DIGITAL VOCABULARY CLASS
IN ENGLISH FOR RAILWAY MECHANICAL TECHNOLOGY

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Abstract

The need to develop online classes in the COVID-19 pandemic era was undeniable. This study aimed to investigate students' learning achievement and their feedback in digital vocabulary class, which utilized Kahoot! and Socrative as drilling practice tools. It was quasi-experimental research on first-year students of the Railway Mechanical Technology program in Indonesian Railway Polytechnic (N=48). The primary data was gathered from vocabulary pretest and posttest. Then, the test results were analyzed using paired t-test, Pearson r correlation, and Cohen d coefficient. The supporting data were collected by giving a questionnaire to know students' feedbacks. The results revealed that the digital class effectively improved students' learning vocabulary achievement in English for railway mechanical technology. The questionnaire results showed positive feedback from the students in learning through digital platforms.

Keywords: English for Railway Mechanical Technology; Kahoot!; Socrative; Teaching Vocabulary

1. Introduction

The educational climate has changed enormously since the advent of emerging technology and its implementation in education has been a prerequisite in the modern school system (Shariq, 2020). Nowadays, Information and Communication Technology (ICT) is considered a potential tool that provides enhanced educational opportunities. Its relevance in the teaching and learning process in general is crucial, and its application in the teaching and learning of English in particular is imperative. It can equip learners with digital-age literacy, effective communication, and high productivity. Alkamel and Chouthaiwale (2018) state that ICT can enhance teaching and learning through its dynamic, interactive, and engaging content and provide real opportunities for individualized instruction. By integrating ICT tools, learners can increase their

competencies and communication opportunities, which are regarded as central to learning a language (Stickler et al., 2020). Furthermore, many studies have shown that using ICT tools positively affects behavior and motivation, enabling learners to learn more autonomously (Srisermbhok, 2020; Waluyo, 2020). Teachers can also manage teaching based on the students' proficiency levels and the different purposes of each classroom.

The study of vocabulary has always occupied a central place in teaching and learning activities as people can express their thoughts and opinions about anything. Some empirical studies proved that many teachers face problems in teaching vocabulary (Sari & Wardani, 2019; Suardi & Sakti, 2019). Alkamel and Chouthaiwale (2018) argued that ICT provided opportunities for teachers to develop their teaching strategies in language classrooms so that instructions became more varied. Specifically, the use of ICT in the English language classroom could also improve and optimize students' language acquisition, motivate them to continue their learning, and stimulate their creativity (Azmi, 2017). By integrating ICT in vocabulary instruction, teachers could implement appropriate strategies to create an engaging language classroom that benefited them in their learning process.

During Covid-19, all classes had to go online so that ICT integration in language learning is undeniable. Indonesian Railway Polytechnic also had to be responsive in this current situation so that the students' English performance can be maintained well. The first step was by transforming the teaching and learning system from the old-fashioned model to the digital era by integrating ICT. Mallick et al. (2020) state that integrating ICT tools and traditional teaching methods is considered a key promoter of creating an effective learning atmosphere. Furthermore, the need for utilizing ICT tools is getting bigger and more obligatory because the teaching and learning process must move from face-to-face to face-to-screen. A previous study conducted in Indonesian Railway Polytechnic showed that ICT tools helped students enhance their learning outcomes and received positive feedback from the students in the English intensive program (Pratiwi et al., 2021).

ICT tools for language learning purposes have been available, yet, there is a lack of variety for using them in class, especially in vocabulary instruction (Yoon, 2017). Some studies described that implementing ICT platforms on Student Response System (SRS) was reported positive in terms of students' participation, engagement, and outcomes (Waluyo, 2020). There are several SRS platforms, such as Google Forms, Kahoot! Socrative, Quizizz, Quizlet, etc. In this study, two SRS platforms - Kahoot! and Socrative - were chosen due to students' familiarity and expected learning benefits.

Based on the background explained above, the main objective of this study is to investigate the implementation of digital English classes in teaching vocabulary for the Railway Mechanical Technology program. The present study, hence, addresses the following research questions:

1. What are the students' learning achievements in digital English vocabulary class?
2. How do the students respond to learning in digital vocabulary classes?

2. Literature review

2.1. Digital Vocabulary Class

Digital means connected to the use of computer technology, especially the Internet (Hornby, 2000), which refers to the implementation of ICT. The term ICT is explained as the varied collection of technological gears and resources used to communicate broadly (Pathak & Manoj, 2018). The Scottish Government and APS Group Scotland (2016) describe some benefits of integrating ICT in the language classroom: creating seamless and unrestricted learning, providing more enjoyment of learning, being cost-effective, making learning easier by creating flexibility and giving the ability to remotely access the classroom on the students own time, keeping learners engaged and becoming a self-assessment tool. Moreover, ICT integration also enhances teaching and learning as professional resources for teachers and provides opportunities for students to communicate more effectively (Henry & Lamb, 2020).

The use of a computer by teachers in the classroom has also brought about a change in the teacher's role, moving him or her from being a lecturer to being a facilitator of learning (Azmi, 2017). Dalton and Grisham (2011) proposed ten strategies on how to teach and learn vocabulary through the use of technology:

1. Learn from the visual displays of words and their correlations to the text
2. Take a digital vocabulary field trip
3. Connect fun and learning with online vocabulary games
4. Have students use the media to express vocabulary knowledge
5. Take advantage of online word reference tools that are also teaching tools
6. Support reading and word learning with just-in-time vocabulary reference support
7. Use language translators to provide just-in-time help for ELLs
8. Increase reading volume by reading digital text
9. Increase reading volume by listening to digital text with a text-to-speech tool and audiobooks

10. Combine vocabulary learning and social service

Digital vocabulary class can utilize SRS applications in its implementation and SRS provide an immediate and real-time assessment by enabling the teacher to respond and discuss with the students immediately (Liu et al., 2018). In several EFL classrooms worldwide, SRS reported positive to improve students' ability, motivate and engage students in class. In survey research of Japanese EFL university classrooms (Mork, 2014), it was reported that Socrative benefited students and teachers as it improved the former's participation and motivation, initiated discussion, facilitated group interaction and peer assessment, and increased learning. For teachers, SRS presented a simple way to gauge students' understanding, simplified grading, and conducted assessment efficiently. In that study, SRS was not only media that influenced students' learning directly, but also the method associated with the technology employed by teachers that did.

Another study in the Thai university context demonstrated that comprehensive integration of ICT in general English courses was useful in advancing learners' achievement and realizing the designed learning outcomes (Waluyo, 2020). Various ICT tools such as Socrative, Kahoot!, Quizizz, Writeabout, and Google Form were involved in conducting formative and summative assessment, homework activity, listening practice, in and outside class practice, and writing activity. The results of the study indicated significant differences in students' scores in total and across skills in general English courses. These results were supported by research in the Indonesian EFL university context that proved how implementing SRS in an English Intensive Program effectively improved students' learning outcomes (Pratiwi et al., 2021).

Nonetheless, an experimental study using SRS in EFL classrooms showed SRS was not effective in improving students' achievement. Still, it increased students' learning motivation and self-efficacy in learning English and improved their participation and engagement in-class activities (Liu et al., 2018). Students also had positive attitudes and expressed positive feedback on ICT implementation in the language classroom in the Indonesian context, in which students could accelerate learning using SRS tools (Ubaedillah & Pratiwi, 2021). A study in Hongkong university class also described that SRS increased students' engagement even in a large lecture hall (Wong, 2016).

2.2. Kahoot!

Aimed at connecting fun and learning with online vocabulary games, Kahoot! turns out to be more useful, fun, and engaging (Iaremenko, 2017). Kahoot! possesses its unique features of typical gaming and teaching models that are interactive. Instead of the traditional method of

reading textbooks and notes, users can be encouraged to learn, play and socialize in classrooms, thus making the learning process more active (Graham, 2015). The features also enable teachers to analyze and assess if students truly understand the learning material covered through the use of Kahoot! quizzes and surveys (Kaur & Naderajan, 2019). Meanwhile, since it combines cooperation and interaction with fun, successful learning becomes possible (Tivaraju et al., 2017).

Kahoot! has four types of games: quiz, jumble, discussion, and survey. In quiz type, teachers can introduce, review, and reward, while in jumble type, they can create a jumble-word game. The Discussion type can be used to initiate and facilitate debate. If only they want to gather students' opinions, they can use the Survey type. Many materials are provided there so that instructors can simply search for the game they need and play it in class. However, if they have specific materials such as vocabulary related to the topic, they have to create their own game for the students. To practice vocabulary in class, it is suggested to use the Quiz type because pictures, videos, or texts can be shown during the learning game. While using vocabulary in context, the Jumble type is recommended to create proper sentences by arranging the jumbled words.

In a quasi-experimental study conducted in vocabulary class of an EFL classroom setting, the results showed that Kahoot! improved students' vocabulary acquisition and increased motivation (Medina & Hurtado, 2017). This was supported by a survey conducted in general English class that reported students had a positive experience when they had a lesson that integrated Kahoot! (Kaur & Naderajan, 2019). This application enabled the students to engage and actively participated in the language learning process.

2.3. Socrative

Regarding media to express vocabulary knowledge, Awedh et al. (2014) studied the suitability of ICT tools employing Socrative Student Response System (SRS) in facilitating active learning in the classroom. It was confirmed that there was positive impact of Socrative on student learning performance, especially on enhancing students' awareness of their level of knowledge and clarifying the understanding of concepts. Furthermore, Kaya and Balta (2016) explained that as a kind of Information and Communication Technology, Socrative had many benefits that have proven this technology was useful in education. It not only empowered teachers to engage their classrooms but also motivated students to more effective learning in the language classroom.

Socrative is a classroom application for fun and effective classroom engagement. It enhances students' performance as students improved their learning experience (Dakka, 2015). Teachers have several choices of activity types, such as launching a quiz, receiving exit tickets,

or asking a quick question for instant student feedback. For creating a quiz, the teachers should have a Socrative account; they could use their Google account or create an account by filling up some data. Next, they have to download the Socrative template from the website to develop quizzes offline or creating online quizzes through this platform. Furthermore, this platform has three kinds of quick questions which could be adjusted according to teachers' or students' needs: multiple-choice questions, true/false questions, and short answer questions. Specifically, those three models could be combined into one quiz.

2.4. English for Railway Mechanical Technology

English for Railway Mechanical Technology belongs to English for Specific Purpose (ESP), which means that learning a language is based on learners' need of their disciplines. As Donesch-Jezo (2012) states, ESP focuses on the language used in a real professional context rather than teaching grammar and vocabulary unrelated to the students' mainstream subjects. In this case, the learners need to acquire specific vocabulary used in their discipline to acknowledge more in English competence. According to Dudley-Evans and St. John (1998), there are several characteristics of ESP:

a. ESP is defined to meet the specific needs of the learners.
b. ESP makes use of the underlying methodology and activities of the discipline it serves.
c. ESP is centered on the language appropriate to these activities in terms of grammar, lexis, register, study skills, discourse, and genre.

Besides, Musikhin (2016) studied ESP that focused on acquiring professional expertise integrates disciplinary knowledge and professional practice in complex and dynamic manipulation of different social situations within which most specialized communication forms occurred. ESP has always been concerned with enhancing students' ability to communicate effectively in their work and study (Enesi & Strati, 2019). To acquire the desired skill in a specific field, students have to master specialized vocabulary as each field has particular terminology. They could often not connect what they have learned and how that knowledge would be used (Medriano & Bautista, 2020).

Teaching ESP in the digital world should be based on the understanding that today's learners are constantly connected via a number of different digital devices (Kirovska-Simjanoska, 2020). Survey research among ESP teachers and students in the Indonesian context suggests that the most effective aspect of digital ESP class is the flexibility to access and engage in academic tasks, which allows learners to use the material at their own pace so that they could learn creatively from several sources (Mulyadi et al., 2020). The resources for ESP should be

from language learning applications which are explicitly designed as instructional applications with language learning in mind and could be used for developing skills in language learning (Šimonová, 2015). Therefore, those applications provide learners with a great way to connect learning with real-life experiences.

Furthermore, digital-assisted ESP has to address students' needs to immerse themselves in authentic learning environments. In large classes, this enables the students to demonstrate skills and competencies that would have gone unnoticed. However, some empirical studies have shown that students' learning outcomes were similar to those from traditional classroom settings (Kirovska-Simjanoska, 2020; Mulyadi et al., 2020). Thus, digitally-assisted ESP course during the Covid-19 pandemic had to be crossed with the student's needs and learning goals to create a personalized and effective learning environment.

3. Method

3.1. Participants and design

The study involved first-year Railway Mechanical Technology students at Indonesian Railway Polytechnic in the academic year 2019/2020. The participants consisted of 48 students at the age of 18-19. There were 40 male students and 8 female students in the group. The study was quasi-experimental, one group pretest-posttest research design in which a group's results were measured and observed before and after the treatment was given (Creswell, 2018). Pre and posttest were used to investigate the learning achievement differences. After doing the pretest, the students were given a vocabulary list that consisted of 100 number words related to railway mechanical technology and their definition (see Appendix).

Treatments were given four times which lasted 1 hour/meeting. This was done once a week. Every treatment used 25 words in the vocabulary list, which was modified into a set of questions in the multiple-choice format: match the words with the pictures, match the words with the definitions, complete the gaps (synonym and antonym), and choose the correct word. Each type consisted of 5 numbers so that in each treatment, the students were drilled to do 25 numbers altogether. The time given to answer the questions was 25 minutes, then class discussion lasted for 35 minutes. After finishing the treatments, a post-test was arranged, and questionnaires were given to determine students' feedback.

Table 1. Research design

Pretest	Treatments	Posttest
O	X	O
	4 times	

Table 2. Treatment schedule

Meeting	Platform Used	Vocabulary List
1	Kahoot!	no 1 - 25
2	Socrative	no 26 - 50
3	Socrative	no 51 - 75
4	Kahoot!	no 76 - 100

3.2. Data collection and instruments

Test is an important process to measure learning achievement (Rahmawati et al., 2019). Accordingly, to answer the first research question, a pretest and posttest were arranged, with 40 multiple-choice items in each test. The multiple-choice format was chosen because it is highly correlated to active vocabulary knowledge and easy to construct and mark (McLean et al., 2020). There were four multiple choice-vocabulary test tasks which proved to be effective as an indicator of testing vocabulary knowledge: synonyms, antonyms, meaning and picture identification (Bowles & Salthouse, 2008). Each test task consisted of 10 questions each. Furthermore, test instruments should be valid and reliable (Lebagi et al., 2014). The test validity was calculated using content Lawshe's method: CVR (Content Validity Ratio). This was calculated in the following way (Taherdoost, 2016):

$$CVR = \frac{ne - (\frac{N}{2})}{\frac{N}{2}}$$

In which ne is the number of panels indicating "essential" and N is the total number of panel members. In this research, ten panelists were used to prove the validity of the test.

Table 2. Minimum Value of CVR

No of Panelist	Minimum Value
5 - 7	.99
8	.75
9	.78
10	.62
20	.42
25	.37

Reliability relates to the extent to which a measurement of a phenomenon provides a stable and consistent result. This is achieved through internal consistency reliability by calculating the alpha coefficient (Cronbach Alpha). The calculation formula of α is as follows (Mondal & Mondal, 2017):

$$\alpha = \left(\frac{k}{(k-1)}\right) \text{ x } \left(1 - \left(\sum s_i^2\right) / s_t^2\right)$$

In which k is the number of items in the test; S_i is SD of i item; and S_t is SD of sum score.

<div align="center">Table 3. Reliability definition of Alpha coefficient</div>

Alpha coefficient	Internal Consistency Reliability
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

There were 50 multiple-choice items checked on reliability and validity. After calculating the CVR, 40 numbers were obtained as a valid instrument as they met the minimum value of 0.62. In calculating the Cronbach alpha coefficient, 42 numbers had a value of ≥ 0.8, indicated that these questions were suitable for use as research instruments. Invalid items, in other words, were also unreliable items. As a result, only 40 valid and reliable items could be used as instruments.

A set of questionnaires was given to the students to gather their perceptions on the digital vocabulary learning platform. The questionnaire was developed in two kinds - closed-ended and open-ended questionnaire. A closed-ended questionnaire on a Likert scale was used to sort the media based on students' preference. An open-ended questionnaire was given to collect in-depth information about students' feedback in implementing digital vocabulary learning platforms.

3.3. Data analysis

This research dealt with two variables: pretest and post-test scores, which were compared and correlated to determine the effectiveness of digital vocabulary platforms. The data were analyzed using paired t-test, Pearson r correlation, and Cohen effect size in SPSS 16.0 (Cohen et al., 2017;

Connolly, 2007; Muijs, 2010; York, 2016). Paired t-test could be calculated using the formula below:

$$t = \frac{(\sum D)/N}{\sqrt{\dfrac{\sum D^2 - (\dfrac{(\sum D)^2}{N})}{(N-1)(N)}}}$$

In which, $\sum D$ is the sum of the differences, and N is the total number of samples.

Pearson correlation coefficient was calculated using this formula:

$$r = \frac{\sum_{i-1}^{n} (x_1 - \bar{x})(y_1 - \bar{y})}{(n-1)SD_x SD_y}$$

where x is the pretest score, y is the posttest score; $\bar{x}$ and $\bar{y}$ are the mean of pretest and posttest; while SD_x and SD_y are the standard deviation of pretest and posttest scores. Furthermore, the results could be interpreted as follows:

Table 4. Effect size of Pearson correlation coefficient

Pearson coefficient	Pearson correlation interpretation
$1.0 \leq r \geq 0.8$	Very strong
$0.8 > r \geq 0.5$	Strong
$0.5 > r \geq 0.3$	Moderate
$0.3 > r \geq 0.1$	Modest
$0.1 > r \geq 0.0$	Weak

Pearson r coefficients vary between -1 and +1, with +1 indicating a perfect positive relationship and -1 a perfect negative relationship, and 0 = no relationship (Muijs, 2010).

Cohen effect size was denoted by:

$$d = \frac{\bar{x_1} - \bar{x_2}}{s}$$

where $\bar{x_1}$ is mean of posttest result and $\bar{x_2}$ is mean of pretest result, while s is the standard deviation. Moreover, the results could be interpreted as follows:

Table 5. Effect size of Cohen correlation coefficient

Cohen coefficient	Cohen correlation interpretation
$d > 0.8$	Strong
$0.8 \geq d > 0.5$	Moderate
$0.5 \geq d > 0.2$	Modest
$0.2 > d > 0.0$	Weak

A closed-ended questionnaire was analyzed by calculating each platform's total scores, then reported in descriptive analysis. Results of the open-ended questionnaire were grouped based on students' opinions, then calculated in a simple statistic. Those results could reveal students' perception of digital vocabulary learning tools that supported the primary data of test analysis.

3.4. Test results

Comparison of pretest and posttest was analyzed using paired t-test on SPSS 16.0. Table 6 indicated that there was significance difference in posttest (mean = 16.5; SD = 4.55) and pretest (mean = 9.89; SD = 2.69).

Table 6. Paired sample statistics

	Mean	N	Std Deviation	Std Error Mean
Posttest	16.5000	48	4.55230	.65707
Pretest	9.8958	48	2.69151	.38849

The result of the paired t-test was shown in table 7, in which t (47) = 12.54 with p = 0.

Table 7. Paired sample test

	Paired Differences							
				95% Confidence Interval of the Difference				
	Mean	Std Deviation	Std Error Mean	Lower	Upper	t	df	Sig (2-tailed)
Posttest-Pretest	6.60417	3.64802	.52655	5.54489	7.66344	12.542	47	.000

Pearson correlation coefficient was calculated to find out the correlation between posttest and pretest. Table 8 showed that there was correlation between posttest and pretest with r = 0.598; p (2-tailed) = 0; and N = 48.

Table 8. Posttest and pretest correlations

		Posttest	Pretest
Posttest	Pearson Correlation	1	.598
	Sig (2-tailed)		.000
	N	48	48
Pretest	Pearson Correlation	.598	1
	Sig (2-tailed)	.000	
	N	48	48

Meanwhile, the Cohen d coefficient was calculated to know the effect size of the treatment. From the calculation, the d obtained was 1.81.

3.5. Questionnaire results

The students completed the questionnaire on using Kahoot! and Socrative for learning vocabulary that indicated their perception. The results were listed in Table 7. As evidenced in this table, 34 students stated Kahoot! was very recommended and 27 students chose Socrative, while for the option of recommended, 13 students ticked Kahoot! and 19 students chose Socrative. 3 students ticked undecided - 1 chose Kahoot! and two students chose Socrative.

Table 9 Closed-ended Questionnaire Results

	Very Recommended	Recommended	Undecided	Not Recommended	Not Recommended at All
Kahoot!	34 70.83 %	13 27.08 %	1 2.08 %	0	0
Socrative	27 56.25 %	19 39.58 %	2 4.17 %	0	0

In the open-ended questionnaire, students wrote their opinions regarding their experiences using Kahoot! and Socrative digital platforms in class. Their answers ranged from interesting, easy to be used, simple, access easily, unique, understandable, enjoyable, fun, and consumed data connection. These reflected the advantages and disadvantages of using digital platforms in learning vocabulary.

4. Discussion

Learning vocabulary needs to be enhanced as it is crucial and critical to be boosted as lexical knowledge is central to communicative competence (Schmitt, 2008). This skill becomes a strong predictor of reading comprehension (Mustafa et al., 2019), learners' listening skills, and overall skills (Ebadi & Bashiri, 2018). It means that the lack of vocabulary knowledge would affect other English skills, so teachers have to be aware of that and focus on vocabulary knowledge (Lessard-Clouston, 2013). There are three aspects teachers need to cater for while teaching vocabulary: meaning, form, and use (Nation, 2007). In this current study, the vocabulary list given to students consisted of three aspects - meaning (definition), form (written - part of speech), and language in context. The learning process was carried through synonyms, antonyms, and filling the gap of

the blank sentences. There were 100 words divided into four parts (25 words/treatment) to provide sufficient vocabulary knowledge for the students considering that rich vocabulary was essential for the use of foreign languages (Alqahtani, 2015).

Before discussing each word with the students, the teacher drilled them through digital applications. In the previous study, the use of technology indicated successfully overcoming the problem of complex mix of factors regarding the teaching and learning process, such as learning habits, learning environment, diversity in class, centralized mechanism, etc. (Santosa et al., 2020). However, technology-based learning would only succeed if learners favor technology that was used (Jalili et al., 2020). In this current study, the drilling practice and discussion implementing digital platform ran smoothly, although this was the first time for the students to use these applications. After the drilling finished, a discussion about the words in terms of the meaning, form and language use in context was held. The practice took place once four times once a week.

Once the practices were finished, a posttest was carried out to determine the effectiveness of the treatment. The pretest and posttest results revealed that technology was effective in improving students' English vocabulary achievement, which was evidenced in the analysis of paired t-test, Pearson r coefficient, and Cohen d coefficient. The paired t-test implied that the digital platform had a significance difference from pre- to post-test (6.60), indicated by $t = 12.54$ and $p = 0$. The Pearson correlation coefficient resulted in 0.598 that pointed out these digital applications were strongly effective in learning vocabulary. The Cohen d coefficient also indicated a strong effect for students because the result was > 0.8. In other words, the purpose of technological advancement to help people performs their activities more efficiently was hinted at since these three analyses show a positive line (Hidayati, 2016).

During the Covid-19 pandemic, almost all teaching and learning processes had to be carried out online. Thus, educators were required to maintain themselves to integrate all ICT platforms to bridge the distance of the teaching and learning process. Many studies highlighted the importance of applying technology in English teaching classroom activities (Ebadi & Bashiri, 2018; Sajad et al., 2019). Digital tools such as Kahoot! and Socrative were some alternatives to be applied in the classroom, especially in vocabulary practice, to drill the students to achieve learning goals. Current research revealed that these platforms were effective and had a strong effect on improving students' vocabulary achievement.

Kahoot! and Socrative are easy to be used for teachers because of their practicality. Kahoot! brought many beneficial values to both teachers and students (Kaur & Naderajan, 2019). Another research that faculty and students from various disciplines view the incorporation of

online SRS (student response system), such as Socrative, to be very useful for the teaching process because it can encourage students' active learning, especially in the English language classroom context (Shaban, 2017). In this study, the results of the students' questionnaire also supported these findings in which 34 out of 48 students (70.83%) stated that Kahoot! was highly recommended. This revealed that this application fitted the students' needs during online learning. The application was recommended by 13 students (27.08%) and there were no students who did not recommend it at all. Although there was 1 student (2.08%) who chose 'undecided' about this application, it was not too prominent as it was only 2.08 %. In short, the students enjoyed learning English through Kahoot! application that also mentioned in other research (Sabandar et al., 2018). Thus, it could be concluded that the Kahoot! and Socrative applications were recommended for learning English vocabulary.

The questionnaire result of students' feedback in using Socrative did not have a big gap than Kahoot!. More than half of the sample - 56.25% (27 students) chose 'very recommended' for Socrative implementation in vocabulary class. 39.58% (19 students) of the sample recommended this application. However, two students ticked 'undecided' about implementing it. Those meant that the students recommend Socrative to help them learn vocabulary. In other words, Socrative was the right tool that could help to improve users' engagement (Kaya & Balta, 2016). The open-ended questionnaire data supported that those two applications were easy to be used, unique, enjoyable, engaging, and fascinating. This finding confirmed Mahayanti et al. (2020)'s study that argued that gamification implementation attracted students' attention. Some students stated that they needed to adapt and learn to use them because they had never used them before. Besides, some others also found difficulties related to the internet connection at their place, which sometimes was unstable. This internet problem caused their work progress could not be saved, and they even needed to repeat the vocabulary practice or test.

5. Conclusion

The focus of this study is investigating learners' achievement in the digital vocabulary class and finding out their feedback in implementing the digital platform - Kahoot! and Socrative. This issue is essential during the Covid-19 pandemic considering the teaching and learning process had to be done online. For Railway Mechanical Technology teachers and students, this was their first experience. Both parties needed to adapt to new teaching and learning systems and models to maintain learners' needs and achievement. The results have revealed that Kahoot! and Socrative effectively upgraded learners' achievement by drilling them in such a learning procedure. The learners' feedback based on the research findings was positive in which almost

all samples recommending the applications to be used in vocabulary class. These findings supported the idea that Kahoot! and Socrative as online students response system (SRS) facilitated interactive teaching in English language classes so that it could be imitated and applied in other institutions to engage autonomous and interactive learning (Kaya & Balta, 2016; Sabandar et al., 2018; Tivaraju et al., 2017; Wang & Tahir, 2020; Zarzycka-Piskorz, 2016).

This study has certain limitations as it uses a quasi-experimental method: one group pretest and posttest design. There need to be some improvements which may result in different findings when carried out on true-experimental method: two groups pretest and posttest design. This cannot be done in two-group experimental research or action research because the university regulation stated that students must receive equal treatments for all classes on online teaching and learning. Future research may also be possible to apply more statistical analytical methods, which will give more insight into the results. Nonetheless, both research questions were successfully addressed by the statistical analysis presented in the previous section of this study.

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Appendix. Vocabulary List

No	Word	Part of Speech	Meaning
1	Adhesion	N	The ability to stick
2	Axle	N	A bar connected to the center of a circular object such as a wheel that allows or causes it to turn.
3	Ballast	N	The small stones on which railways and roads are made.
4	Bearing	N	A part of a machine that supports another part that turns around
5	Bogie	N	One of the separate parts in which passengers sit.
6	Boiler	N	The part of a steam engine where water is heated to provide power.
7	Bolt	N	A metal bar on a door or window that slides across to lock it closed.
8	Brake	V	To make a vehicle go slower or stop.
9	Buffer	V	To provide protection against harm.
10	Cabin	N	The area where passengers sit.
11	Carriage	N	One of the separate parts in which passengers sit.
12	Coach	N	One of the separate parts in which passengers sit.
13	Compressor	N	A part of a machine that presses gas or air into less space.
14	Conductor	N	A railway official who travels on and is responsible for a train.
15	Coupling	N	A device that joins two things together.
16	Cylinder	N	The tube-shaped device inside which the part of the engine that causes the fuel to produce power moves up and down.
17	Diesel	N	Any vehicle, especially a train that has engine
18	Drill	V	To make a hole in something using a special tool.
19	Electrical	Adj	Related to electricity.
20	Engine	N	A machine that uses the energy from liquid fuel to produce movement.
21	Jack	N	An equipment that can be opened slowly under a heavy object to raise it off.
22	Lever	V	To move a bar or handle around a fixed point.
23	Locomotive	N	The engine of a train.
24	Machine	N	A piece of equipment with several moving parts that uses power to do a particular type of work.
25	Machinist	N	A person whose job is operating a machine.
26	Mold	V	To shape something into a particular form.
27	Monorail	N	A railway system that has a single rail.

28	Panel	N	A board that has controls and other devices on it for operating a large machine.
29	Piston	N	A short of metal that moves up and down inside a cylinder in an engine to press the fuel into a small space and send the power to the wheels.
30	Platform	N	A long flat raises structure at a railway station, where people get on/off trains.
31	Radiator	N	A device that sends out heat, as part of a heating or cooling system.
32	Rail	N	One of the two metal bars attached to the ground on which trains travel.
33	Railroad	N	The metal tracks on which trains run.
34	Railway	N	The metal tracks on which trains run.
35	Reservoir	N	A large supply of something.
36	Rolling stock	N	The engines and carriages that are used on a railway.
37	Shunt	V	To move a train onto a different track in using a special railway engine designed for this purpose.
38	Siding	N	A short railway track connected to a main track.
39	Signal	N	Equipment on the side of a railway that tells drivers to stop, continue or go more slowly.
40	Station	N	A building where trains stop for people to get on or off.
41	Suspension	N	Equipment attached to the wheels of a vehicle that reduces the uncomfortable effect of going over road surface that are not even.
42	Terminal	N	The area at a station that is used by passengers leaving or arriving by train.
43	Track	N	The pair of long metal bars fixed on the ground at an equal distance from each another along which train travels.
44	Train	N	A railway engine connected to carriages.
45	Tube	N	A long cylinder used for moving.
46	Tunnel	N	A long passage under or through the ground.
47	Turbine	N	A type of machine through which liquid or gas flows and turns a special wheel with blades in order to produce power.
48	Wagon	N	A large wheeled container for transporting goods that is pulled by a train.
49	Wesel	N	A container used to hold liquids.
50	Wire	N	A piece of thin metal thread with a layer of plastic around it used for carrying electric current.
51	Aisle	N	A long, narrow space between rows of seats.
52	Alternator	N	A device that produces AC electricity.

53	Barrier	N	A gate in some railway stations through which you must go to get on a train.
54	Blower	N	A device that produces a current of air.
55	Bolster	V	To support or improve something or make it stronger.
56	Camshaft	N	A device that causes the valves of an engine to open or close at the correct time.
57	Chain	N	A length of rings usually made of metal that are connected and used for fastening, connecting or supporting.
58	Cohesive	Adj	United and working together effectively.
59	Compression ratio	N	The amount of pressing something into a smaller space.
60	Conduction	N	The process by which heat or electricity goes through a substance.
61	Corridor	N	A long passage in a building or train.
62	Counter	Adv	In a way that opposed something.
63	Crane	N	A tall metal structure with a long horizontal part, used for lifting and moving heavy objects.
64	Deformation	N	The action of spoiling the usual and true shape of something.
65	Dispatcher	N	A person who is responsible for sending out people or vehicle to where they are needed.
66	Drag	V	To move something by pulling it along a surface.
67	Dynamo	N	A device that changes energy of movement into electrical energy.
68	Emplacement	N	A position specially prepared for large pieces of equipment.
69	Fuel	N	A substance that is used to provide heat or power.
70	Fuse	N	A small safety part in an electrical device or piece of machinery that causes it to stop working if the electricity current is too high.
71	Gauge	V	To calculate an amount using a measuring device.
72	Gear	N	A device that controls how much power from an engine goes to the moving parts of a machine.
73	Generator	N	A machine that produces electrical power.
74	Guard	N	A person or group of people whose job is to protect a person, place or thing from danger or attack.
75	Headlight	N	A large, powerful light at the front of a vehicle.
76	Horn	N	A device on a vehicle that is used to make a loud noise as a warning or signal to other people.
77	Hydraulic	Adj	Operated by or involving the pressure of water.
78	Inertia	N	The physical force that keeps something in the same position.
79	Inject	V	To put new energy.
80	Interlocking	Adj	Firmly joined together.
81	Junction	N	A place where roads or railways come together.
82	Lavatory	N	Toilet

83	Motor	N	A device that changes electricity or fuel into movement and makes a machine work.
84	Pneumatic	Adj	Operated by air pressure.
85	Pressure	N	The force that a liquid or gas produces when it presses against an area.
86	Radiation	N	A form of energy that comes from a nuclear reaction.
87	Rail anchor	N	A heavy metal object to prevent the train move away.
88	Rocker switch	N	An electrical switch that you press on one side to turn a device on and the other to turn it off.
89	Screw	N	A thin, pointed piece of metal with a raised edge twisting round along its length and a flat top with a cut in it.
90	Screwdriver	N	A tool for turning screws.
91	Spin	V	To turn around and around.
92	Spring	V	A piece of curved or bent metal that can be pressed into a smaller space but then returns to its usual shape.
93	Subway	N	A railway system in which electric trains travel through tunnels below ground.
94	Thermodynamics	N	The area of physics connected with the action of heat and other types of energy.
95	Timetable	N	A detailed plan showing when events will happen.
96	Transmission	N	The machinery that brings the power produced by the engine to the wheels of a vehicle.
97	Trimmer	N	A device used for making something tidier by cutting a small amount off it.
98	Valve	N	A device that opens and closes to control the flow of liquid or gases.
99	Workshop	N	A room where things are made or repaired using machined or tools.
100	Wrench	N	A tool for holding and turning objects, especially one that can be made larger or smaller to hold different sized objects.