

The Use of an Interactive Online Tool (Plickers) in Learning Vocabulary among Young Learners in ESL Setting

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Abstract

Technology is proven to be one of the factors supporting teaching and learning in the classroom in this digital age. Teachers are also encouraged to use technical resources to enhance the language skills of students in ESL classrooms. The aim of this research is to reveal the perceptions and motivation of students about the use of Plickers in learning ESL vocabulary. Embedded design from mixed method research was selected as the research method to achieve this aim. The survey questionnaire was answered by 50 primary students from different ages and proficiency levels, and 20 of them had face-to-face interviews. The technology acceptance model (TAM) was adapted to construct the survey questionnaire as the basic model to explore students' perceptions. Using descriptive analysis such as frequency, percentage and mean score, the quantitative data of the study was analysed. Meanwhile, an iterative process involving coding, categorization and theme identification was used to evaluate the qualitative data. According to the results obtained, it is seen that Plickers makes a positive contribution to students' perceptions. They were also intrinsically motivated towards the use of Plickers in learning vocabulary.

Keywords

Plickers, Vocabulary, Technology Acceptance Model (TAM), Motivation

1. Introduction

The government focuses on increasing the progress of students by integrating technology as an engaging tool. As written by Shahri (2019) in the New Straits Times, in order to provide world-class education, the government is really committed to its vision. Dr. Maszlee Malik, our former Minister of Education,

also announced in [Shahri \(2019\)](#) that the ministry will make some improvements in the adoption of technology-based learning as its key focus field. He also added that, along with the support of technology, the new learning experience would concentrate on play-based learning. This new learning experience will also make textbooks less reliant and will help students as well as encouraging active involvement in the learning process. Despite that, the English language is also clearly becoming an international language. Vocabulary is therefore very important, especially in the teaching and learning of any language. Constantinescu and Easterbrook agreed (as stated in [Nasaruddin, 2018](#)) that the first and essential information to be taught is vocabulary (p. 1). When learners are able to master a certain amount of vocabulary, the communication process becomes successful. For this purpose, vocabulary may help people understand what other people communicate in the language they communicate, communicating feelings and thoughts. Wilkins, as quoted by [Nasaruddin \(2018\)](#), also acknowledged that even without correct grammar, someone could convey his thoughts in conversation. On the other hand, one may not be able to articulate one's thoughts effectively without vocabulary. Thus, technology is assumed and has been shown to promote classroom teaching and learning.

Teaching a new language is difficult for ESL teachers, who need to include their students in the teaching and learning process by using various approaches and techniques. In each student's learning process, teachers need to cultivate constructive reinforcement, support and attitudes. Technology is one of the factors that can enable teachers to grow those aspects, as stated in [Hermagustiana and Rusmawaty \(2017\)](#). In other words, it is assumed that technology can positively impact the attitude of students in the learning process. Therefore, the present study intends to examine the use of an interactive online tool (Plickers) in enhancing other language skills such as vocabulary among young learners in ESL setting. Another rationale of carrying out this study is because most of the research on technology in education primarily emphasizes the benefits of technological tools in teaching and learning English. Hence, this study will examine the use of Plickers in enhancing other language skills such as vocabulary. Acquiring English language vocabulary in the early years needs to be given urgent attention. For this reason, limited vocabulary will affect students in remembering and retrieving the words learnt and lack of opportunities to practice the English language ([Wang & Yamat, 2019](#)).

Thus, it is important for the researcher to use suitable methods in teaching vocabulary. Further, the current study discovers how students perceived the use of Plickers in increasing their motivation to learn ESL vocabulary. Hence, one of the most important factors in language learning is motivation. Several studies have shown that motivation is an important factor in achieving language proficiency. [Dörnyei and Ottó \(1998\)](#) in [Sadeghi \(2013\)](#) indicated that motivation is an arousal state that decides an individual's needs and desires. It also can have a negative or positive impact on the learning process. Obviously, students who are

not motivated to learn are definitely not going to work hard. [Sadeghi \(2013\)](#) also revealed that motivation has a strong impact on academic success and majority studies on motivation and foreign language learning found a positive relationship between the two. For this reason, this study will examine the use of Plickers in enhancing students' vocabulary as well as increasing their motivation to learn ESL vocabulary.

2. Literature Review

2.1. The Benefits of Using Technology

[Raja and Nagasubramani \(2018\)](#) in their research of the impact of modern technology in education have reported that ICT has its own ability to increase access to education. Its quality and consistency are also improved. As cited in Raja and Nagasubramani as well, [Tinio \(2002\)](#) claimed that ICT has had a significant effect on education in terms of acquisition and absorption of knowledge by encouraging active learning for both educators and students. In order to illustrate this, ICT tools help to measure and interpret the information gathered for examination. [Thomas, Fernandez, Salguero, Lobo and Pradas \(2016\)](#) have suggested that active learning is a teaching method where its application focuses on learners through activities such as dialogue, cooperation, knowledge creation and building, skills and attitudes. One of the essential concepts of the modern teaching known as "learner-centered" or "learning centered" is active learning. As described in their article, there are a few advantages. First, they thought that active learning gives the teacher an opportunity to promote the inspiration of students. In this current research, the author is trying to identify students' opinion, attitude and motivation towards the implementation of Plickers in learning vocabulary.

By implementing the interactive technology tool, hopefully it will provide active learning for the students and at the same time increase their motivation in the learning process. Plickers is one of the applications that can help to stimulate active learning, as described by [Thomas, Fernandez, Salguero, Lobo and Pradas in their methodology \(2016\)](#). It is also a dependent variable that is motivated in class time just to keep inter-degree students motivated. They also revealed that the teacher or educator can use this interactive technology platform to create an atmosphere where students can gain confidence while answering questions. From their result also, they have found that there is statistically significant relationship between creativity and the participation are interrelated by motivation which they found that is an essential component in active learning. From the outcome as well, they also found that there is a statistically significant correlation between innovation and engagement, connected by motivation, which they found to be an essential component of active learning. New technology or modern technology has certainly also been used in English education. As stated by [Alqahtani \(2019\)](#), it is used to include creative and innovative methods, instruments, tools, devices, systems and strategies that are applicable to teaching the

English language. In fact, it can lead to the accomplishment of the desired objectives. Alqahtani (2019) therefore believed that technology is essential as an educational and auxiliary tool as well as to improve the content and delivery of pedagogies.

In addition, as stated by Alqahtani, when using technology in learning, students are able to acquire and hone their language and skills. He added that the integrated view of the modern means system and association with other components will be consolidated when using technology in teaching English, which will give students benefits by achieving the required outcome. In English language teaching, he also mentioned the merits of using technology. He also revealed from his research that the use of digital technology has influenced students of the English language. As students respond to the subject, the use of technology in teaching English is definitely interesting and motivating. In addition, as he summarized, the use of technology contributes to greater motivation for students, increased levels of success and actually improved contact between students and teachers. It has also strengthened self-learning and self-reliance among students. Alqahtani also proposed that English teachers help students to improve their language abilities by using modern technology.

2.2. The Use of Technology to Support Vocabulary Development for English Language Learner

The learners of the English language (ELL) come from diverse linguistic, cultural, racial, religious, socio-economic backgrounds, weaknesses and strengths. Clark (2013) suggested that ELLs develop language and language abilities that are influenced by variations in culture and language. Therefore, ELL students require supplementary or differentiated practices in order to enhance language acquisition. Based on Clark (2013) research study, the purpose of his research is to determine whether or not available technological resources are useful in improving ELLs vocabulary knowledge. As reported in Clark (2013) as well, literacies are now extended to digital texts and not restricted to traditional texts such as books, stories and essays only. Literacies now use sound, text, video and other forms as a means of communicating and negotiating meaning. As Clark said, technology can be easily accessible and emerging technologies are part of the daily life of humans. It is therefore recommended that members of society not only engage successfully in the use of technology, but also communicate with and exploit digital materials and resources. In addition, he added that the development and exposure of technology has an impact on the acquisition of literacy, where people can learn new skills, new information and have the ability to communicate with other social classes. Technology and technological equipment can certainly be used to motivate and engage English language learners in the development of literacy and language skills (Traore & Kyei-Blankson, 2011; Ware, 2008), as reported in Clark (2013). Research has largely agreed that technology can help motivate students to be more involved in reading, particularly

when they use certain interactive technological tools to interact with the text. Therefore, in his research, Clark (2013) focused on comparing the vocabulary development of ELLs as supplementary support in the use of technology. He found that the teaching strategies used to develop vocabulary, engagement and behavior in vocabulary learning, as well as the use of visual and audio components to enhance vocabulary learning, were different. Clark also discovered that the iPad alone cannot support the development of vocabulary in his action research. He believed, however, that the combination of technology and explicit teaching would help to increase knowledge and retention of vocabulary.

2.3. Application of TAM

As stated in Teo (2011), Davis's TAM was adapted from the theory of reasoned action (TRA) suggested by Fishbein and Ajzen (1975). Davis et al. (1989) found TAM to be a better indicator of the purpose to use software than TRA. TAM predicts that three factors determine user acceptance of technology: 1) perceived usefulness, 2) perceived ease of use, and 3) behavioral intentions. Granic and Marangunic (2019) have reviewed the current state of TAM application in education. As reviewed by Granic and Marangunic (2019), it has been seen that TAM has emerged over the years as a leading scientific model for students, teachers and other stakeholders to examine the acceptance of learning technology (Davis, 2011). Meanwhile, Weng et al. (2018) in their study used TAM as the basic model to examine the impact of the IT environment on the perceived usefulness, perceived ease of use, and attitude towards multimedia use, and the relevance and impact on behavioural intention of these attitudes. The findings showed that the ease of use of the multimedia material enhanced the intention to use. The attitude towards use were also affected the intention to use. From the results also, Weng et al. have proposed suggestions. Based on their results, they have suggested the authorities to build the multimedia teaching environment. Besides that, they also found that teachers should be encouraged to participate in Multimedia Teaching-Related Educational Training.

2.4. Motivation Theory in Language Learning

During the period 1960-1990, the theorization of motivation in language learning arose as an area of socio-educational study. In particular, Gardner's work on integrative motivation influenced the early understanding of motivation in the SLA field. According to Bower (2017), three variables were included in Gardner's (1985) integrative motive: integrativeness, attitudes toward the learning situation, and motivation. He argued that "effort, desire and affect" would be displayed by a motivated learner (Gardner, 2001: p. 13); affect is used here to refer to a positive emotional result, such as interest, pleasure or enjoyment. Such positive characteristics drive intrinsic motivation and are considered to have a greater impact on sustaining effort than extrinsic motivation, which is generated by external, instrumental rewards such as the need to pass an examination.

Gardner suggested that the learner needs to be drawn to the culture and the communities of people who speak the language to learn a second language (Gardner, 2001; Gardner and Lambert). As related to this study, Plickers is one of the Student Response System (SRS). As stated in Murray (2016), Student Response Systems are one form of technology that has been tested and shown to improve the motivation of students (Abode, 2010). Students have a transmitter when they use the Student Response System, and the instructor has a receiver and program on his or her computer. As reviewed by Murray (2016), Abode (2010) has conducted a study which included using the Student Response Systems for one class and one class not using the system. The same material was taught in both classes. From the findings, the researcher suggested that motivation for the treatment group has improved. These findings indicated that in increasing motivation, the Student Response Systems were effective.

3. Methodology

3.1. Research Design

Research design is required because it enables the smooth sailing of the different research operations. As mentioned by Siti Fachraini (2017), when conducting a study, research design is important for a writer to determine every step that needs to be taken in order to get the result is proper findings for research questions. In this study, it was aimed to determine the perceptions of primary school students about the implementation of the interactive online tool which is Plickers. Thus, this study employed mixed-method research: quantitative by using frequency, percentages and means and qualitative by analysing students' responses to three open-ended questions. To raise the authenticity of the outcomes, three open-ended questions were used in the interview. There were also no pre-determined responses required and the participants were free to express their views. As described by Woike (2007) in Elmahdi, Al-Hattami and Fawzi (2018), open-ended responses are unique and most importantly they offer freedom of expression to individuals. Therefore, in this study, embedded design from mixed-method research chosen in which a combination of qualitative and quantitative methods of research is used. As stated by Al-Munawwarah (2018), Creswell (2003) agreed that "A single study can be based on any mixture of qualitative and quantitative evidence". It is also in conjunction with this study which is to identify students' perception towards the use of Plickers in learning ESL vocabulary in terms of perceived usefulness (PU), perceived ease of use (PEOU), attitude toward using (ATU) and intention to use (IU) by using a quantitative method. Besides that, this study is also supported by the qualitative method which is to discover how students perceived the use of Plickers in increasing their motivation to learn ESL vocabulary.

3.2. Research Participants

The study was conducted in National Primary School located in a suburban area

in Sibul, Sarawak. The participants of the study were 50 primary school students as they suit the need of the study. From the demographic questions, there were 26 females and 24 males. There were 15 of them from year 2 students, 10 students were from year 4, 13 of them were from year 5 and 12 of them were from year 6 students. The level of proficiency of the participants in this research consisted of “Average Language Proficiency” to “Low Language Proficiency” based on their English language performance that is recorded in the School Based Assessment 2020. There were 60 English students based on data obtained from the department. Furthermore, the sample size for this study was 50 English students. It is based on Isaac and Michael’s table, which determined that if the population is 60, 49 students should be used as a sample error rate of 10%. The technique sampling that is used in this study is purposive sampling. Due to this, the researcher in this study has encountered a problem where most of the pupils have poor vocabulary. Therefore, the researcher is identifying students’ perceptions and motivations towards the use of Plickers in learning ESL vocabulary. On the same lines, Crossman (2020) explained that purposive sample is a non-probability sample. It is chosen based on the population characteristics and the objective of the study. Purposive sampling is also different from convenience sampling and it is known as judgemental, selective or subjective sampling. This method of sampling can be very useful and in situations where a targeted sample needs to be reached quickly and where proportional sampling is needed.

3.3. Research Instruments

The instruments used in this study were designed based on the objectives of the study. Since the study is a mixed method research, both quantitative and qualitative methods were used to collect the data of the study. The quantitative data of the study were collected by survey questionnaire that has been prepared by the researcher. Whereas the qualitative data were obtained by face-to-face interview with the participants by using semi-structured interview form prepared by the researcher. The survey questionnaire used in this study was adapted from the Technology Acceptance Model (TAM) by Davis 1989 cited in Weng, Yang, Ho and Su (2018). This basic model was used in this study to identify the effects of the information technology (IT) environment on the perceived usefulness, perceived ease of use, attitude toward using and intention to use. The survey questionnaire consists of two sections, which are section A consists of three demographic questions which include gender, age and ethnicity. For section B, the questionnaires consisted of 24 statements based on four factors which include perceived usefulness [PU], perceived ease of use [PEOU], attitude towards using [ATU] and intention to use [IU]. All questionnaire items were measured using 5-point Likert scale ranging from “strongly agree” to “strongly disagree”. It was administered to all the participants. Meanwhile, the interview was conducted with 20 participants in order to gather more information relevant to the research question and to ensure that the data collected was

correct. The semi-structured interview questions were constructed based on the theorisation of motivation in language learning by Gardner's (1985) as cited in Bower (2017). As stated by Doyle (2020), when the interviewer does not strictly follow a formalized list of questions then, it can be considered as a semi-structured interview. Instead of straightforward question and answer format, the participants were asked open-ended questions that allowed for a conversation or discussion with the participants as the interviewee. Young (2015) in his study has analysed that "open" or "open-ended" items simply invite an answer without providing any particular choices or options, and are frequently presented as "Wh-" or "How ...?" questions. It is also can be framed as requests for instance "Please tell use more about your views or opinions related to ..." or only "Please explain".

3.4. Data Analysis

The analysis of the quantitative data was done with the help of SPSS 25 program. In the analysis of the data, descriptive statistical methods such as frequency, percentage, mean were used. Frequency and percentages were used in analysing two factors which were perceived usefulness (PU) and perceived ease of use (PEOU). Meanwhile, another two factors which were attitude toward using (ATU) and intention to use (ITU) have been analysed by using mean. The data collected from the survey questionnaires were analysed by calculating the mean for each statement. A five-point Likert scale was used to measure the level. Such scale was used in the questionnaire to determine the level of agreement or disagreement of students' answer based on the following criteria (Figure 1).

After the analysis, Cronbach's Alpha value was examined. Cronbach Alpha reliability was coefficient. From Cronbach's Alpha SPSS test, the result shows Cronbach's Alpha is 0.989 which indicated very highly reliability and this proved that the questionnaire items dictated reliable. Meanwhile, in order to collect further information related to the research questions and to ensure that the data obtained were accurate, the interview was conducted to 20 pupils. It was semi-structured interview. As stated in Al-Munawwarah (2018), it can be categorised as semi-structured interview when it has guided a list of questions (Merriam, 1988). During the interview, the questions were delivered in Bahasa Melayu for practical purpose and the names of the learners were not revealed. For the qualitative data, it will be analysed by using an iterative process that involving coding, categorizing and theme identification.p

Mean Range	Interpretation
3.68 - 5.00	High
2.34 - 3.67	Moderate
1.00 - 2.33	Low

Figure 1. Standard of mean.

4. Findings and Discussions

4.1. Perceived Ease of Use (PEOU)

The students' perceptions towards perceived ease of use with regard to using Plickers in learning ESL vocabulary are shown in **Table 1**.

Table 1 revealed that 62% of participants strongly agreed with the statement "It is easy to become skilful at using Plickers". Another 20% chose "agree" and 18% of them chose "neutral" with regards to the statement. The result for the second item showed that 40% strongly agreed that "easy to apply the Plickers application in the class", 50% agreed, 8% chose "neutral" and only 2% disagreed with the second statement. From the table also, 50% strongly agreed with statement "using Plickers is easy and understandable", 40% agreed and 10% chose "neutral". For the statement "using Plickers is more flexible to learn than traditional one", 64% of the participants strongly agreed, 28% agreed and 8% chose "neutral" for the statement. Further, 76% of the participants strongly agreed with the statement "learning to use Plickers is easy". 22% of them agreed and only 2% of them chose "neutral". From the last statement which is "using Plickers is easy", 84% of the participants strongly agreed and 16% of them agreed with this statement. Most of the participants strongly agreed that Plickers application is easy to use in the classroom and none of them disagree to the statement.

Therefore, the results showed that Plickers was easy to operate for the students because none of them did not feel that Plickers was hard to use and this can be interpreted that the students could understand the instructions for using Plickers. As discussed in the previous chapter, Plickers is one of the SRSs that can deeply enhance the engagement of teaching material by encouraging the teaching process (Espey & Brindle, 2010) as stated in Kent (2019) by providing reliable, usable and immediate feedback to guide students with their learning process (Crossgrove & Curran 2008). Since this application is very easy to use by the students, it has also impacted the teachers. When the learning material encourages quick and easy setup for the teachers, therefore it can help the teacher to focus on the class content as supported by Kent (2019).

Table 1. Frequency and percentage of students' perceived ease of use.

Items	SD	D	N	A	SA
1 It is easy to become skilful at using Plickers	0%	0%	9 (18%)	10 (20%)	31 (62%)
2 I find it easy to apply the Plickers application in the class.	0%	1 (2%)	4 (8%)	25 (50%)	20 (40%)
3 Using Plickers is easy and understandable.	0%	0%	5 (10%)	20 (40%)	25 (50%)
4 Using Plickers is more flexible to learn than traditional one.	0%	0%	4 (8%)	14 (28%)	32 (64%)
5 I think learning to use Plickers is easy.	0%	0%	1 (2%)	11 (22%)	38 (76%)
6 I think using Plickers is easy.	0%	0%	0%	8 (16%)	42 (84%)

Another favourable statement that most of the participants agreed by was “using Plickers is more flexible than traditional one”. More than half of the participants have agreed and none of them disagreed to the statement. This showed that the participants would prefer Plickers to learn language skills rather than the traditional one. Besides that, the findings also proved [Hermagustiana and Rusmawaty \(2017\)](#) expectations in their research. One of the supporting factors in vocabulary instruction that teachers need take into account is the use of technological appliances. [Hermagustiana and Rusmawaty \(2017\)](#) had mentioned that teaching vocabulary is not only using several teaching strategies, paper-based strategies, but need to include a number of technological devices to increase students’ knowledge of vocabulary. Since the Plickers tool has included the visual effects in the application, most probably the students preferred to use this application compared to the traditional method. This can be supported by [Alqah-tani \(2019\)](#) where the up-to-date sound and visual effects and tablet display systems are more productive in teaching English language skills compared to the conventional approach in which students find it constructed and repetitive.

4.2. Perceived Usefulness (PU)

The students’ perceptions towards perceived usefulness with regard to using Plickers in learning ESL vocabulary are shown in [Table 2](#).

[Table 2](#) showed that 48% of participants strongly agreed that “using Plickers would improve performance in learning vocabulary”. While mostly half of the participants with 44% of them agreed with the statement and 8% of them has chosen “neutral”. Next item showed that 26% strongly agreed that “using Plickers would increase productivity/progress in learning vocabulary”. Majority of the participants have confirmed that they agreed with the statement and only 4% chose “neutral”. Item number 3 showed 56% strongly agreed that “using Plickers would enhance effectiveness in learning vocabulary”, 38% has agreed and 6% chose “neutral”. For the fourth item, mostly half (48%) of the participants strongly agreed that “using Plickers would make it easier to engage in learning vocabulary”. Another 52% has confirmed that they agreed with this statement. Item number 5 showed 56% strongly agreed that “using Plickers application is very useful to engage in learning vocabulary”. Another 34% of the participants agreed and 10% chose “neutral”. For the last item, most of the participants strongly agreed that “Plickers application is useful in learning vocabulary” while 26% agreed to this statement.

With regards to the students’ perceptions on perceived usefulness, the findings revealed that majority of the students positively perceived Plickers as useful in learning ESL vocabulary. According to the above results, the highest percentage from the item number 6 where the students mostly agreed that Plickers application is useful in learning ESL vocabulary. The application has also helped them improve performance in learning vocabulary, increased their productivity and progress in learning vocabulary and make the students easier to engage in

Table 2. Frequency and percentage of students' perceived usefulness.

Items	SD	D	N	A	SA
1 Using Plickers would improve my performance in learning vocabulary.	0%	0%	4 (8%)	22 (44%)	24 (48%)
2 Using Plickers would increase my productivity/progress in learning vocabulary.	0%	0%	2 (4%)	35 (70%)	13 (26%)
3 Using Plickers would enhance my effectiveness in learning vocabulary.	0%	0%	3 (6%)	19 (38%)	28 (56%)
4 Using Plickers would make it easier for me to engage in learning vocabulary.	0%	0%	0%	26 (52%)	24 (48%)
5 I think using Plickers application is very useful for me to engage in learning vocabulary.	0%	0%	5 (10%)	17 (34%)	28 (56%)
6 I find the Plickers application is useful in learning vocabulary.	0%	0%	0%	13 (26%)	37 (74%)

learning vocabulary. Undoubtedly, ELL need supplementary or differentiated activities in order to facilitate language learning. As mentioned by Clark (2013) in the literature review, he recommended that learners should not only successfully engage in the use of technology but also need to communicate with and exploit digital materials and resources. Teachers should not restrict to traditional texts such as books, stories and essays to teach vocabulary knowledge or other language skills. On the other hand, the use of sound, text, video or other forms of technological resources should be implemented to enhance students' learning. Overall, the above result has shown that that the exposure of technology such as Plickers has an impact on students' ESL learning vocabulary.

4.3. Attitude toward Using (ATU)

Table 3 illustrates the mean scores and standard deviation of the participants towards the use of Plickers in learning ESL vocabulary in terms of attitude towards using.

Based on **Table 3**, the findings revealed that the level of interpretation were all moderate for the six items. However, from the findings it can be seen that the item for number 2 has the highest mean score ($M = 3.64$, $SD = 0.4849$). Therefore, from the item mentioned above, the participants found that using Plickers in class is enjoyable. In other words, the participants loved using the Plickers application that makes their learning fun. The participants were also found that using Plickers in class is good with the second highest mean score ($M = 3.48$, $SD = 0.7068$). Besides that, the participants were also completely satisfied in using the Plickers application with the mean score ($M = 3.46$, $SD = 0.6764$). Further, they were also found that it is easy to answer the vocabulary questions when using Plickers application. However, from the findings, the data revealed the item number 3 has the lowest mean ($M = 3.30$, $SD = 0.9313$) where the participants feel very confident using Plickers in learning vocabulary.

As stated in the significance of this study, one of the main challenges for teachers when teaching ESL is inspiring and engaging learners. Besides that, limited access with in-class technology and learners who are afraid of being wrong or too shy to respond to questions that being asked, both will be contributing to difficulties for students in achieving sufficient language practice (Kent, 2019). Hence, the above findings found that Plickers as an interactive online tool has positive impact on students' vocabulary learning. As a result of this, Plickers application can help to overcome students' fear and shyness in learning English as a second language. This study is consistent with Elmahdi, Al-Hattami and Fawzi (2018) where the study had reviewed the use of Plickers as one of the affordable technology tools that maximized learner engagement and give positive impacts on students' attitudes and their academic performance.

4.4. Intention to Use (ITU)

Table 4 illustrates the mean scores and standard deviation of the participants towards the use of Plickers in learning ESL vocabulary in terms of intention to use.

Table 3. Mean score and SD of attitude towards using plickers.

Items	Mean	S. D	Level
1 Using Plickers in class is good	3.48	0.7068	Moderate
2 Using Plickers in class is enjoyable	3.64	0.4849	Moderate
3 I feel very confident using Plickers in learning vocabulary.	3.30	0.9313	Moderate
4 I completely satisfied in using the Plickers application.	3.46	0.6764	Moderate
5 I found it is easy to answer the vocabulary questions when using Plickers application	3.32	0.6833	Moderate
6 I believe that from using Plickers will enhance my vocabulary	3.44	0.5014	Moderate

Table 4. Mean score and SD of intention to use plickers.

Items	Mean	S. D	Level
1 I tend to use Plickers in the class.	3.52	0.6465	Moderate
2 I am willing to spend more time in using Plickers in the class.	3.44	0.6115	Moderate
3 I would recommend this application to my friends.	3.46	0.5035	Moderate
4 I would love to use Plickers in class.	3.46	0.5035	Moderate
5 I think that using Plickers is a good idea.	3.66	0.4785	Moderate

Based on Table, the findings illustrated that the participants tend to use Plickers in class with mean score ($M = 3.52$, $SD = 0.6465$). The participants were also willing to spend more time in using Plickers in the class with mean score ($M = 3.44$, $SD = 0.6115$). Further, the participants would recommend Plickers application to friends with mean score ($M = 3.36$, $SD = 0.5035$). Besides that, the participants would love to use Plickers in class with mean score ($M = 3.46$, $SD = 0.5035$). For the last item, the participants think that using Plickers is a good idea with mean score ($M = 3.66$, $SD = 0.4785$). All mean scores for all the items above are interpreted as moderate level in perception.

Although the above findings show the level of perception are all moderate, but the item for number 5 has the highest mean score where the participants think that using Plickers is a good idea. This can be interpreted that the participants found that it is such a good way to use Plickers or technological tool in learning vocabulary. The second highest mean score is from the first item where the participants tend to use Plickers in the class which means they were willing to use this application for their future learning class. Overall, it can be said that the participants have positive feedback towards the intention to use Plickers.

4.5. The Use of Plickers in Increasing Students' Motivation in Learning ESL Vocabulary

Using an iterative process involving coding, categorizing and theme identification, an analysis of the responses to the first open-ended question indicated that the majority of the participants in the class enjoyed using Plickers in learning ESL vocabulary. Most of the participants (15/20) have written comments like "I enjoy using Plickers application in the class." In addition, teacher reported that they enjoyed using Plickers application because it is easy to use. 5 participants have commented that the application was fun and interesting.

Participants' responses to the second question indicated that the implementation of Plickers for vocabulary learning did help them in enhancing their vocabulary. Specifically, most of the participants (16/20) saying "Plickers made me easier to answer vocabulary questions." In addition to this, one participant had mentioned with pictures provided in the application, it helps him to understand better the vocabulary.

On the third questions, regarding the effect of Plickers on their own motivation in learning vocabulary, over half of the responses (13/20) were intrinsically motivated by the use of Plickers. Such responses included that "I will use this application again to improve my English". Besides that, some has noted that they feel very confident in answering questions when the teacher applied Plickers in the classroom.

Based on the data presented above, most of the students intrinsically motivated when using Plickers in learning ESL vocabulary. Intrinsic motivation comes from the within of the students, as reported by [Siti Fachraini \(2017\)](#). The result indicated that, due to their own enjoyment and desire, students enjoyed learning vocabulary by using the Plickers application. There are some reasons

why students are intrinsically inspired to use Plickers because, by using this program, they enjoy learning vocabulary and wanted to develop their own vocabulary. Besides that, the application was easy to use that makes them motivated to learn vocabulary. This finding is therefore in line with Siti Fachraini (2017), whereby the intrinsic motivation in the teaching and learning process is good for students and teachers. This is because it will impact the attitude and achievement of the learners. The students have strong motivation for this finding, so it will be helpful for the teacher to make the student excel in learning English.

5. Conclusion

Several recommendations for further action were addressed and a conclusion had been generated for the overall study. As a result of the study, it is seen that most of the students agreed that using Plickers is easy based on their perceptions towards perceived use. Meanwhile, from the aspect of perceived usefulness more than half of the participants were strongly agreed that Plickers is useful for vocabulary learning. From the aspect of attitude toward using Plickers, it can be said that most of the students found that using Plickers in class is enjoyable. Further, from the aspect of intention towards using, the participants think that using Plickers is a good idea and they have shown tendency to use it for their next learning class. Overall, this study shows positive responses from all the participants based on the four factors mentioned above. Lastly, this application was able to motivate the students intrinsically and increase their participation in the learning process. According to the results of the research, the following suggestions can be made. Plickers is one of the interactive online tools that the instructor can use or adapt in any of his/her other teaching lessons for language skills. However, teachers or instructors should also have a clear purpose and encouragement to use Plickers or any other SRS application and be consistent in their use of SRS towards this aim. Preparation about the technique, software and quizzes to be used with SRS should also be given a great deal of consideration. Lack of planning can be a major cause of students' frustration as well as giving them the impression of low teacher involvement. Besides that, digital technologies must exist simultaneously with conventional tools in today's 21st century classrooms. Compared to conventional counterparts, online resources offer a wider variety of information about words and definitions of words. In addition, some tools allow teachers to easily modify words so that students can use material or unit-specific words to practice, study, and play games. Based on the findings in the study, students were preferred to use Plickers rather than the traditional one. Therefore, the author recommends the adoption of Plickers with other interesting digital tools to build vocabulary such as Collocation Dictionary and Word Hippo. For this reason, hopefully it will give more positive impacts on students' vocabulary learning.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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