

Research Article

An Account of Teaching Vocabulary to Indonesian EFL Learners through Web-Based Language Instruction (WLI): Attitude in Focus

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Since English has been deemed a foreign language in Indonesian schools, how EFL students learn and acquire English vocabulary has been a hot topic. The purpose of this study is to demonstrate the impact of WLI on Indonesian EFL students' vocabulary gains and to discover how students feel about the usage of a web-based method in language instruction. Students were randomly assigned to one of two groups: the Experimental group (EG = 30), which used free vocabulary learning webpages on the IELTS English language learning site each day for 12 weeks, and the control group (CG = 30), which got regular classroom teaching every session. This was done to make sure that the groups were homogeneous. By introducing web-based training into the curriculum, it seemed that students' perceptions of language acquisition had improved. The findings showed a considerable disparity in vocabularies among EG and CG. The vocabulary of EFL students improved as a result of WBL education. This study's results might have some benefits on how languages are taught and learned.

1. Introduction

Vocabulary instruction is commonly neglected from foreign language curricula, and it is also assumed to be self-taught. In addition, several textbooks and activity sheets ignored it, whereas the syllabus focuses on vocabulary, grammar, reading, and speaking; it nevertheless places less focus on the significance of vocabulary. Nevertheless, the contemporary lexicon appears to have undergone a shift in importance. Since its "expansion" to include lexical phrases and common terminology, it has been advised that early phase research is conducted before education, and it has had a significant impact on classroom engagement and communication [1].

Scholars have been drawn to the study of vocabulary acquisition since the late 1970s when it first came to public prominence. David Wilkins, a well-known British linguist,

was the one who started it all back in 1972. According to David Arthur Williams [2], without grammar, only a little amount of information can be given, but nothing can be expressed without vocabulary. Furthermore, the greater the vocabulary that EFL students acquire, the better their conversation will be [3–5]. This suggests that understanding vocabulary is essential for bridging the gap between the usage of English [6] and other languages, whether in the construction of a sentence or dialogue. How someone communicates via English, of course, reflects whether or not that person can genuinely communicate in English or merely a limited amount of English. As a result, EFL students must put forth greater effort in understanding English vocabulary to communicate effectively in English.

When it comes to acquiring a language, vocabulary has always played a crucial part. It is considered that the greater the

amount of vocabulary that kids learn, the simpler it will be for them to acquire the four language abilities, which are listening, speaking, reading, and writing. According to the findings of Lin et al. [2], Bin Tahir [7], and Bin Tahir [8], vocabulary is an integral aspect of a language's structure and function. It is anticipated that increasing learners' vocabulary would improve communication skills in both speaking and writing. Furthermore, their study has shown that the outcomes of speaking and writing examinations are becoming more favorable. In a nutshell, vocabulary is the primary component of language skills that serve as the foundation for how pupils communicate in a foreign language. Participants often have trouble learning if they do not master a large amount of vocabulary and new methods for learning vocabulary. They are also afraid of using the language and develop their abilities autonomously, such as by listening to the radio, listening to the speech of a native English speaker, utilizing language in different contexts, reading, and watching television. Nevertheless, current research on vocabulary has been able to describe the degree of vocabulary acquisition required by students to comprehend a range of oral and written texts and the types of methods employed by students to understand, utilize, and retain the vocabulary.

Due to the fast improvements in computer technology (CT), online classes and web-based learning (WL), and teaching techniques have become increasingly popular. Students and instructors both gain from this approach, which enhances the exchange of information. Rather than being bound by the behaviors of other learners or the appearance of a teacher, this style of training enables learners to build a tighter check on their development. It is feasible for learners to specify whether they wish to participate in activities [9–11].

According to Forte and Bruckman [12], online language learning has the added advantage of being convenient for learners. Adult EFL students, whose lives are often consumed by their work, may find this type of convenience very valuable. WLL allows students to depend on themselves since professors do not have the time to wait for them to get on. Students of a second or foreign language benefit personally from this [13]. A favorable effect on acquiring L2 vocabulary is being left behind by web-based education activities as well. An overwhelming majority of empirical research has shown that students who are learning a second language prefer to employ web-based activities that combine synchronous and asynchronous delivery methods to teach basic vocabulary [14]. Gunasinghe et al. [15] claim that web-based vocabulary process education materials may meet the expectations of a wide range of learners and increase the engagement of students of all abilities and proficiency levels [13].

Web-based education programs are leaving behind a favorable effect on acquiring L2 vocabulary. An overwhelming majority of existing investigations have shown that students learning a second language choose to employ web-based exercises that combine synchronous and asynchronous delivery methods to teach basic vocabulary [16]. As per Kabooha [17], web-based vocabulary education materials can meet the needs of a wide range of participants and promote the students' engagement with a wide range of skills and capabilities [13]. Many EFL instructors in

Indonesia choose to minimize the use of conventional ways and increase the use of technology-based instructional methods for L2 lexical training [18]. Indonesians do not use web-based CALL tools for learning L2 vocabulary unless they are necessary. Consequently, the critical issue is whether or not web-based programs are more successful in teaching vocabulary than conventional face-to-face methods? Through in-depth research of WLI'S impact on Indonesian EFL students, this article seeks to answer this issue.

Ellis [19] argued that training and acquiring vocabulary are a complicated and time-consuming procedure in the L2 learning procedure. As a result, L2 students try their best to determine the most effective method of vocabulary acquisition for them. Nevertheless, their initial strategy of acquiring vocabulary is to memorize it. A list of word items to remember is preferable to learning words in their environment by beginning students, but advanced students prefer learning words in their original context [20, 21]. One of the drawbacks of teaching vocabulary is not taking into account the learner's prior information while introducing new terms. Computers have given a variety of activities and improved learning and teaching possibilities due to this constraint. Various researches have shown that computer-assisted teaching has a considerable influence on students' reading comprehension and vocabulary. According to multiple researchers [22, 23], there has been a significant uptick in using technology to teach vocabulary is now one of the most frequently taught language topics. Among other things, Eizadpanah et al. [24] claim that CT has affected language acquisition in principle and vocabulary in particular for more than two centuries. Eizadpanah et al. [24] also feel that the reading skill and lexical items are two of the most significant L2 learning domains that this enormous gain has influenced. According to Khoshnoud and Karbalaeei [25], information and network technologies are changing rapidly, and vocabulary lessons are no exception.

As a consequence of these findings, virtual worlds have emerged to encourage synchronous (online) learning practices among learners, as opposed to asynchronous (offline) learning. As a result, technology may improve the efficiency with which students and instructors acquire and instruct L2 vocabulary. It has been suggested that technology may be utilized to enhance the quality of information, offer helpful corrective feedback, and teach learners to use technical improvements that are crucial to acquiring vocabulary items in another language. Many instances of integrating technology with education in the classroom include employing computers, mp3 players, and other devices [26].

It was the goal of Yudi Cahyono and Widiati [27] to provide a foundation for different problems in the instruction of EFL vocabulary and to connect them to a broader context of second/foreign language vocabulary instruction, as well as to evaluate research findings and modern methods in the teaching and learning of EFL vocabulary in an Indonesian context. The researchers concluded that there is still much that can be accomplished for future EFL research and practice in Indonesia to add to the growing corpus of describing or acquiring experiments examining vocabulary. Furthermore, instructors and teacher trainees should have a much better awareness of how

important it is to increase students' vocabulary for them to be successful in learning a second or foreign language in their classrooms.

Currently, studies have shifted to the development of computer software programs that are very useful for self-study modes of instruction, allowing learners to perform and assess linguistic features. In multimedia vocabulary learning settings, L2 students can make links between their verbal and visual figurative processes, which aids in the development of their language skills [28]. This would improve the efficiency of exercise for important and frequent identification in vocabulary knowledge, which would be beneficial [29]. These interactive word learning contexts may take on various forms depending on the educational situation and the demands of L2 learners. When creating a vocabulary learning environment aimed toward younger students, Tamjid and Moghadam [30] demonstrated the need to create an attractive structure for vocabulary study that is easy to understand. But, they stressed that the attractiveness of the educational environment alone would not result in more efficient L2 vocabulary acquisition if appropriate learning support measures do not accompany the setting. The use of static pictures in digital vocabulary learning has been shown to have a more substantial impact than using mental effort, as evidenced by the fact that participants who used text and video annotations scored significantly lower on the follow-up vocabulary test than participants who used text and picture annotations [22].

Numerous practitioners and scholars have emphasized the significance of technological advances in their work, e.g., [30, 31]. As per Saslow and Ascher [32], CT can offer learners the skills they need to build meaning, regulate their own learning, and assess and monitor their performance in various situations. Overall, it emphasizes multimedia computers and the Internet as two of the most significant multimedia breakthroughs in recent history. In the second language learning process, students choose to use a variety of technology instruments or interactive media. Among the numerous digital resources now available, Weblogs have piqued the interest of several academics, e.g., [33–35]. Weblogs are an essential and rapidly increasing communication and broadcasting on the Internet quickly gaining popularity. For instance, WLL will become an increasingly important component of traditional in-class, teacher-led training. This is because blogs enable users to create personalized material and interact with an Internet group, which allows them to cooperate and exchange information with one another. The investigators are particularly interested in WLL, e.g., [36–38]. WLL includes the use of the Internet and web-based content, services, apps, and applications. Instructors may exercise with their learners individually or collaboratively by using web-based exercises that are well-planned and structured. Several types of research, for instance, have been conducted to study the influence of web-based training on language acquisition. As an example, Bashori et al. [39] investigated interactive media for language training. The outcome was that she discovered that most pupils believed that the multimedia context aided in the delivery of language training. Roy [40] found that using web-based education as a supplementary had considerable benefits on writing design due

to his research in another area. For WLL, Kahn [41] suggested eight categories for active learning: educational, digital, interface design, assessment, administration, resource support, ethical, and institutional. Subsequently, Kahn [42] presented a paradigm for the use of web-based education that ranged from “macro” to “micro” level applications.

The majority of research that has looked into WLL approaches has reached the same conclusion regarding the beneficial and practical impacts of this strategy on improving vocabulary knowledge. These are two similar research studies carried out by Zhang, Song, and Burston (2011) and Khazaei and Dastjerdi (2011) who checked the impact of conventional and computer-assisted language (CALL) learning approaches on Chinese and Iranian Learners' vocabulary long-term retention, respectively. This research aimed to investigate the applicability of online and web-based training to the instruction of second language vocabulary. Although one group of participants focused on a chosen list of vocabulary using web-based exercises, the other group focused on the same list using paper-based practices. In the study, it was discovered that online activities enable students to learn vocabulary more efficiently in the short term when compared to reading printed material. It was also found that participants who gained the learning content through a web-based strategy performed better than participants who conventionally got the educational material. Web-based education may be used in various ways to enhance EFL teaching and learning. Since vocabulary acquisition is an essential and time-consuming component of language learning, several attempts have been undertaken to simplify and improve the complex process of vocabulary learning [43]. Overall, this research attempted to provide answers to the following questions:

- (i) RQ 1. Does WLI have any effect on vocabulary learning among Indonesian EFL learners?
- RQ 2. Do Indonesian EFL learners have a positive attitude toward WLI?

2. Methodology

Pre- and posttests were incorporated in the study design. The EG was trained to utilize WLL, while the CG was instructed to use traditional teaching for vocabulary development. The independent variable is the use of the Internet as a collaborative tool, while the dependent variable is the improvement in the vocabulary level of the students.

To ensure homogeneity among the students, a modified Michigan test was administered to 120 preintermediate students from MA DDI Sendana in Majene Regency on the island of West Sulawesi, Indonesia, to select 60 male and female students with the same level of proficiency. After that, they were separated into two groups: EG (EG = 30) and one CG (CG = 30), each of which had 30 participants. Regarding the acquisition of receptive vocabulary, during the pretest phase, the participants were required to complete the vocabulary test, which consisted of 40 multiple-choice questions.

Over eight weeks, the EG students studied their course vocabulary using free vocabulary study tools on

TABLE 1: Descriptive statistics (both groups' pretest).

	Groups	N	Mean	Std. deviation	Std. error mean
Vocabulary pretest	EG	30	11.2000	1.44795	.26436
	CG	30	11.2667	1.52978	.27930

TABLE 2: Independent samples *T*-test (both groups' pretest).

		Levene's test for equality of variances		<i>t</i> -test for equality of means				
		F	Sig.	<i>t</i>	Df	Sig. (2-tailed)	Mean difference	Std. error difference
Vocabulary pretest	Equal variances assumed	0.178	.675	-173	58	.863	-06667	.38457
	Equal variances not assumed			-173	57.826	.863	-06667	.38457

the IELTS website. The IELTS vocabulary portion uses a spaced repetition learning approach to help students research target words regularly. Computers were available to students 24 hours a day. Each student received a laptop and instructions on using it at home to study for the IELTS vocabulary test independently. Every week, the CG students were given the same teaching process. After the course, EGs and CGs took a posttest. The receptive vocabulary size was measured using the posttest. Lastly, in the final session, an attitude questionnaire was given to students to see how they felt about web-based vocabulary acquisition. According to a Likert scale of one to five, the questionnaire had 20 questions (strongly disagree = 1; disagree = 2; neutral = 3; agree = 4; strongly agree = 5).

3. Results

First, it was needed to check if any significant difference exists between the two groups on vocabulary pretest before the treatment. Thus, an Independent samples *T*-test was run.

Table 1 contains essential information concerning group comparisons, such as sample size (*n*), mean, standard deviation, and standard error. As can be seen, there are 30 learners in EG and 30 in CG. The mean for EG is 11.2000, and the mean for CG is 11.2667. To see if the difference between the means of both groups in vocabulary pretest is statistically significant, the *p* value must be checked in Table 2.

The *p* value of Levene's test is printed as "0.863" (should be read as $p > 0.05$, i.e., *p* very high), so we conclude that the variance in vocabulary pretest of EG is not significantly different than that of CG. The researchers concluded that both groups were at the same level of vocabulary knowledge before the treatment.

As mentioned before, a posttest of vocabulary was run at the end of the study to check the impact of the treatment on participants' vocabulary knowledge. The results of the posttest are given in the following tables.

TABLE 3: Descriptive statistics (both groups' posttest).

Groups	Mean	Std. deviation	N
EG	16.3333	0.95893	30
CG	11.5667	2.01175	30
Total	13.9500	2.86667	60

According to Table 3, EG students' posttest mean score ($M = 16.3333$) outperformed CG students' ($M = 11.5667$) posttest mean score ($M = 11.5667$). The researcher had to check the *p* value under the Sig. column in front of the Groups row in Table 4 to see whether this difference between the posttest mean scores of the EG and CG students was statistically significant or not.

Table 4 shows that the *p* value in the Sig. column was less than the alpha level of significance ($.00 < .05$), suggesting that the difference between the EG and CG groups on the vocabulary posttest was statistically significant. Accordingly, using the WLI could significantly improve the vocabulary learning of the EG learners. It is also worth noting that the effect size value, shown under the partial eta squared column in front of Groups equaled 0.80, which means that the treatment (i.e., using the WLI) accounted for 80% of the difference between the posttest vocabulary scores of the EG and CG learners.

Finally, to uncover the views of the EG participants concerning the intervention they obtained, a 20-item Likert scale questionnaire (with answers varying from strongly disagree to strongly agree) was used to gather information. Analyzing the frequency of responses for each choice and item in the questionnaire revealed that the EG learners all agreed with the 20 statements in the questionnaire. In other words, they had positive attitudes towards those 20 items. To see if their degree of having positive attitudes is statistically larger/significant or not, Table 5 must be checked.

TABLE 4: One-way ANCOVA (both groups' posttest).

Source	Type III sum of squares	Df	Mean square	F	Sig.	Partial eta squared
Corrected model	401.643	2	200.822	137.571	.000	.828
Intercept	38.869	1	38.869	26.627	.000	.318
Vocabulary pretest	60.827	1	60.827	41.669	.000	.422
Groups	347.223	1	347.223	237.862	.000	.807
Error	83.207	57	1.460			
Total	12161.000	60				
Corrected total	484.850	59				

TABLE 5: One-sample *t*-test results for the learners' attitudes.

<i>T</i>	Df	Sig. (2-tailed)
4.68	19	.010

EG participants had substantially favorable opinions regarding the use of WLI for the sake of vocabulary acquisition, as shown by the *p* value in this table being lower than the significance level ($0.010 < 0.05$).

4. Discussion and Conclusion

Currently, traditional CAL has increasingly displaced WLL as the preferred method of WBLL. These results are consistent with Rashtchi and Aghili [31], who suggest that CALL should be included in the ELT syllabus for all students. Respondents who utilize the Internet for ESL learning had gorgeous views about WLL (WBLL). According to the study, they were curious about extracurricular activities both in and outside of class time [31].

As a result, participants' perceptions toward integrating the web as an effective instrument for vocabulary development and using CALL as a new map to use life challenges in the ELT syllabus have resulted in the conclusion that participants have formed an optimistic response toward the use of web-based teaching, according to the study results. The outcomes of this research also provide credibility to plenty of academics' statements about students' perspectives after they have used a computer-based program to improve the pace and quantity of vocabulary they have learned. The findings of the present investigation are consistent with those obtained by Hajebi et al. [10]. Naraghizadeh and Barimani [44] explained the efficacy of CALL on Iranian EFL learners' vocabulary acquisition, and their results revealed a statistical difference between the EG and CG in terms of their understanding of vocabulary terms. The use of CALL training helped learners improve their vocabulary. Using web-based vocabulary learning software based on CALL guidelines, this study investigated the impact of learning vocabulary by intermediate EFL students in Iran and the commitment of vocabulary learning software on students' perceptions of the language. The findings demonstrated that introducing web-based education into a language learning course based on CALL improves participants' awareness of the material.

The results revealed that there was a statistically significant difference between the EG and CG in terms of their

knowledge of the language. The use of WLL teaching improved the knowledge of vocabulary of EFL students. When the participants' scores were compared, it was discovered that there was a statistically significant difference in the final performances of the two groups. As a result, this research lends support to the notion that CALL principles are critical for the acquisition of new vocabulary and the improvement of students' memory. The outcomes of this research may have some ramifications for language teaching and learning from an educational standpoint. As a starting point, these results may be helpful for language learning curriculum developers who want to give assignments that increase both the learners' language skills and the participants' willingness to use online websites for independent language learning. Educators' personal opinions on computer incorporation are influenced by their previous computer-related experiences. Nevertheless, "adaptable, independent, continuous learning is necessary to succeed in the era of communication," as stated by Lucas (2010) on page 9, and the role that technology plays in promoting this type of learning cannot be overstated. Using English learning Internet sites, learners may engage in a variety of activities like commenting on their interactions with classmates from all over the globe via chat services that can be text-based or video-based and examining natural resources [39].

According to Hajebi et al. [10], the online curriculum provides a clear path for students to concentrate on their interests. According to him, individuals who had taken a CALL course did better than those who had not and reported higher grades.

Learning English on the Internet is an alternate, and even a highly effective method of education. Nowadays, learners may study English on their own by utilizing the Internet. Educators should take advantage of this opportunity since new technology and altering teaching methods require them to adapt their teaching methods. More favorable attitudes are needed to utilize the Internet for language learning and web-based instruction than were discovered in the sample of learners. Using the Internet to learn was a positive experience. Learners' lives may be improved if more online options were available to them. As a result, educators should use electronic resources in their classes. Furthermore, college students hope to learn about and apply web services in their classes. Learners and facilitators may benefit from some of the proposals in this research.

This research allows us to understand better how students see online exercises for learning a foreign language,

and they offer ideas for language instructors, educational content creators, and software developers. For this reason and others, language instructors should consider incorporating CALL aspects into their face-to-face classroom education to improve and encourage their students.

The results of this research may have ramifications for the teaching and learning process from an educational standpoint. To start with, these results may be used by language learning syllabus developers to provide assignments that improve both the learners' language and their desire to use online websites and blogs for self-directed language learning. Teachers' thoughts and opinions on computer incorporation are influenced by their computer-related experiences. Utilizing English learning webpages, learners may portray their studies by using real resources and communicating with people from all around the globe using chat platforms, among other chances [22].

The following suggestions are offered, hoping that other scholars may find them intriguing enough to investigate in the future. This experiment may be replicated to see if the same findings are achieved. Though language acquisition was the study's expected variable, additional skills should be taken into consideration in future studies. The same research might be conducted among students of various ages and levels of language competence since different age groups have varied personality characteristics. The use of computers to teach multiple language skills, such as reading and writing, may be investigated in the future [45, 46].

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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