusiastic in learning vocabulary.

**Keywords:** *Vocabulary, Augment Reality, Young Learners*

## INTRODUCTION

When someone wants to start learning a new language, first they need to know the basics of learning a new language and they must learn it is vocabulary. Brown (2001) mention that views vocabulary items are a boring list of words that must be translate and memorized by the student in their central role in contextualized. As vocabulary is a word that must be memorized learning vocabulary can be very difficult for young learners. Cameron (2001) in Bakhsh (2016) stated that in order to write and speak English, young learners need to learn one until two thousand words. They need to memorize two thousand words enable to use of English fluency.

According to the statements above learning vocabulary is very important in learning the English language. It also affects students in which word they use in both written and spoken language, there are four skills in learning English, listening, speaking, reading and writing but before learning about these skills, young learners must learn the basic skill that is vocabulary. Further, Alqahtani (2016) mention that vocabulary is important in learning English, many students become not confident in learning English just because they cannot improve their skill in learning English.

Vocabulary mastery is mostly viewed as an important tool for second language learners because a narrow vocabulary in a second language holds up successful communication, the reason is they do not know the vocabulary in English besides their own mother tongue. To solve this problem the writer used augmented reality (AR) to increase student's knowledge in the learning English. He expected that they can enhance their learning vocabulary mastery, participated actively, and had more interest in their learning process by using augmented reality (AR).

### 1) Teaching Vocabulary in EFL Context

Nowadays learning vocabulary may be a matter because many teachers are not trust in the best teaching method and do not know where to start Alqahtani (2016). Also, some English teacher

who teaches at elementary school are not from English education background and sometimes mislead in teaching English. Vocabulary plays a significant role for language skills in addition vocabulary is central to learning a new foreign language at primary level Cameron (2001) it is mean that almost impossible to learn a language without a word and vocabulary is an necessary basic to learn a new language. Murcia (2001: 285) as cited in Parmawati (2018) states that vocabulary learning is central to language acquisition, whether the language is first, second, or foreign.

Vocabulary teaching is an necessary basic skill in any language classes, but the real problem is the technique that teacher use in learning vocabulary is less variation in the class that the writers observed the teacher when teaches vocabulary by translating one by one then the teacher give example how to produce the words and the student repeat what the teacher said again and again. In the end of the learning, the teacher asked the teacher what word they have learned. Spellery (2002:2) in (Elsy, 2012) stated that vocabulary mastery goes through a passive stage before becoming active knowledge so that teaching vocabulary must be the first priority in the English language. Learning vocabulary is students' needs in vocabulary mastery but for some students, it is quite difficult to learn and memorize the word meaning because they never use English vocabulary in their daily life.

Learning vocabulary is very important for young learner. For them learning English subject is difficult because they need to memorize English vocabulary and they never use it in their daily activities. In fact, the teacher must to choose the best technique in teaching vocabulary. Young learners sometimes get bored because they think learning English Language is very hard.

## 2) Learning Augmented reality (AR) for Teaching Vocabulary

(AR) Augmented reality is a virtual object and real environments Azuma (1997) In other words, in (AR) Augmented Reality is a computerize information placed in the world as if they exist with real objects. It is an combining technology that is finding applications in the education of its possible benefits to teaching and learning (Wu et al, 2013). Teaching vocabulary through (AR) Augmented reality is one of innovation in teaching vocabulary, now's day teacher must have ideas to combine the technology and learning process so the student would not feel bored while learning vocabulary, Al in (da Silva et al, 2019) stated that Augmented reality (AR) can aid learning and make the overall process more interesting and pleasant. Using augmented reality (AR) can be an innovation in the education system that can make the learning process more interesting by using AR ( Augmented reality ). because nowadays students have their own smartphone to use in the learning process. So, teacher create the AR to use in the classroom, there are several applications in play store that can use to make our own AR, one of them is Aurasma or visit this website <https://www.aurasma.com/> to create your own Augmented reality (AR) or for Smartphone users, they can download it by visit this website <https://play.google.com/store/apps/details?id=com.aurasma.aurasma&hl=in> and create their own augmented reality (AR).

Aurasma is an Augmented reality (AR) website that can be accessed by anyone it available for computer and smartphone, it allows to create your own AR it can be simple as a lifelike 3D animation, in order to use Aurasma they need to access a smartphone or tablet in order to use Aurasma, just download the Aurasma app. To create your own AR in Aurasma by choosing a custom-created or creating your own content.

## 3) Young Learners Learning Characteristic

“Who are the young learners?” there are several definitions to young learners. ( Slattery and Willis 2003) state that young learners are those between 7-12 years old. In addition, there are 2 groups of young learners, one is from 5-7 years old and another from 8-11 years old Ytreberg

(2001). The real benefits why young learners begin to learning English in an earlier age that they are preferable equipped to develop English language acquisition.

Teaching English to young learners in Indonesia refers to teaching English for children from elementary school. according to Alwasilah (2007) in (Sadikin & Saleh, 2016) claim that there are two reasons why elementary school have English as Local Content: (1) parents think that their children need to learn English, and (2) it is assumed that teaching English in Elementary school will no longer a difficult subject

When children are required to learn new vocabulary in any language, they need to develop a learning strategy. Children need to understand who they are as learners, and how to plan, monitoring and revising and to learn how to determine if they understand. The children have their own special skill, which is different from other children. The characteristics cover their ways of thinking, their attitude, and aptitude, etc. Musthafa (2002) in (Sadikin & Saleh, 2016) mentions that when young learners are introduced to English early, they will get easily learn and they are expected to be mastering the language in the future. This, of course, affects the ways of teaching them. To give the best technique of teaching English to the children, the teachers should know and understand them so the teacher can choose the best technique to teach and boost student knowledge.

## METHOD

### 1) Research Method

This research used the quasi-experimental designs (Campbell & Stanley, 1963) in (Shadish & Cook, 2002) stated that quasi-experiments is to test descriptive causal hypotheses about manipulable causes as well as many structural details, such as the frequent presence of control groups and pretest measures, to support a counterfactual inference about what would have happened in the absence of treatment. In quasi-experimental the cause is manipulable and occurs before the effect is measured. However, quasi-experimental design features usually create less compelling support for counterfactual inferences

### 2) Research Instrument

#### 1. Pre-test

In this research, a pre-test was used to get the information data about students' vocabulary through Augmented reality (AR) about student base knowledge for course study by giving testing before giving the material.

#### 2. Post-test

A pos-ttest is a quasi-experiment where participants are studied after the experimental manipulation. This can be hampered by the practice effect, defined as an influence on performance from previous experience. Overall, are seeing if the experimental manipulation is changing people

### 3) Population and Sample

The population of this research was the student of the sixth grade of *SDN 1 Jayagiri* academic year 2018-2019 students. McMillian (2001) stated that A population is a group of elements or cases, whether individuals, object, or evens that conform to specific criteria and to which intended to generalize the result of the research. This study was conducted in February 2019 and the writer choose the sixth grade in *SDN 1 jayagiri* because to conduct the research the writer needs a school that has three classrooms of sixth grade, and the only school which has three class of sixth grade is *SDN 1 Jayagiri*. that meet the writer requirement for the research by choosing only two classrooms of sixth grade.

The sample of this research was 29 students of two sixth grade classes total participants is 58 students of *SDN 1 Jayagiri* academic year 2018-2019 which is six A and six B classrooms. This research used SPSS software ver.22 to collect and process data from control and experimental

classroom using the pre-test and post-test score, processing the data to see the different students' vocabulary mastery by finding the N Gain for each pre-test score and post-test score using the N Gain formula, there are two formulas for calculated the N-gain :

$$N \text{ Gain} = \frac{\text{Mean Posttest} - \text{Mean Pretest}}{\text{Score Maximum} - \text{Mean Pretest}}$$

## RESULTS AND DISCUSSION

### Results

#### Pre-test and Posttest Control and Experiment Classroom

Participant	CONTROL		EXPERIMENT	
	Pretest	Posttest	Pretest	posttest
Student 1	34	71	66	83
Student 2	29	60	20	80
Student 3	31	29	46	80
Student 4	31	77	37	34
Student 5	66	66	29	66
Student 6	89	71	23	71
Student 7	46	63	46	71
Student 8	63	66	46	77
Student 9	40	49	37	80
Student 10	51	74	49	74
Student 11	54	69	23	63
Student 12	14	40	35	71
Student 13	57	74	11	66
Student 14	54	49	34	51
Student 15	40	29	14	74
Student 16	26	49	60	89
Student 17	26	66	46	66
Student 18	63	69	46	66
Student 19	46	57	17	71
Student 20	54	60	46	86
Student 21	60	49	17	37
Student 22	26	60	34	86
Student 23	40	69	31	74
Student 24	37	80	46	74
Student 25	26	60	40	83
Student 26	86	57	23	71
Student 27	49	69	37	66

Student 28	51	71	31	49
Student 29	29	40	34	80

The results of the research displayed the score of pretest, posttest, and gain of both experimental and control class, the pretest score was obtained before the writer gave a treatment to the young learners, posttest score was obtained after the writer gave a treatment and for gain the writer use the N-gain formula for both control and experiment class.

By using the data from table descriptive statistic control class without used Augmented Reality (AR) the mean pretest was 45.45, the lowest score was 14 it was obtained by one student, the highest score was 89 it was obtained by one student and the most score obtained by students was 26. For the pretest the mean score was 60.10, the lowest score was 29 obtained by two students, the highest score was 80 obtained by one student and the most score obtained by students was 60. By using the pretest and posttest control class the writer calculated the gain by using the N-gain formula and the gain is 0.27.

**Descriptive Statistics Control Class**

	N	Range	Mini mum	Maxi mum	Sum	Mean	Std. Deviation	Variance
pretest control	29	75	14	89	1318	45.45	17.900	320.399
posttest control	29	51	29	80	1743	60.10	13.508	182.453
Valid N (listwise)	29							

$$\text{N-Gain : } \frac{60.10 - 45.45}{100 - 45.45} = \frac{14.65}{54.55} = 0.27$$

The effect of learning vocabulary without Augmented reality (AR) in students' vocabulary mastery improvement is 0.27 this classified as a low improvement based on Table N-Gain Score Improvement there are three categories which are High ( 0.71 – 1.00 ), Normal ( 0.31 – 0.70 ) and Low ( 0.0 – 0.30 ).

<b>N-GAIN (SCORE IMPROVEMENT)</b>	
<b>RANGE</b>	<b>DESCRIBE</b>
0.0 – 0.30	LOW
0.31 – 0.70	NORMAL
0.71 – 1.00	HIGH

For the experiment classroom from table Descriptive Statistics Score Experiment Class the mean score was 35.41 before teach by Augmented reality (AR) the lowest score was eleven it was obtained by one student, the highest score was 66 it obtained by one student, and for the posttest the mean score was 71.00, the lowest score was 34 it was obtained by one student, the highest score was 89 it obtained by 1 student, the most score obtained by student was 71 and for the gain score after calculated by used the N-gain formula the N-gain score was 0.55.

**Descriptive Statistics Score Experiment Class**

	N	Range	Mini mum	Maxi mum	Sum	Mean	Std. Deviation	Vari ance
Pre-test	29	55	11	66	1027	35.41	13.534	183.180
Post-test	29	55	34	89	2059	71.00	13.701	187.714
Valid N (listwise)	29							

$$\text{N-Gain} : \frac{71.00 - 35.41}{100 - 35.41} = \frac{35.59}{64.59} = 0.55$$

The effect of learning vocabulary with Augmented Reality was 0.55 this classified as Normal improvement in young learners' vocabulary mastery.

### Discussion

This study tries to figure out if, there is any significant difference in using Augmented Reality (AR) to enhance young learners' vocabulary based on the finding displays that the mean score of the control class for the pretest score was 45.45 with the lowest score was 14 and the highest score was 89, and the mean score from the experiment class was 35.41 with the lowest score was 11 and the highest score was 66, the mean score of pretest of control class was 45.45 and the mean score of pretest of experiment class was 35.41 it was lower than mean score of the control class. For the pretest, the mean score of control class is bigger than the experiment class. The posttest was given to both class after the treatment, in order to see which class has better enhance in vocabulary mastery through Augmented Reality (AR), in the control class the mean score of posttest was 60.10 with the lowest score increased from 14 to 29 and but unfortunately the highest score is decreased from 89 to 80 and for the mean score of the experiment class was 71.00 with the lowest score increased from 11 to 34, the highest score also increased from 60 to 89, the mean score of posttest of experiment class was bigger than control class which is  $71.00 > 60.10$ .

However, those scores had not indicated that student in experiment class had better enhance in vocabulary mastery through augmented reality (AR) than students in control class. It is needed to see the result of N-gain score. The result of N-gain score for the control class 0.27 while the N-gain score for experiment class 0.55. based on the N-gain score, the level of enhance in experiment class was normal since it was less than 0.70 and higher than 0.31. in the other hand the N-gain score for control class 0.27, the level of enhance was low since it higher than 0.00 and lower than 0.30. The result of N-gain score displayed that experiment class had better enhance than control class.

The result of this study was relevant with the previous studies conducted by Santos et al. (2014), Lee et al. (2017), Carmen et al. (2010), and M. E. C. Santos et al. (2016), in their study showed that Augmented Reality was effective to enhance young learners' vocabulary mastery. By using Augmented Reality, it can make learning vocabulary more enjoy for young learner trough Augmented Reality. However, the writer cannot deny that there was problem when using Augmented Reality to enhance young learners' vocabulary at sixth grade of *SDN 1 Jayagiri*. The problem is when young learner uses Augmented Reality, they got confuse in operating their smartphone to use Augmented Reality. To solve this problem the writer gave them a tutorial



how to use Augmented Reality in their Smartphone. Augmented Reality could be an alternative in teaching vocabulary in 21<sup>st</sup> century. Augmented Reality gave a big potential in education to learn a new language.

## CONCLUSION

From the explanation of the data above, it can be concluded that Augmented Reality is a suitable teaching technique for Z generation who admire technology and the result showed that Augmented Reality is effective in enhance students' vocabulary. Students who are taught by Augmented Reality had better improvement that those who are not. It can be said that Augmented Reality has successfully giving experience in learning vocabulary.

Those statement above is proved by the data of N-gain score of both control and experiment classroom. The N-gain score for the experiment class was 0.55 which classified as normal improvement. While the N-gain score for control class was 0.27 it classified as low improvement .

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