



# Enhancing Student's Vocabulary, Interest, and Motivation for Novice Learners by Using Kahoot!

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**Abstract.** This study was conducted to investigate the impact of mobile learning in using Kahoot!, especially on students' vocabulary mastery, interest and motivation for novices' learners. The participants of this study were students from grade six from one of elementary schools in Bandar Lampung. In this quasi-experimental study, the participants were randomly assigned into two groups: control and experiment. In the experiment group, the students were instructed by using the application of kahoot! in learning English while in the control group the participants were taught without using kahoot! as the media of learning. The data were collected by using test, interviews, and questionnaires. The test measured the effect of using kahoot before and after the intervention. The interview was also done to see how the students respond to their experience of mobile learning activities, especially on students' liking, feeling, interest, expectation, and opinion. The questionnaire was used to measure the acceptance of students on the use of the mobile learning technology. The results indicated that the students who were using kahoot was outperformed than those who were not. Their interest and motivation also gained a better result of the positive moods during training.

**Keywords:** ICT · interest · kahoot · mobile learning · motivation

## 1 Introduction

The Covid-19 pandemic has changed how human interacts each other and how the people live in all fields, including in education. Learning which was originally carried out inside the classroom has now turned into a distance learning or blended learning. Of course, this change must be also followed by the change in teaching methods.

Fortunately, technological advances especially Information and Communication Technology (ICT) have significantly influenced education. The development and availability of mobile technology have greatly spread over many countries and fields. This greatly influencing technology has raised interest for educational designers and teachers to adopt it into classrooms. Mobile technologies, such as smart phones, Personal Digital Assistants, and other mobile or handheld devices have been integrated into instructional practices to ease or mediate both teachers and students in achieving learning goals. When

using mobile wireless devices for learning, for example, students could acquire knowledge without any constraints of time and space both in individualized and socialized learning opportunities. This is what is called as mobile learning.

In this context, there have been some scholars defining mobile learning in the use of mobile devices in teaching and learning activities for educational contexts and perspectives, see [1–5]. According to [6], the continuation and the extension of electronic learning (e-learning) which is based on mobile devices and wireless connectivity is called mobile learning (m-learning).

In the same token, Sharples as cited by [7], three phases of mobile learning which are categorized correspondingly by focusing on handheld devices; the study of place which is conducted outside classroom; and the mobility and flexibility of the learner. For this reason, we focus on the use of mobile and wireless devices and the flexibility of the learners for this project as suggested by aforementioned scholars.

An increasing number of researchers and theorists attribute noteworthy benefits to use games in educational settings and pedagogical purposes. The term “games” here refers and is specifically intended to mobile games. It is commonly argued that games are valuable tools in improving learning. Games can also function as ice-breakers and rapport-builders [3]; arouse inquisitiveness, inquiry learning, and determination [8]; promote spatial learning and cognitive processing [9]; provide motivation via immediate feedbacks [5] [2]; increase self-esteem and confidence [10] [11]; and support cognitive apprenticeship [9].

One of the developments of teaching materials that involves the engagement between children and their mobile phones is the game named Kahoot. The form of developing this teaching material is to create a quiz that can show directly whether the answers given by students are correct or not. Students enter the class code made by the teacher, then on the student’s cell phone screen the answer to the questions will appear. If they answer correctly their name will appear on the screen in front of the class and be known by all the quiz takers. The one who gets the highest score will get a reward that is displayed on the screen in front of the class. This is certainly very fun for students because they can see their grades and compete fairly.

Kahoot games will be very interesting if used for language learning, especially in learning foreign language vocabulary. First students enter through the Kahoot website, then students enter the pin code that the teacher has given them. The questions and answer choices in Kahoot will appear on the student’s cell phone screen. Uniquely, the answer choices are not in the form of flat shapes, namely circles, rectangles, parallelograms and triangles. This will also attract students’ attention because the activities they do during this quiz will be fun. Besides, if they answered correctly, their name would appear on the screen in front of the class.

Regarding enhancement of motivation [10] posit that games have many benefits, such as changing attitude, arousing critical thoughtful, solving problems oriented and developing decision skills. What is more, games have been sightseen as a means to foster learners’ understanding of theoretical models and interaction effects and to support the development of team, social, communication, and resource sharing skills [9]. However, the benefits of game in learning required more validation because to certain extents the use of games in learning also had some drawbacks, such as making students more

addicted and more individualized. Thus, the main focus of Kahoot on the use of games in mobile devices in this project is relevant to know students' motivation and engagement in learning, particularly in English as a second language for novices or beginners.

There have been some studies in using Kahoot! for educational purposes. See for example [12] who examined Kahoot as the variation of teaching and learning activities in order to avoid monotonous and boredom. Another study conducted by [13] also explained the effect of using Kahoot as learning media for vocabulary mastery for high school students. Although some studies have investigated the use of Kahoot as media of learning, this research are still relevant to conduct because some reasons outlined as follows. First, the study conducted by [12] highlighted Kahoot from document analysis, while this research is experimental studies with pre-post-test control and experiment design. Second, this study can fulfil the gaps of [13] in the motivational gains since the study conducted by [13] merely focused on the learning effectiveness of the using Kahoot, not measured mediating factors, such as motivational beliefs and interests. Therefore, this study aimed at investigating whether the students using kahoot have better learning outcomes or not and whether they are more motivated during experiment or not.

## **2 Methods**

### **2.1 Participants**

There were 64 students voluntarily participating in this training project from grade 6 of one of the elementary schools in Bandarlampung, Indonesia. They were randomly distributed and assigned into experiment group ( $n = 32$ ) and control conditions ( $n = 32$ ). In the experiment group, the students were instructed by using mobile learning with the use of kahoot in learning English while in the control group the participants were instructed without using kahoot as the media of learning. Gender distribution across conditions did not significantly differ. All of them had no mental disturbances and physical disabilities. Their ages were between 11 and 13 years old. These students spoke one language: Indonesian.

### **2.2 Materials**

Three data gathering techniques - test, interview, and questionnaire - were used to collect data in this project.

### **2.3 Test**

Tests were conducted twice: before (pretest) and at the end of the training (posttest) for both conditions: control and experiment conditions. These tests were carried out to investigate whether the intervention of using kahoot could improve the students' learning outcomes in acquiring new words in English vocabulary for beginners. There were 12 questions and the student who answered correctly was awarded 0.5 for each item. Therefore, the maximum point was 6. To know the effectiveness, the mean scores from both tests (pre and post-tests) were compared and computed by using Anova.

## 2.4 Questionnaire

In addition to test, the questionnaire was also given to see how the students respond to their experience or acceptance of using kahoot in mobile learning activities. The students using kahoot were gathered additional information concerning on students' liking, feeling, interest, expectation, and opinion on the use of kahoot for their learning experiences.

## 2.5 Procedures

### 2.5.1 Prerequisites and Design

Kahoot has two website addresses <https://Kahoot.com/> for teachers and <https://Kahoot.it/> for students. This platform can be accessed and used all the features in it and it's free. The specialty of this platform is that it prioritizes the learning evaluation process through group games even though it can be played individually and must be connected via an internet network. The learning evaluation process can be collaborated with learning resources that are readily available on the internet.

Equipment that must be prepared before the process of learning evaluation activities carried out using Kahoot to be optimal, namely:

- a. The equipment that the teacher must equip is a projector in classroom or can use zoom application.
- b. Students bring smartphones, tablets, or laptops.
- c. A strong internet connection network in the school environment.

The next stage is making the Kahoot quiz by either the teacher or students. They can role as a host of the game. Other students then join. These stages are as follows. Type kahoot.com and log in using your kahoot account. If you don't have an account, you can register via the sign up for free button and register using a gmail or facebook account. Open the kahoot as desired, click the quiz to make a multiple-choice type question. Each question can be set the length of time to answer and the score obtained depends on the difficulty level of the question.

The final stage, each question in Kahoot can be added with pictures and videos to add interesting context or provide assistance to answer questions. When finished, copy the link or get a PIN (combination of numbers) to access the quiz that has been made.

Furthermore, the Kahoot activities carried out by students are as follows.

- Enter the Kahoot link: <https://Kahoot.it/>
- Enter a pin
- Wait until the name of the student appears on the main teacher's (as a host) monitor. Then click start.

## 2.6 Implementation

In the control group, the students were instructed without using kahoot to acquire new words or vocabulary, instead they were taught by using conventional and traditional

teaching techniques, while in the experiment condition the students were instructed by using kahoot.

### 2.7 Evaluation

Before training, all groups in control and experiments were given a pretest. After training, the post-tests were administered to measure learning outcomes by comparing the means in pre and posttest, then followed by giving questionnaire to know students’ interests and motivation.

## 3 Results

### 3.1 Students Learning Outcomes

As Table 1 indicates, the students almost had the same prior knowledge in pre-test. Only a slight difference was yielded from prior knowledge test measures,  $F(1, 62) = 1.44, p = .23$ . This means that we do not have to control for starting levels because the homogeneity of variances was met from this measure. In other words, the students were normally distributed.

In the post-test the means from both conditions are significantly different,  $F(1, 62) = 6.84,$

$p = .01$  with significant alpha 0.05 with Cohen’s  $d = 0.75$  indicating that the interventions had a large effect size. From this result, it can be concluded that students who were instructed by using kahoot in learning English vocabulary for beginner level had more significant effect than those who were taught by using conventional or traditional teaching techniques without using kahoot.

In addition to the tests, we also interviewed the students in experiment group ( $n = 32$ ) to obtain additional information focusing on students’ feeling, students’ interest, students’ expectation, and students’ opinion on the improvement of their skill, particularly skill on mastering new vocabularies in English.

**Table 1.** Mean performance in the learning outcomes in pre-test and post-test

Condition	Pre-Test			Post-Test		
	N	M	s.d.	N	M	s.d.
Control	32	1.2	1.08	32	3.03	1.58
Experiment	32	1.6	1.43	32	4.16	1.80
Average		1.4	1.27		3.60	1.77

N= Number of students; M=Means; s.d.= Standard deviation  
 Maximums core i s 6

**Table 2.** Feeling

	Frequency	Percent	Valid Percent	Cumulative Percent
Uncomfortable	2	6	6	6
Comfortable	30	94	94	100.0
Total	32	100.0	100.0	

**Table 3.** Interest

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Uninterested	5	16	16	16
Interested	27	84	84	100.0
Total	32	100.0	100.0	

**3.2 Students’ Feeling**

Based on the data collected from the questionnaire, most of the students (30 students or 94%) said that they felt comfortable when doing the mobile learning activities. There were 2 students expressed uncomfortable. It can be described in Table 2.

Referring to this table, most of the students were happy because the activities were not so difficult for them to accomplish. Besides, they begin with the easy activities to the complex ones, and were put in order. Students’ feeling also contributes to successful learning. When the students’ feeling is involved, learning becomes balanced and natural. If students feel safe, they are able to participate in the classroom activities freely. They are also willing to make mistakes in learning and this is one of the characteristics of the successful students that they should have.

**3.3 Students’ Interest**

For the students’ interest, 27 students (84%) were interested in this type of activities and only 5 students did not feel interested in them. This calculation can be overviewed in Table 3.

It can be assumed that the students were interested in these activities because they were really attractive to the students. They felt engaged in this learning model. When their emotion and attitudes are involved, learning happens naturally.

**Table 4.** Expectation

	Frequen cy	Percen t	Valid Percent	Cumulativ e Percent
Valid Do expect	32	100.0	100.0	100.0

**Table 5.** Skill Improvement

	Frequen cy	Perce nt	Valid Perce nt	Cumu lative Perce nt
ValiNo d improvem ent	5	16	16	16
Improvem ent	27	84	84	100.0
Total	32	100.0	100.0	

### 3.4 Students’ Expectation

The data showed us that 32 students (100%) did hope that these activities can be used in the teaching-learning practices, particularly on learning vocabularies in English and in daily use (Table 4).

All of the students did expect these activities to be applied for the next teaching-learning in English class. When we asked them in the class time, they also recommended these for the future classroom activities.

### 3.5 Students’ Opinion on the Skill Improvement

It is known that 27 students or 84% argue that the activities are helpful for them to learn new vocabularies in English and only 5 students did not do so (Table 5).

Based on this data, the majority of the students assumed that they were able to develop their competency through mobile learning activities provided for new vocabularies in English. Through these activities, they can easily practice at home or at their own condition without constraining of place. They could work collaboratively and do the

activities in mobile condition. It is fit with recent conditions in this Covid-19 pandemic which requires contactless interaction.

## 4 Discussions

In general, Kahoot had already provided good learning environment in which the students were actively engaged in learning. In other words, the Kahoot could already improve the students' active participation in learning.

### 4.1 Students' Attention and Motivation

Students' attention and motivation could be raised by Kahoot. As indicated, the students became more motivated. From the interview, the students maintained that they were interested and felt joyous and entertaining, with the least constraints of anxiety and time as they usually encountered in traditional learning environments in learning English especially about *vocabulary*. This phenomenon could be of the topic which was complied with game and a new teaching method.

In this case, during the learning process no students were found unfocused on the lesson. This indicated that they paid attention to the lesson. Concerning motivation, the students admitted the lesson with game was so attractive to them that they felt interested.

In addition, becoming the winner can motivate students to play the educational games [14]. They asserted that games are played to win or achieve the goals, and the key to motivation is winning while remaining challenged [15][16]. The results of this training shows that the students enjoyed playing the game and had pleasure in playing as we can see from the results of the questionnaire.

The use of games as materials in the classroom [17] is very useful for the students particularly in learning English [18]. It is a creative activity that functions to motivate students to use their own knowledge and requires them to be willing to make mistakes. This means that they were willing to make mistakes in learning. In summary, the students also had a non-threatening environment for their learning; they were having fun, they were more likely to take risks, make mistakes without having feeling of failure, and tried to overcome their learning problem. In addition, the teacher started to have positive outcome to make the students satisfied with their achievement in completing the tasks.

### 4.2 Activeness and Independence of Learners

Moreover, the mobile game had created more opportunities to the students for which they became more active or the students do more than simply listen to the teacher, and became independent learning participant [8] who reported that interactivity of mobile learning can encourage student involvement and engagement in teaching and learning activities. In terms of psychomotor skill, for example, it could also be improved by the mobile learning activities we provided. The students were actively moving and playing the game with their own cell phone, see [19].

By doing this mobile learning game, the students will be actively involved with classroom activities and discuss their answer with other students. This could raise collaboration [20]. It is believed that the students are themselves responsible for generating



their specific learning agenda and setting up their learning goals to be independent learners. How to make a good instructional design to achieve learning goals effectively, see [21] and [22].

### **4.3 Positive Attitude Towards Technology**

In this study, mobile technologies such as mobile phones can be used to enrich students' learning environment by providing timely information; the students argued that mobile learning will bring new opportunities of learning.

Another study [2] shows that adult educators' intent to use electronic games and mobile devices begins with their attitude and perception toward using them in their daily teaching and learning practices.

This finding is also found in our project in which the students and teacher showed positive attitude to the nature and practice of the mobile learning activities which were mediated by the use of cell phones for learning as can be seen from the result section of this study.

### **4.4 Feedback and Reinforcement**

This game could give immediate feedbacks to students. When they completed the game, they directly got feedback if they did well or not. This is in line with the opinion that games could provide motivation and immediate feedback is proven in our mobile learning activities [9]. What is more, the students became enthusiastic and well-motivated in learning, and they saw games as good means for their learning. In addition, Kahoot were already provided with a ready-to-use game application. With this game, the students could play to complete the tasks provided in the application, and if they completed the tasks well, the game application would give direct feedback whether they perform correctly or not. This direct feedback as one of the characteristics of games is well-established in our mobile learning.

### **4.5 Interaction Between Teacher and Students**

The interaction between teachers and the students was positive. They can make learning situations becomes more interesting and appealing. The teacher is not only knowledge transmitter. Rather, the teacher is problem solver and facilitator. The students were given great opportunities to solve the learning tasks collaboratively and here the teacher focused on what the students discovered, not what the teacher knew or thought, whereas in the game activity with cell phones the students were constructing knowledge individually with their own cell phone [23].

## **5 Conclusion**

Overall, the mobile learning design by using kahoot to teach English vocabulary for beginner levels was effective in improving students' learning outcomes in mastering new vocabularies, interest and motivation. This was reflected from the result of this

study which showed a significant effect of using kahoot in educational settings. We can also use kahoot for learning in this pandemic situation because it can be also applied in online classroom by using zoom or google meeting. However, it is worth noting that using technological advances also has drawbacks [24], such as the internet connectivity and a high risk of misusing as well as the addiction of using technology itself for learners.

**Authors' Contribution.** All authors, both Mukhammad Isnaeni (MI) and Evi Maha Kastri (EMK) contributed equally as the main contributor. MI wrote the design and methodology then EMK analysed the data and proofread the manuscript. They have read and approved the final version of this paper.

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