

## Booming the Vocabulary Acquisition by Using Flipped Classroom on EFL Learners' PPA (Performance, Perception, and Acceptance)

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**Submission History:**

Submitted: July 09, 2022

Revised: September 12, 2022

Accepted: September 20, 2022



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### Abstract

With the advancement of technology, today's language teaching and learning are no longer restricted to classroom face-to-face interaction, but it is going beyond a formal classroom. Drawing on this issue, this study sheds some light on the impact of flipped learning instruction on vocabulary acquisition of English learners as a foreign language, their perception of the practices of flipped learning, and their acceptance of the use of the WhatsApp smartphone application to assist the flipped learning activities. An experimental research design was employed by involving 60 EFL learners who were assigned into flipped (N=30) and conventional (N=30) groups. Learners of the flipped group were taught in combined learning activities before the class using WhatsApp and in-class active practices on vocabulary. This study used multiple data collection sources, including pre and post-tests on English vocabulary, a self-report survey, and a Technology Acceptance Model (TAM) questionnaire. The results demonstrated that the EFL learners in the flipped group scored higher in the post-test, and significantly outperformed their counterparts in the conventional group. Moreover, the results of the self-report survey showed that the EFL learners were at a positive perception of the flipped learning environment to study English vocabulary. Furthermore, finding on the TAM questionnaire portrayed that the EFL learners acknowledged WhatsApp as a satisfactory digital platform to assist the activities of English learning through flipped classrooms. This study offers insights for teachers and curriculum developers to begin acknowledging the promising role of digital learning of English beyond the classroom.

**Keywords:** flipped learning, informal digital learning of English, vocabulary acquisition

### INTRODUCTION

We surely remembered our language teaching and learning activities decades ago, when students were considered as 'an empty glass' and teachers had an obligation to fulfill

the empty glass with knowledge and understanding about language. Instead of being active, students passively received course materials explained by their instructors in a teacher-centered classroom activity. Language teaching and learning were mostly devoted to grammatical rules and structure of the target language. Consequently, the communicative goals of target language learning were put aside. With the advancement and integration of technology in language teaching, the learning paradigm has shifted from a teacher-centered approach to a more student-centered one, emphasizing active roles and collaborative learning among students (Ellis, 2015). Under the concept of Communicative Language Teaching, teachers focus on fostering students' active engagement in classroom activities (Thamarana, 2015). Hence, blended learning, which is the combination of in-class and out-of-class learning activities, becomes a promising approach and has received enormous attention from scholars in recent years (Jansen et al., 2019; Lee & Sylvén, 2021).

Flipped learning instruction, which is one of the models of blended learning, enables students to engage in more learning time and collaborative tasks in pre, whilst, and post-classroom hours due to its inverted learning process (Chen Hsieh et al., 2017; G. Lee & Wallace, 2018). It has emerged as a unique learning approach that replaces the role of homework and classroom activities (Tang et al., 2020). The procedure of flipped learning requires teachers to design pre-class course materials (e.g., videos, websites, summaries/notes, case studies, etc.) to activate students' readiness before class (Bergmann & Sams, 2012). Through the pre-class activities, students experience a lot of exposure and practice on the target language, while the in-class hours are used for collaborative tasks such as discussion, role play, conversation, and presentation (Makruf et al., 2021; Pardosi & Ming, 2021). The primary goal of flipped learning environment is to provide students with more allocation of time to engage in a particular course material (Hazaymeh & Altakhaineh, 2019).

Since the acquisition of vocabulary plays a crucial role in developing English as a foreign language (EFL) learners' fluency, finding an effective approach to improve students' productive vocabulary knowledge is a worthy effort. More specifically, the significant role of vocabulary on the mastery of English is highly acknowledged in the context of teaching English for specific purposes (ESP) where this study is conducted on. The acquisition of vocabulary greatly helps them improve their language performance, such as to enhance academic achievement, promote job careers, or develop international networks and relations. As Milton (2013) argues 'the more vocabulary the learners know, the more fluent they are likely to perform language skills. It is undeniably believed that having a good mastery of vocabulary brings English learners to better performance of language skills (e.g., speaking, listening, reading, and writing) (Zou et al., 2021). Rather than simply giving a list of words for students to memorize, teachers are better to engage students in vocabulary practice in a more interactive and collaborative mode, for instance by performing dialogue, sharing ideas, and conducting vocabulary games. It is in line with the idea of flipped learning which provides a dynamic and interactive learning environment through an ideal combination of pre and in-class learning activities. Hence, exploring the impact of flipped learning on EFL learners' vocabulary is a worthy inquiry.

The success of flipped learning instruction highly depends on the use of digital technology platforms to ensure the delivery of pre-class course materials and collaborative classroom tasks to promote students' collaborative skills (Bergmann & Sams, 2012; Irianti et al., 2022). The potential benefits of this technology-based instruction for English learning

have been proven by previous studies. In terms of language skills, flipped learning was empirically tested to have a significant contribution on the students' critical reading and problem solving skill (Fatemeh et al., 2020; Lee, 2018), speaking ability (Amiryousefi, 2019; Bezzazi, 2019), listening comprehension (Ahmad, 2016; Safiyeh & Farrah, 2020), and writing performance (Abdelrahman et al., 2017; Fauzan & Ngabut, 2018). Previous studies have further revealed the significant role of flipped learning in enhancing the students' higher order thinking skills (HOTS) in various levels of education (Annan et al., 2019; Heo & Chun, 2018; Suprapti & Nugroho, 2021). Furthermore, flipped learning was also found as an effective approach to enhance language learners communicative and interlanguage pragmatic competence (Chen Hsieh et al., 2017; Haghighi et al., 2019; Makruf et al., 2021). Thus far, previous studies on flipped learning highlighted the promising role of this learning approach in developing language learners' knowledge and skills.

In a broader view, research on flipped learning has enormously attracted scholars' attention at the age of COVID-19 pandemic. It is reasonable since the idea of flipped learning is relevant to the procedure of blended learning conducted in most schools and campuses during the global pandemic. A plenty of precedent studies have revealed that flipped classrooms offers ample opportunities for teachers to design more interactive and effective learning activities amidst and in post COVID-19 pandemic (Lo et al., 2021; Nerantzi, 2020). Tang et al. (2020) found that blended learning through flipped approach was an effective method to foster students' performance, motivation, and engagement in the learning activities. In a similar direction, Nerantzi (2020) examined the role of flipped learning in a flexible learning environment during COVID-19 pandemic, and revealed that it could stimulate students' active engagement in the whole learning process in a blended mode. More recently, Lo et al. (2021) disclosed that students were mostly at a positive perception toward open access flipped learning resources such as instructional videos, websites, and dynamic courseware, during their blended learning amidst the global pandemic. The previous studies provide an alluded picture that flipped learning is an effective approach to assist teaching-learning activities in a blended mode by the assistance of digital technology platforms. What we are trying to say is that this technology-based learning approach gained its popularity in the emergency remote learning during the COVID-19 pandemic due to dynamic and flexible learning environment inside and outside the class hours.

Research on flipped learning with regards to target language vocabulary has also been conducted. Kim (2018) investigated the role of flipped learning on the Korean undergraduate students' vocabulary. Results of experimental research showed that students of flipped learning group performed higher scores on vocabulary post-test than their counterparts in conventional group. A similar result was also disclosed by Kirmizi and Kömeç (2019) and Rezaei Fard et al. (2021) in Iranian EFL context, in which flipped learning instruction offers a promising role for language learning process particularly in students' vocabulary acquisition. In the context of vocabulary course in Saudi Arabia, Alnuhayt (2018), drawing on an experimental study, found flipped learning as an effective method to enhance EFL students' performance in vocabulary course. The findings of these previous studies further demonstrated positive attitudes of the EFL learners toward the practice of flipped learning in English vocabulary class.

The above-mentioned previous studies obviously indicate that flipped learning has a promising and significant role in assisting EFL learning, including in enhancing students'

vocabulary development. However, studies of flipped learning to augment English learners' vocabulary acquisition, particularly in the context of ESP in Indonesian EFL learning, is still lacking and need more paucity of evidence. Moreover, the previous studies (Kim, 2018; Kirmizi & Kömeç, 2019; Rezaei Fard et al., 2021) did not explore the EFL learners' acceptance toward the digital learning platform to facilitate the flipped classroom environment. Hence, scrutinizing the impact of flipped learning in EFL learners' development of vocabulary acquisition in Indonesian ESP context becomes a worthy inquiry. Vocabulary learning in ESP context requires more attention from scholars since the core of English language mastery for ESP students is to speak fluently and to read meaningfully within the discourses in both national and international levels to support their academic performance and job careers (Iswati & Triastuti, 2021). In this context, finding an effective way to teach vocabulary for ESP students is crucial, and by looking at the results of previous studies, flipped learning is a must-attempted learning approach.

Drawing on the gaps, the in-hand study aims to shed some light on the role of flipped learning on developing EFL learners' vocabulary acquisition in Indonesian ESP context. Despite of the research context, the novelty of this research lays on the inquiry of EFL learners' acceptance toward WhatsApp application using Technology Acceptance Model (TAM) questionnaire in assisting the flipped classroom. A group of ESP learners of English as a foreign language majoring in accounting field are invited to participate in this experimental study. To ensure the objectives, this study is guided under the following research questions: (a) can flipped learning instruction enhance Indonesian EFL learners' vocabulary acquisition?; (b) how do Indonesian EFL learners perceive the use of flipped learning approach in vocabulary course?; (c) to what extend do Indonesian EFL learners accept the use of WhatsApp application to facilitate the flipped classroom?

## **METHOD**

### **Research Context and Participants**

This study was conducted in Indonesian EFL context where English is taught as a foreign language, and in an ESP context with English learners majoring in accounting at UIN Raden Mas Said Surakarta Central Java province Indonesia as the participants. The participants were 60 (43 females; 17 males) accounting students who were taking English course as a compulsory subject in the first-year of undergraduate program. They were equally divided into flipped (N=30; S1-S30) and control (N=30) groups using random technique in an experimental study employing pre and post-tests to measure the vocabulary acquisition.

### **Instruments**

Relevant to the research questions, three set of instruments were utilized to gather the data: (1) Vocabulary tests, (2) A written self-report survey, and (3) Technology Acceptance Model (TAM) questionnaire. First, a set of Vocabulary English Test was administered to measure the participants' vocabulary acquisition through pre-tests and post-tests on both flipped and control groups. The vocabulary test was developed by referring to Pecorari's et al. (2019) guide for developing an academic vocabulary test, consisting of several steps: (1) determining the test format, (2) selecting the test items, (3) setting the number of items, and (4) piloting and validating the test format. A cloze test model with a total of 25 question items

(for each test) was chosen and developed based on the students' major (i.e., accounting). Two set of vocabulary tests consisting of 50 questions (pre-test 25; post-test 25) were validated by two experts in language testing and assessment. After several stages of revisions, the tests were then piloted to a group of accounting students (N=20). Four of them were further interviewed to explore their perception and suggestions for the enhancement of the tests. Results of the pilot study were used as a basis of drafting the final version of the vocabulary tests. Finally, a set of tests was administered to measure the EFL learners' vocabulary acquisition in both flipped and control groups through the pre-tests, and the other set was administered in the post-tests (see appendix 1 for sample of the questions).

Second, a written self-report survey was fulfilled by the EFL learners in the flipped group to reveal their perception toward the implementation of flipped classroom activities. The self-report survey comprised five open-ended questions, asking the learners to provide responses on (1) implementation of flipped learning compared to regular classes, (2) challenges/problems encountered during the flipped classroom, (3) suggestions for better improvement of flipped learning activities, (4) the effectiveness of flipped learning to enhance vocabulary learning, and (5) the most favorite part in the flipped classroom (see appendix 2 for the detailed questions). They were provided with a blank space below each question where they could put their answers. To ensure the reliability, before it was administered, the questions were checked by two independent experts in English language testing. We further revised the draft of self-report survey questions according to the comments and suggestion given. Furthermore, it was piloted to five students to ensure the readability and practicality before being used to disclosed the learners' perception on flipped learning.

Third, a Technology Acceptance Model (TAM) questionnaire was further employed to measure the levels of EFL learners' acceptance toward the use of WhatsApp to facilitate the flipped learning. The TAM questionnaire was adapted from Davis (1989), comprising four constructs: Perceived Ease of Use (PEU), Perceived Usefulness (PU), Attitude Toward Use (ATU), and Behavioral Intention (BI). The TAM questionnaire comprised 16 items (4 of each construct), and were measured using a 5-point Likert scale ranging from 5 (strongly agree) to 1 (strongly disagree). To ensure the validity, two experts in technology-enhanced language teaching were invited to check the items of TAM questionnaire. The reliability was determined using Cronbach's alpha, and resulted in consistency of 0.81.

### **Procedure of Data Collection**

The participants were students of accounting department at UIN Raden Mas Said Surakarta who were taking English as a compulsory subject. They were the first author's students, learning English for a specific purpose in academic year of 2021/2022, when blended learning approach was implemented in our campus due to COVID-19 pandemic. 60 students were randomly grouped into flipped (N=30) and control (N=30) groups. After grouping the students, pre-tests on English vocabulary for both groups were administered. Following the administration of pre-tests, the flipped group was given orientation about flipped classroom, and its students were assigned to a WhatsApp group created by the teacher. The WhatsApp group was used as a digital platform to post and share pre-class course materials. Starting from the following meeting, the flipped group was taught in a flipped classroom environment for five meetings. Prior to the class, they were assigned to do pre-class activities related to building English vocabulary such as watching Youtube videos,

doing exercise on contextual vocabulary, learning through websites, etc., and most of class hours were devoted to have collaborative practices such as presentation, role play, discussion, teacher-student feedback, and conversation. On the other hand, the control group was taught in a conventional manner like in the regular class, but with the same course materials.

The teacher created pre-class materials and posted them in the WhatsApp group two days before the class schedule in each meeting. Before attending the class, the flipped students were having learning activities such as analyzing video contents about vocabulary, doing exercises on vocabulary, and summarizing related course materials. In addition, students could also ask and give feedback with their classmates through the WhatsApp group. The in-class activities were mostly used to practice, including having conversation and dialogue, doing role-play, performing collaborative projects, and presenting materials. While the flipped students were provided with pre-class activities, the control students learned English vocabulary only in the class hours, without activities through WhatsApp group before attending the class. After the administration of learning activities in both groups for five meetings, pot-tests were conducted to see the students' improvement in vocabulary acquisition. Furthermore, the flipped students were asked to fulfil the written self-report survey in 60 minutes to depict their perception toward the implementation of flipped learning activities. Finally, to seek the answers of the third research question, the students were required to fill up the TAM questionnaire to explore the students' attitudes toward the use of WhatsApp to mediate flipped learning activities. The procedure of data collection in this study is presented in Figure 1.

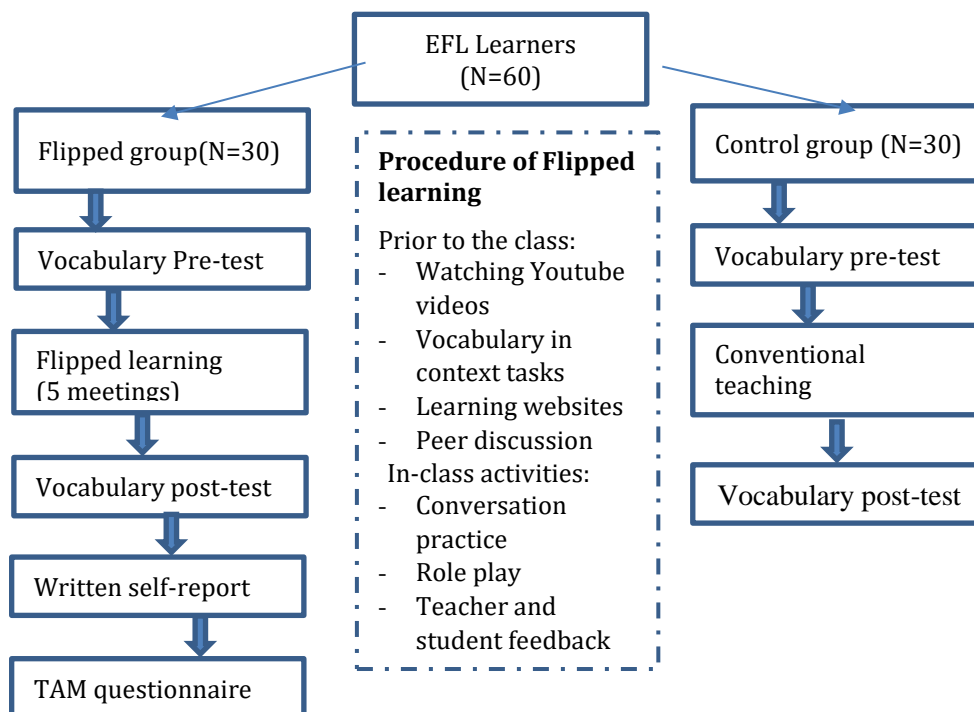


Figure 1. Procedure of Data Collection

### Data Analysis

With regards to the first research question, the data on the students' pre- and post-tests were analyzed using Two Paired sample t-tests by the assistance of SPSS version 24. In addition, an independent sample t-test was run to look at the comparison of post-tests in flipped and control groups. In terms of the second research question, the data of self-report survey were analyzed qualitatively to depict the students' perception on flipped learning. All authors performed analysis independently, including reviewing the data, coding, thematic analysis based on the item questions, and drawing conclusion. At the end, we conducted stages of discussion to reach the consensus of the findings. As for the third question, descriptive statistics on TAM questionnaire was employed to portray the mean scores of each construct (PEU, PU, ATU, and BI).

## FINDING AND DISCUSSION

### RQ 1: Flipped Learning to Enhance EFL Learners' Vocabulary

To answer the first research question, descriptive statistics on the mean scores of the vocabulary pre- and post-tests of flipped and control groups was administered. Since each test consisted of 25 questions, the students' scores were multiplied by 4; thus, their maximum scores would be 100. Table 1 shows the results of descriptive statistics of pre- and post-tests on English vocabulary performed by both flipped and control groups. For both groups, the mean scores of post-tests were higher than the mean scores of pre-tests. It suggests that EFL learners in flipped and control groups experience an improvement in the post-tests, from 57.25 to 83.00 for flipped group and 55.50 to 64.35 for control group. However, the improvement of post-test scores in flipped-group students is much higher than that of in control-group students.

Table 1. Pre- and Post-tests of Flipped and Control Groups

	Mode	N	Mean	SD	Std. Error Mean
Pre-test	Flipped	30	57.25	3.54	0.65
	Control	30	55.50	4.71	0.72
Post-test	Flipped	30	83.00	4.23	0.81
	Control	30	64.35	5.67	0.725

Moreover, two paired sample t-test was administered to see the significant differences of mean scores between pre-and post-tests of both groups. The result of paired sample t-test is presented in Table 2. The result portrays that the EFL learners' mean scores on English vocabulary post-tests for both flipped and control groups were significantly higher ( $p < 0.05$ ) than the mean scores of the pre-tests. As depicted in Table 2, the mean scores of differences between pre-tests and post-tests for flipped and control groups are 25.75 and 8.85, respectively.

Table 2. Paired Sample t-test of Flipped and Control Groups

	Paired differences			95% Confidence interval of the difference		t	df	Sig. (2-tailed)
	Mean	SD	Std. Error Mean	Lower	Upper			
Pair 1: Post-test – Pre-test	25.75	3.913	.683	23.620	27.180	6.56	14	.000

Pair 2: Post-test – Pre-test	8.85	3.412	.641	7.960	10.740	4.26	14	.000
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Note: Pair 1: flipped group; Pair 2: control group

Furthermore, to look at which group of students (flipped or control) who are having the most significant difference between pre-and post-tests results, an independent sample t-test is conducted. The result of the independent sample t-test is demonstrated in Table 3. According to Table 3, the mean scores on the vocabulary test of the flipped-group students ( $p < 0.005$ ) were significantly higher than the control-group students' scores. This finding indicates that both learning approaches could develop EFL learners' English vocabulary. However, flipped learning instruction contributed to better learning performance. In other words, flipped classroom is proven to be a more effective instruction of teaching English vocabulary in English as a foreign language context.

Table 3. Independent Sample t-test

Mode	N	M	SD	t-test for equality of means		
				t	df	Sig.
Flipped	30	83.00	4.72	4.31	28	.000
Control	30	64.35	5.93			

Drawing on the result, this study concludes that flipped learning has significantly been proven as an effective learning approach to enhance EFL learners' vocabulary acquisition. According to Bergmann and Sams (2012), the key success of flipped learning depends on the students' active engagement in pre- and in-class activities, and it seems also becoming the crucial part of the significant result portrayed in this study. Despite of a few problems that might occur, the teacher and EFL learners in this study were discipline to regularly carry out all pre- and in-class learning activities. This study's finding further implies that flipped learning instruction, as a new way of teaching and learning, is a promising approach and can be used as an alternative to assist blended learning activities, which is gaining more popularity in the recent years due to COVID-19 pandemic.

This finding is consistent with the result of Kim (2018) that flipped learning instruction successfully enhances EFL learners' vocabulary knowledge in Korean context. In addition, this finding is similar to the result of Kirmizi and Kömeç (2019). Both studies state that flipped classroom hold promise for English language learning process with regards for vocabulary learning. Moreover, this finding also supports the result of Rezaei Fard et al. (2021) in Iranian context that flipped learning has a positive effect on EFL learners' vocabulary learning, retention, and attitude. Hence, it can be concluded that studies on the effect of flipped learning on language learners' English vocabulary have resulted in a positive mode. In other words, previous studies have acknowledged that flipped learning is an effective learning approach to assist the development of language learners' vocabulary acquisition.

## RQ 2: EFL Learners' Perception on Flipped Learning

To seek the answers of second research question about EFL learners' acceptance toward the use of WhatsApp application to facilitate flipped learning, written self-report survey was conducted. The results show that most of the EFL learners find WhatsApp as an effective digital learning platform to assist English vocabulary learning in flipped classroom



environment. In responding to the first question of self-report survey about the practice of flipped learning, the EFL learners positively perceived this model of learning instruction. They agreed that flipped classroom led to more active engagement and foster learning motivation to keep joining classroom activities both in pre-class and in-class environments. Based on the data analysis taken from self-report survey, students acknowledged that flipped learning was interesting, and they experienced a different learning activity compared to their regular class. As S2 wrote in the self-report survey:

*"This learning approach is really interesting for me. I am highly motivated and willingly engage in both pre-class and in-class learning activities asked by my teacher. The course materials are also varied such as videos, vocabulary games, websites, and in-class activities we are discussing, practicing dialogue, doing role-play, etc. These activities make me enjoy and I do not get bored easily like in usual class." (S2 in self-report survey)*

With regards to the second research question related to challenges/problems that might occur during flipped learning activities, most of the EFL learners stated that joining flipped classroom required a lot of efforts and time consuming. They had to deal with a number of preparations before attending classroom through pre-class activities. In addition, they were assigned to involve in in-class learning activities which also required more efforts such as doing collaborative projects, presentation, and role-plays. As a result, according to some EFL students, flipped learning activities were hard to follow. S16 stated in the self-report survey that she was often late to join the pre-class activities because of she was doing other daily routines. Another problem was related to slow internet connection, as pointed out by S21. Consequently, the student with such a problem had to go to public places where internet was accessible.

*"The activities in flipped learning are interesting, but need a lot of time and efforts. I was often late when joining for pre-class activities posted in WhatsApp group by my teacher. Usually, my teacher posted the materials and instruction for learning two days before the class schedule. I often do the activities just before the class begin because I have some daily routines." (S16 in self-report survey)*

*"The problem I usually face during the flipped learning is due to internet connection. I live in a disadvantaged area where internet connection is difficult to access. Consequently, I have to go to village office in my village to get the Wi-fi/internet connection. I download the pre-class materials so that I can learn the materials at my home." (S21 in the self-report survey)*

As for the third research question about potential recommendations for better improvement of flipped learning to enhance English vocabulary, some EFL learners (S1 and S13) suggest that students must be more active in joining both pre-class and in-class activities. Moreover, they recommended the teacher to design more interesting and communicative tasks and learning activities.

*"In my opinion, students, including me, must be more active to engage in learning activities both pre- and in-class activities. Students must actively provide feedbacks and discussion in the WhatsApp group in response to the pre-class course materials given by the teacher. So, it will enhance the efficacy of flipped learning activities." (S1 in the self-report survey)*

*"The learning activities in this flipped learning are already interactive. However, it will be much better if the teacher design more collaborative activities such as problem solving, critical thinking, and vocabulary quizzes." (S13 in the self-report survey)*

In terms of the fourth question about the effectiveness of flipped learning to enhance EFL learners' vocabulary, almost all EFL learners conveyed positive opinions toward the effectiveness of flipped learning. This technology-based learning approach provide them ample opportunities to practice the target language, and consequently, their vocabulary acquisition was improved. According to S7 and S11, flipped learning environment offered them a lot of exposure to the target language so that students could do rehearsal both prior to and inside classrooms.

*"For me, it [flipped learning] is an effective method to learn vocabulary in English. In my opinion, learning English vocabulary is about repetition and practice. The more we practice the better our knowledge. And flipped learning activities offer much time to do practices and rehearsals to develop our target language through pre-class and in-class activities." (S7 in the self-report survey)*

*"Flipped learning gives me more opportunities to do a lot of practices before, whilst, and after the class." (S11 in the self-report survey)*

Finally, related to the last question about the most favorite part of flipped learning, the EFL learners mentioned several interesting aspects such as the freshness, the unique design, and the collaborative tasks. These aspects were the key reasons why they positively acknowledged flipped learning as an effective method. As mentioned by S17, S21, and S30 below:

*"What make flipped learning favorite is that it is new and I never experience this learning method in my regular classes. Its freshness makes me more motivated in joining the learning activities." (S17 in the self-report survey)*

*"It is a unique learning approach. I like the activities of pre-class that can get me prepared before attending the class." (S21 in the self-report survey)*

*"My most favorite part is doing collaborative activities both in pre-class and in-class learning activities such as role plays, games, and practicing dialogues in English." (S30 in the self-report survey)*

The result of written self-report survey supports the statistical finding depicted in result of experimental research on flipped learning to enhance vocabulary mastery (see RQ 1). Most of the flipped-group students mentioned that they were having much more time on learning tasks in this flipped learning environment than in the regular classes. This part becomes a crucial key of successful flipped learning since they possess a lot of exposure and practices on the target language (Hazaymeh & Altakhaineh, 2019). This result is similar to the finding of Kang (2015) which revealed that flipped classroom instruction improve time allocation for learning, foster collaboration and interaction, and achieve more learning goals. Moreover, compared to their counterparts in the control group, the flipped-group students seem to be more active to engage in learning activities.

The finding in terms of EFL learners' perception on flipped learning is also consistent with the results of Chen Hsieh et al. (2017) and Haghghi et al. (2019). The study of Chen Hsieh et al. (2017) explored the significant role of flipped learning on EFL learning using the

assistance of Line application. Similar to the finding of the current study, flipped learning was found as an effective method for EFL learning, including vocabulary development. The study of Haghghi et al. (2019) yielded similar result that flipped instruction using Telegram was successfully improved EFL learners' appropriate use of refusals in English. As far as we concern on the learners' attitudes toward the practice of flipped learning, we come to a conclusion that most of language learners in the previous studies positively perceived this technology-assisted learning approach.

### RQ 3: EFL Learners' Acceptance on the Use of WhatsApp in Flipped Learning

To answer the third research question about EFL learners' acceptance toward the use of WhatsApp application to facilitate flipped learning, this study employed TAM questionnaire. Result of TAM questionnaire shows that the EFL learners were at a positive attitude of using WhatsApp in flipped learning. This finding was presented in Table 4 which contains the mean score of each construct of TAM (PEU, PU, BI, and ATU). Table 4 demonstrated that, among the four constructs, PEU had the highest mean score (4.09), followed by PU (4.02), ATU (3.46), and BI (3.21), respectively. When we look into detail, two constructs reached high scores above 4 (PEU and PU), while the other two constructs (BI and ATU) achieved lower mean value in between 3 and 4.

Table 4. Descriptive Statistics of TAM Questionnaire

Construct	Mean	SD	Min.	Max.	N of Items
Perceived Ease of Use (PEU)	4.09	.53	2	5	4
Behavioral Intention (BI)	3.21	.41	1	5	4
Attitude Toward Use (ATU)	3.46	.45	1	5	4
Perceived Usefulness (PU)	4.02	.57	1	5	4

This finding implies that EFL learners highly acknowledge WhatsApp application as an effective digital platform to assist technology-enhanced language learning. The results of TAM questionnaire further indicate that the EFL learners accept the usefulness of WhatsApp in facilitating flipped learning. It is depicted in the high mean score of PU of the TAM questionnaire. With regards to PEU, the finding reveals that the EFL learners have already been familiar with WhatsApp, which is shown by the highest mean score of PEU (4.09) in the TAM questionnaire. It is because WhatsApp is the most-frequently used digital platform in Indonesia. Hence, it is not surprising when the EFL learners are feeling convenient with the use of WhatsApp for educational purpose. With respect to the construct of ATU, the finding means that EFL learners find WhatsApp as a promising digital learning platform to facilitate language learning, and it is highly recommended to integrate WhatsApp in curriculum of foreign language. Finally, related to the construct of BI, the finding suggests that EFL learners are agreed to continuously use WhatsApp for language learning in the future. With the positive attitude toward WhatsApp in flipped learning, it is highly possible that they will often make use of WhatsApp for future language learning purpose.

This finding is relevant with several previous studies results. First, the high acceptance levels of WhatsApp to facilitate flipped learning in this study is consistent with the result of Noroozi et al. (2021) that EFL learners found WhatsApp as a satisfactory digital platform in flipped learning instruction. Another similar finding of both studies is that WhatsApp could foster the EFL learners' active engagement in flipped classroom activities since they have

already been familiar and felt convenient in using this mobile application in daily routines. Moreover, the finding of this study is also in line with the result of Arifani (2019), in which WhatsApp is statistically proven as an effective platform to enhance EFL learners' mastery of collocation in a flipped instruction design. Furthermore, this finding supports the most recent study exploring the use of WhatsApp in flipped learning conducted by Khodabandeh (2022), where WhatsApp is found as a fertile ground for assisting flipped instruction to enhance EFL learners' acquisition of giving and asking for directions in English. To sum up, according to the results of this study and relevant previous studies, EFL learners find WhatsApp as a satisfactory digital learning platform to assist the implementation of flipped learning to enhance various aspects of target language performance.

## CONCLUSION

The results of this study portray that flipped learning instruction has a significant role in developing EFL learners' vocabulary acquisition. Moreover, it is also depicted that the EFL learners have positive perception toward the implementation of flipped learning in their class. In terms of the digital platform used to assist flipped classroom, they find WhatsApp application as a satisfactory medium to facilitate course materials delivery in flipped learning activities. In summary, a WhatsApp-based flipped learning approach could be used as a promising alternative to assist English learners' vocabulary development. These results contribute to providing an alluded picture of the significant role of flipped classroom in vocabulary learning. Despite of enhancing the literature on flipped learning approach, the results of this study are insights for teachers and curriculum developers to begin acknowledge flipped learning as a promising approach of blended learning, as well as incorporate this approach in target language curriculum. As for the limitation of this study, the sample size does not seem big enough due to the nature of course registration. Hence, it might be bias to make generalization of the finding. Therefore, future study with a bigger size of samples is required to confirm the finding of this study on the promising role of flipped learning to enhance EFL learners' vocabulary acquisition.

## ACKNOWLEDGMENT

Acknowledgement goes to Lembaga Penelitian dan Pengabdian Masyarakat (LPPM) of UIN Raden Mas Said Surakarta which have founded this research, with the decree of Rector Number 632 Year 2022.

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