

## **Enhancing Vocabulary Performance Through Mobile Assisted Language Learning at a Rural School in Indonesia**

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### **Abstract**

Living in this era of globalization and in the 4.0 industrial revolution, we cannot get away from technology because it has integrated into our lives and has penetrated the educational system. There were studies done on the use of mobile-assisted language learning (MALL) to improve students' vocabulary achievement in other parts of the world and also in some urban schools in Indonesia, but this study seeks to find whether the students' vocabulary improved through the use of MALL at rural school in Bandung- Indonesia. This study was carried out to find the enhancement of using MALL in vocabulary teaching to 79 grade 8 students in Bandung. This study was designed for quantitative and experimental research. The students were separated into two groups, experimental and control groups. A day before coming to class, 15-20 words to learn the following day was sent to the experimental group through a short messages system (SMS) for them to read, find the synonyms and meanings of those words before coming to the class. The result of the study showed that students in the experimental group performed better than the control group. It also proves that technology makes a significant difference in the learning of vocabulary in school.

Keyword: Educational Technology, English Language Learning, Smartphone.

### **INTRODUCTION**

Based on the researcher's experience, that vocabulary is the most important words to be learned in the language, without vocabulary learners cannot speak, write, read, or understand what is being said in the listening and speaking process. If we lack vocabulary it may hinder us to understand the words that consisted of the sentences. Language development has become important in the education system for all age levels, especially for the English Language because English is an International Language, and English is useful in our lives for example in Politics, Economics, Social and Education.

Erkayana and Drower (2012) stated that the nucleus components to learn a language is vocabulary, it means that vocabulary is very crucial when the students want to learn a new language, that is why to increase vocabulary in the English Learning for EFL context, is stronger to understand among the students, as their based knowledge to learn a new language, in other word vocabulary is basic components to arrange sentences in a language.

In a study done by Andrici (2012), she found that students who lack vocabulary, are students with a low capacity to understand the words and also those who lack the motivation to learn the language. In this case, parents and teachers should have good collaboration in

giving motivation to their children/ students. At school, the teacher should use the attractive and interesting method in teaching, and the parents should push and motivate the children to learn.

When learning English, especially vocabulary, Indonesian students frequently encounter problems because English varies in its structure, pronunciation, and vocabulary from Bahasa Indonesia (the Indonesian language) (Katemba, 2019). Furthermore, Tanjung (2011) explains that students have a hard time learning vocabulary. They lack motivation, making them not interested in learning vocabulary and most of the students cannot memorize the vocabulary, because they have a low intelligence quotient (IQ). Therefore, to motivate the students to learn their vocabulary, this study sent target words (the vocabulary) to students directly to their Mobile Phones in a form of Sending Messages. Moreover, Daniella (2013) said that words are the currency of communication it means that vocabulary is really important for communication.

Based on the importance and the problems in learning vocabulary above, there are many strategies and techniques to help students and teachers in learning English, one of the ways that can help teachers in teaching vocabulary and that can help students in learning, is the use of mobile phones which are dominant in most student's life. They are not just communication devices anymore, they are useful computers that fit into students' pockets, always with them so nearly always on, and can be used in any kind of learning (Prensky, 2005).

Huang (2012), investigated that technology has brought about a new type of learning a language called MALL (Mobile Assisted Language Learning). It has become a really interesting strategy for learners. Applying a kind of technology in learning language is a great chance for the students because they learn the technology, they also can use the technology in their learning, it means they use their time in inappropriate activities with their mobile phone while they use it as a tool of communication. Besides, Katemba (2020) stated that schools demand teachers to use technology fluently especially in the classroom at the time of teaching.

Basoglu and Akdemir (2010) conducted a comparative study of vocabulary learning with mobile phones and with paper flashcards of undergraduate students' at Turkish. The experimental group used the vocabulary program on the phones to study the target words for six weeks in their extracurricular hours while the control group worked on the same words on paper flashcards during the same time. Their findings reveal that "vocabulary learning programs running on mobile phones improved students' acquisition of English vocabulary more than a traditional vocabulary learning tool, flashcards" So, for knowing this case the researcher intended to find out an alternative method for teaching vocabulary to young learners by using a mobile phone in increasing the vocabulary of the learners by helping them to memorize the words easily and enjoyable.

This study is entitled "Enhancing Vocabulary performance Achievement through Mobile Assisted Language Learning at a Rural school in Indonesia. This study poses a challenge to traditional, and formal ways of teaching and learning methods that learning a language or vocabulary may take place also outside the classroom with the use of MALL. Kukulska-Hulme (2012), claimed that Mobile technology introduces greater flexibility into classroom teaching and it takes learning out of the classroom, often beyond the reach and control of the teacher. Therefore, this study is the focus to answer the following research questions: (1). Does mobile phone SMS improve students' vocabulary performance? (2). *"Is there any significant difference in the performance between students who were taught using MALL and the students who were taught using the conventional method"*. The hypothesis tested in this study were (1). *"There is no significant difference in the performance between students who were taught using MALL and the students who were taught using the conventional method"*. (2). *"There is a significant difference in the performance between students who were*

*taught using MALL and the students who were taught using the conventional method” To be able to answer the question the following research methodology applied.*

## **METHODOLOGY**

This study used an experimental design to see whether Mobile Assisted Language Learning (MALL) technique enhancing students' Vocabulary performance. The method of this research used pre-test and post-test, to check the group's performance before and after the treatment begins. The difference between the Experimental group and the control group was the treatment given. The Experimental group used the MALL technique, while the control group used the conventional method.

### **Population**

The population in this research is all students in grade 8, and the sampling in this research uses two classes, which both are from grade 8 students. Both samples are taught by the same teacher. The first class was the experimental group, while the second class was the control group. The researcher did the study at SMP Advent Setiabudi Bandung in West Java Bandung. The students participated in the study for 14 weeks which is equivalent to 40 hours of classroom meetings.

### **Research Instrument**

The instrument of the study was a vocabulary test which was administered at the beginning and the end of the program. The researcher constructs the vocabulary test by having it pilot tested to the 30 participants who are not included in the study for its validity, reliability, discrimination index and its index of the difficulty level of the instrument used. The interpretations of each criteria's: the reliability, validity, discrimination index, and the index of difficulty level are found in the appendix of this paper.

### **Data Gathering Procedures**

In gathering the data needed as explained previously that the instruments (or each item) were pilot tested to measure the validity, reliability, level of difficulty, and discrimination of the instrument. If the instrument is valid and reliable, it can be used for the research instrument. The result of the pilot test was computed and analyzed then the items were selected to be used for the instrument in the study. The pre-test was administered to the students before they join the programs.

### **Treatment**

After administering the pre-test, the treatments were given to the experimental group, but in the control group, they were treated using the conventional method, both groups used the textbook from the school. The following were several steps in using Mobile Phone as MALL method, for the experimental group: (1). The teacher introduced the lesson and the use of Mobile Phones as the MALL method to the students. (2). The teacher sends the SMS about ten of the new vocabularies/words from the student's textbook that the students had to memorize before the meeting. (3). The teacher asked the students to retell the vocabularies that they had received the night before the meeting. (4). The teacher discussed and explained the

vocabularies/words that were included in the lesson for that day, taken from the student's text book. (5). After the explanation, the students had to do the worksheet that has been prepared by the teacher, for measuring the student's understanding of the use of vocabularies/words in the sentences. (6). The teacher checked the result of the student's work and their achievement. After the treatments, a post-test was conducted to find out whether the use of the MALL method made an impact on the student's vocabulary improvement. The post-test instrument was multiple choice forms and it consisted of 40 questions.

## RESULT AND FINDINGS

In analyzing the data, the researcher analyzed it from the pre-test and post-test scores of the experimental and the control groups. Before analyzing the data through normality and homogeneity data the researcher calculated first the mean standard deviation and gain score. The data was calculated through Excel and SPSS computer software programs in the campus laboratory. The calculated data can be seen in the table. 1

Table 1. The Result of Pre-test, Post-test, St. Deviation, and Normalized Gain

	Experimental Group		Control Group	
	Mean	St. Deviation	Mean	St. Deviation
Pre-test	20.125	6.750	20.692	5.648
Post-test	37.075	2.903	25.102	5.245
Normalized Gain	0.805	0.167	0.295	0.328

Table 1 shows the excel calculation of the mean and standard deviation in students' performance on the vocabulary enhancement, The mean of the experimental group on the pre-test is 20.125 with a standard deviation of 6.750, and the post-test it is 37.075 with a standard deviation of 2.903, based of the experimental data show that have normalized gain 0.805 with standard deviation is 0.167. while the mean of the control group on the pre-test is 20.692 with a standard deviation of 5.648 and post-test it is 25.102 with a standard deviation is 5.245, based on the control group data shown that the control group have normalized gain of 0.295 with standard deviation it is 0.328

The Gain of the test has been conducted on both groups that were based on the pre-test and post-test results of each group. The researcher discovered for the control group it is 0.295 and for the experimental group, it is 0.805. It already showed that there is an improvement for both the experimental and the control group after the treatment. However, the conclusion should be drawn after the statistical process, to see the significant difference between the two groups.

To calculate the significant difference between the two groups, the normality test needed to be done to direct the kind of statistical to be used. The researcher used SPSS to calculate the normality of the data in examining the probability distribution of the data. The result for the normality test is then calculated as shown in table 2.

Table 2. The Result of the Normality test

Kelas		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
Gain	Class Control	.167	39	.008	.912	39	.005
	Class Experimental	.099	40	.200*	.938	40	.029

a. Lilliefors Significance Correction

\*. This is a lower bound of the true significance.

Based on the data above, data is normally distributed if both data have  $p$ value (sig) larger ( $>$ ) than  $\alpha=0.05$  and data is not normal if  $p$ value smaller ( $<$ ) than  $\alpha=0.05$ . And based on the result from the table above, the result of the calculation is Asymp. sig. (2-tailed) a value of Sig (.029) for the data score on the experimental group, and a value Sig (.005) for the data score on a group class. Since both of the values is smaller than the alpha (Asymp. Sig,  $> 0.05$ ), it can be concluded that the data of the experimental group and the control group were not normally distributed.

Based on the result of the data above, since the data was not normally distributed, therefore the researcher used the Non-Parametric Test.

For that the researcher set two assumptions to know whether the hypothesis is accepted or not: If,  $p$ Value (Sig.)  $\leq \alpha$  (.050):  $H_a$  is accepted,  $H_o$  is rejected. It means there is a significant difference in the improvement, between students who were taught using MALL and students who were taught using the conventional method

If,  $p$ Value (Sig.)  $\geq \alpha$  (.050):  $H_a$  is rejected,  $H_o$  is accepted. It means there is no significant difference improvement between students who were taught using MALL and students who were taught using the conventional method.

The result calculation can be seen in the following table:

### Test Statistics

	Gain
Mann-Whitney U	18.000
Wilcoxon W	798.000
Z	-7.473
Asymp. Sig. (2-tailed)	0.000

a. Grouping Variable: Kelas

Based on the data in table 3, shows that  $\text{Sig. } (0.000) \leq \alpha (0.05)$ . It means that  $H_0$  is rejected. Therefore, it is concluded that *there is a significant difference in the performance between students who were taught using MALL and the students who were taught using the conventional method*. Thornton & Houser (2005) said that using Mobile Phone as one of the types of MALL technique can improve students' vocabulary. So, the result of this study using Mobile Phone as one of the MALL technique at SMPN 1 Parongpong, Bandung, West Java showed that there is an improvement in students' vocabulary achievement

## DISCUSSION

The result and findings section shows that there is a significant difference in the performance between students who were taught using MALL and the students who were taught using the conventional method, it shows in table 1 on the data of pre-test, post-test, a normalized gain of the Experimental and the Control group. Seyyedrezaeia, Kazemib, & Shahhoseinic, (2016) in their 12 weeks study entitled Mobile Assisted Language Learning (MALL): An Accelerator to Iranian Language Learner's Vocabulary Learning found that the experimental group successfully performed much better than the control group. Similarly in the experiment of Lu (2008); Thornton & Houser, (2005); Kennedy and Levy (2005) they sent 9-10 words in new contexts through SMS to their mobile phones. The results revealed that the words sent were very helpful in vocabulary learning. Also Thornton and Houser (2005). Using mobile phones in their study on English education in Japan. They compared the effect of different vocabulary learning modes, one using paper material and the other supported by mobile phones, and the results showed that the mobile phone group gained significantly more vocabulary than the paper group. Those studies showed that students who were treated with MALL performed better in their vocabulary enhancement, and the use of the MALL method in teaching is very helpful, supported the students' in learning. Burston (2012) claimed that Mobile devices have brought a vast number of learning possibilities that are convenient and compatible to the mobile lifestyle and it can be supported by the teacher and students in learning, including learning a new language. Therefore, the result in this study showed that there is significance in enhancing students' Vocabulary Performance through Mobile Assisted Language Learning (MALL) at Grade VIII Students.

## CONCLUSION

After a thorough analysis of the data gathered, as discussed previously, the researcher can conclude that: “*There is a significant difference in the performance between students who were taught using MALL and the students who were taught using conventional method*” Furthermore, the researcher concludes that there is a significant enhancement of using and teaching through Mobile Phone as a kind of MALL techniques to improve students’ performance in vocabulary, as it can help the students to learn unconsciously, enjoyable, and they can use the vocabulary to construct a sentence that they can use it in their daily life communication.

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## Appendix

Table 1. Interpretation of Coefficient Validity

Coeffisien Validity	Interpretation
$0.90 < r_{xy} \leq 1.00$	Very Good
$0.70 < r_{xy} \leq 0.90$	Good
$0.40 < r_{xy} \leq 0.70$	Average
$0.20 < r_{xy} \leq 0.40$	Low
$0.00 < r_{xy} \leq 0.20$	Very Low
$r_{xy} \leq 0.00$	Not Valid

Table 2 Interpretation of Coefficient reliability

Coeffisien of Reliability	Interpretation of Reliability
$0.90 < r_{xy} \leq 1.00$	Very Good
$0.70 < r_{xy} \leq 0.90$	Good
$0.40 < r_{xy} \leq 0.70$	Average
$0.20 < r_{xy} \leq 0.40$	Low
$r_{xy} \leq 0.20$	Very Low

**Table 3. Criteria of Discrimination Index**

Discrimination Index	Interpretation
$< 0.00$	Very Bad
$0.00 - 0.20$	Poor
$0.21 - 0.40$	Satisfactory
$0.41 - 0.70$	Good
$0.71 - 1.00$	Excellent

**Table 4** Criteria for Difficulty Level

Index of Difficulty	Difficulty Degree
$0.70 - 1.00$	Easy Item
$0.30 - 0.70$	Moderate Item
$0.00 - 0.30$	Difficult Item

Table 5. Clarification of gain score value

Gain level	Interpretation
0.71- 0.100	High
0.31- 0.70	Average
0.00-0.30	Low