

The application of Kahoot as an online assessment tool to foster student's engagement: Student's experiences and voices

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Abstract

The advancement of technology has an impact on numerous aspects, including assessment. Students tend to feel bored, nervous, and anxious while doing the test. Consequently, educators are required to create a meaningful atmosphere in the classroom. Kahoot can be used as an alternative assessment tool. The purpose of this study was to gain knowledge about the students' voices and experiences with the use of Kahoot as an assessment tool in their English grammar class at the end of each of the fourteen meetings. This research was conducted at a private university in Riau with seventy-five participants in the English language education study program. This research was descriptive-qualitative by applying a questionnaire and interview. The findings show that most of the respondents gave positive responses to use of Kahoot as an assessment tool. The result of the research revealed that Kahoot is more preferred by the students than a paper-based test, which offers challenges, an interactive interface, sound, and music, helps students focus on the subject, and increases their interest and motivation. Meanwhile, the researcher found that the weaknesses of Kahoot are the time limit given and the unstable internet connection. Overall, the researcher suggests employing Kahoot as an assessment tool to boost students' engagement.

Keywords: application, Kahoot, online assessment tool, student's engagement

INTRODUCTION

Advanced technology undeniably creates a meaningful process in all fields, such as economy, politics, culture, art, and even education. Technology is a product's science development that occurs in the education field and has an important role in education, such as e-learning. Technology offers beneficial strategies in the learning and teaching process for both teachers and students. Its role is as a stimulant in providing facilities that create a pleasant atmosphere in the learning activity. Nowadays, the utilization of technology cannot be separated from the internet. However, the penetration of the internet is not maximally used for education. People used the internet to support education only 12,8%, compared to 44,4% for social media and 75% for mobile chatting (Ansari & Khan, 2020). This study shows that internet utilization in education for the learning process is still low.

Technology must be adapted in the sphere of education in order to elevate the quality of education itself (Wahyuni & Etfita, 2019). It is believed that teachers have to be able to involve technology in the teaching and learning process. In the atmosphere of the digital era, teachers are required to know how to operate the technology (Pratolo & Solikhati, 2020). Since students' success in learning can be seen through the assessment of their learning outcomes and it must be carried out gradually and as planned, many teachers still use the conventional method or paper-based test in conducting the assessment. In accordance with this phenomenon, sophisticated students are not comprehensively fascinated by traditional education methods (Anastasiadis et al., 2018). The teachers can post the students' grades and assignments using some internet media. Even more, students currently prefer using the internet application in order to complete their tasks and assignments. This situation indicates that the classroom tends to be monotone, which creates a boring atmosphere. Furthermore, most teachers have a limited awareness of their students' knowledge on an individual and class level. As a result, students become increasingly reluctant and completely uninterested in the learning activity.

This situation encourages related parties to create online game-based learning, a process of learning that involves the utilization of games in the classroom to engage and enhance students' learning (Graham, 2015). According to the other study, digital games with multimedia features can be designed to

captivate the students' attention (Woo, 2014). Teachers often utilize technology to transform the information, motivate and engage students, and assess the progress of the learned materials (Bui, 2022). However, the use of a conventional paper-based test in class is decreasing because technology creates more interesting games which suit students' lifestyles.

One of the game-based learning apps that can be implemented is Kahoot. It is a technology tool used to accommodate quizzes, discussions, or surveys (Morillas Barrio et al., 2016; Wang, 2015). Another study agrees that Kahoot is a tool that supplements pedagogical practices with new technological solutions (Lin et al., 2018). In addition, the use of Kahoot can affect students' interest and motivation in learning, and as their interest and motivation increase, so does their knowledge (Isnaeni & Kastri, 2022). On the other hand, Kahoot is an educational online learning platform that allows students to give a free response and allows the teachers to create quizzes, assess students' learning, and review concepts. This online learning platform offers benefits for both teachers and students and has an interactive and fun interface (Saud et al., 2022).

Kahoot is a widely known online learning platform for promoting students' engagement in learning English. It dramatically increases better students' involvement in their learning when compared to conventional approaches (Figuccio & Johnston, 2022). As confirmed by Pattanapichet and Wichadee (2014), gamification was adopted in Kahoot as a way to motivate and involve learners. With the application of Kahoot, a sleepy, bored, and insipid class can turn into an active, fun, and enjoyable class. It can boost students' enthusiasm and motivation to learn.

Another advantage of Kahoot is that it is able to make students more focused on learning and the fact that it fulfills various learning styles. A study done by (Hadijah et al., 2020) prove that the audio and music in Kahoot influence students' concentration. Those aspects maintain the students' engagement and focus. When students are involved, they represent curiosity in the learning content and remain focused throughout class sessions (Licorish et al., 2018a).

Students' engagement is closely tied to students' interest (Díez, 2023; Kahu et al., 2017) and motivation (Mai et al., 2015; Reeve & Lee, 2014; Saeed & Zyngier, 2012). According to Licorish et al. (2017), Kahoot can indulge learners and foster interaction in the classroom. According to Pattanapichet and Wichadee (2014),

providing instant feedback will greatly affect students' motivation. Furthermore, Kahoot is a game-based online pedagogical tool that focuses on students' engagement and motivation (Jones et al., 2019). Thus, Kahoot is believed to enable teachers to build students' motivation and interest in learning.

Another aspect that should be considered in implementing Kahoot is its weakness. Although Kahoot has benefits, it also has some shortcomings. There are several specific issues that students may encounter. The first is an unstable internet connection. According to Wang and Tahir (2020), the biggest concerns that students faced included technical issues such as unreliable internet connections, difficult-to-read questions and answers, inability to change an answer after submission, providing time pressure for giving answers, insufficient time to answer, struggle to maintain, and difficulty catching up if an incorrect answer had already been given. In line with Lofti and Pratolo (2021), Kahoot can be accessed only through a good internet connection, so a bad connection can interrupt students' encouragement and motivation. The second issue is that the time limit for answering the question in Kahoot is too short. Some students faced difficulty in answering the question that had a limitation of time. It means that the students need more time to think of the correct answer. As a result of this situation, the students choose the correct answer in a perfunctory way.

However, Lin et al. (2018) state that educators have a chance to introduce digital game-based learning. After several considerations, the researchers are motivated to analyze the students' views towards the use of Kahoot as an online assessment tool in English grammar class in the fifth semester of English language education. This research also tried to know students' views regarding the aspects of Kahoot vs. paper-based tests, students' focus, interest, and motivation, and the weaknesses of Kahoot.

RESEARCH METHOD

Research Design and Sample

This descriptive study included quantitative and qualitative analysis. Qualitative research investigates social phenomena from the perspective of the participants in order to better understand a specific phenomenon, environment, process, or belief. This analysis aimed to elaborate students' views regarding the aspect of Kahoot vs. paper-based test, student's focus, interest and motivation, and

the weakness of Kahoot. Purposive sampling was used to choose the students. The total students at fifth semester of a private university in Riau were seventy-five students. The students were chosen based on their previous experience in learning English grammar subjects using Kahoot. It was employed as an assessment tool for fourteen times at the end of each meeting to check and monitor the students' learning attainment.

Instrument and Data Collection Technique

We used questionnaires and interviews as an instrument to collect the data in this research. The questionnaire was adapted from Ismail & Mohammad (2017) and Mada & Anharudin (2019) with 15 statements and divided into four categories namely Kahoot vs. paper-based test, student's focus, interest and motivation, and the weakness of Kahoot. We used a four-point Likert scale with four responses: strongly agree (4), agree (3), disagree (2), and strongly disagree (1). The instrument was validated through experts' judgment before administered. The questionnaire was sent as a link constructed using the Google Forms free application and distributed through a WhatsApp group. Before being asked to fulfill the main part of the questionnaire, the respondents of this current study acquired information about the purpose of the study in the first part of the questionnaire and were also asked for their willingness to participate voluntarily in this study. In order to keep the respondents' anonymity and confidentiality, the email addresses were set but not collected.

Data Analysis Technique

Descriptive statistics was employed to analyze the data, while qualitative data were analyzed utilizing word cloud generator from a Google application (Gupta, 2014). Additionally, an individual interview was administered as part of a series of interviews to strengthen the quantitative data.

RESULTS & DISCUSSION

The results are divided into four parts. The first part displays students' views of Kahoot vs. paper-based tests. The second part focuses on the students' focus. The third part discusses interest and motivation. Additionally, the last part assesses the Kahoot's weakness.

Kahoot Vs. Paper-based Test

The statements and presentations on answers about students' views in terms of Kahoot vs. paper-based are presented in Table 1.

Table 1. The Result of Percentage Questionnaire of Kahoot Vs. Paper-Based Test

Statement	Percentage (%)				Index (%)
	SA	A	D	SD	
Kahoot game based is more challenging than paper-based test	50.98	47.06	1.96	0.00	85.00
The result of Kahoot is more objective that paper-based test	25.00	75.00	0.00	0.00	80.00
Average Percentage (%)					82.50
Interpretation Interval					Strongly Agree

As can be seen in Table 1, Kahoot vs. paper-based test is 82.50% and the interpretation interval is *strongly agree*. The finding of this research is in line with studies conducted before (Hadijah et al., 2020; Ismail & Mohammad, 2017; Mada & Anharudin, 2019; Wang & Tahir, 2020). Their results revealed that the students agreed that Kahoot is more challenging than conventional tests. Kahoot test-based is a quiz that contains a competitive element because the quiz results are visible on the classroom screen. As a result, it can motivate students to learn by earning points through various devices such as computers, laptops, tablets, and android. In line with Mada & Anharudin (2019), learning on the Internet still has to be done the old-fashioned way, which makes it feel less attractive. Students may become discouraged if they only listen to the lecturer's explanation.

To confirm the quantitative data, interviews were conducted with a select group of students with the question, "Do you agree that Kahoot is more challenging than paper-based test? Why?" Here are several excerpts from the interviewee that have been converted from speech to text:

Interviewee	Excerpts
Student 1	"The Kahoot application is indeed more challenging because when doing the quiz in it this application uses a short time limit so that when we are not able do it we will

	miss and Instead it will reduce points because we can't go back to the previous question.”
Student 2	“I agree that Kahoot is more challenging than a paper test because Kahoot this is an application that when we test it is given a timer and that makes it more challenging than using paper as usual.”
Student 3	“I think it's more challenging than the written exam because of the nature of the Kahoot, the time allotted for each question and the accompanying music in Kahoot which makes it more challenging.”
Student 4	“In my opinion, I also feel that way, because in Kahoot we are given very little time to answered questions and was also given a sound or music that made you nervous. So, I think it's more challenging than a paper-based test.”
Student 5	“Agree because I use Kahoot more challenging than paper-based tests because using Kahoot can make it easier when doing online-based arena.”

It can strengthen Kahoot as an alternative assessment tool. It can be proven from the excerpts that visualize it as a tag cloud. There is a word "challenging," where respondents feel challenged when using the Kahoot application because it uses special devices and abilities. When answering questions, a time limit is given. Kahoot is more challenging than a paper test. It indicates that the paper test is not as good as Kahoot; the paper test does not have an attractive appearance, and the test results are not immediately known. Students agree that Kahoot application is more challenging than a paper-based test because the application gives a time limit for each question. Hence, the students feel challenged in answering the question. Thus, Kahoot is better than a paper-based test. As visualized in Figure 1, words that appear the most are [Kahoot], [challenging], [application], [paper], [test], [given], [agree], [makes], [question], and [time].

a significantly positive way. Because there is music playing and time for students to work on questions, the learning process becomes more exciting, interesting, and challenging.

Moreover, to support the data presented, the interview was conducted by the researcher to students, with the question, "Do you agree that by using Kahoot you will be more focused? Does audio and visual impact your concentration?". Here are several excerpts from the interviewee that have been converted from speech to text:

Interviewee	Excerpts
Student 1	"Yes, I'm more focused when working on it because the time given is quite limited and the audio is also quite clear enough when I do it so this can be done make me more concentrated."
Student 2	"I don't agree because when using Kahoot not all students can concentrate, there are students are nervous when they see the timer, while the audio and visual impact, I don't think it's distracting."
Student 3	"For concentration problems in using Kahoot depending on the situation, the audio and visuals are very distracting, because the music is adrenaline-pumping and honest I don't like it."
Student 4	"Kahoot gives very little time to answer questions, so you have to focus on answering and related to the audio must have a huge impact on concentration because music affects feelings."
Student 5	"More focused because Kahoot gives me very short time to do test there test and challenged me to do the test and the audio and visual didn't affect Concentrate because Kahoot can be muted."

It can be confirmed that Kahoot indicates the application used in the classroom to enhance students' focus. The word 'audio' indicates that this application also provides a sound that makes the participants more nervous when doing the test. The word 'focused' indicates that users of the Kahoot application are

focused on working on test questions due to the limited time given. However, some students tend to feel unfocused because of the music of Kahoot itself. Kahoot has a mute button so that students who are having trouble focusing due to the music can turn it off. Thus, Kahoot can foster the students' focus while doing the test. As illustrated in Figure 2, the results of visualization of words appear and dominate from the word cloud generator such as [Kahoot], [audio], [test], [time], [concentrate], [concentration], [impact], [focused], [music], [visual], [quite], [students], and [using].



Fig 2. Tag Cloud of Students' Focus

Interest and motivation

The statements and presentations on answers about students' views in terms of interest and motivation are presented in Table 3.

Table 3. The Result of Percentage Questionnaire of Interest and Motivation

Statement	Percentage (%)				Index (%)
	SA	A	D	SD	
Kahoot can motivate me to learn more	28.87	71.13	0.00	0.00	80.83
I prefer working in a team by using Kahoot	30.77	56.04	13.19	0.00	75.83
I like when I am at the five top rank	84.21	15.79	0.00	0.00	95.00
I like the Kahoot results that are automatically shown	64.15	33.96	1.96	0.00	88.33
Kahoot can increase my learning motivation	40.00	60.00	0.00	0.00	83.33

Statement	Percentage (%)				Index (%)
	SA	A	D	SD	
Kahoot can make the classroom environment become more fun and interesting	60.19	39.81	0.00	0.00	85.83.
Kahoot is able to develop students' activity in the class	36.36	63.64	0.00	0.00	82.50
The questions given in Kahoot are suitable with the subject of the course	21.28	76.60	2.13	0.00	78.33
I always excited in answering the questions by using Kahoot	21.51	74.19	4.30	0.00	77.50
Average Percentage (%)					83.06
Interpretation Interval					Strongly Agree

Table 3 depicts that the percentage result of interest and motivation is 83.05% with the interpretation interval of *strongly agree*. It means that Kahoot can enhance student's engagement positively. The finding is also supported by research conducted previously (Ardi & Rianita, 2022; Boden & Hart, 2018; Licorish et al., 2018b; Mada & Anharudin, 2019; Nabilah et al., 2021; Toma et al., 2021). The researchers revealed that Kahoot boosts students' motivation and interest. Learning that is very creative, interesting and not boring for students means it becomes meaningful and useful for students. Using the Kahoot app in the learning process can increase students' learning benefits in the classroom, with engagement, motivation, and learning development experiences. The students are more motivated to complete the task because they find the visual design appealing, which can increase students' interest in taking the quiz (Ardi & Rianita, 2022). The use of Kahoot in the classroom demonstrates that the use of educational games reduces distractions while improving the quality of teaching and learning compared to what is provided in traditional classrooms (Manurung, 2021).

Furthermore, to confirm the data presented, the interview was conducted by the researcher to students, with the question "Do you agree that Kahoot can provide positive competition? Do you enjoy it?". Here are several excerpts from the interviewee that have been converted from speech to text:

Interviewee	Excerpts
Student 1	“I agree that this application provides positive impact in competing when doing the quiz because neither the questioner nor the participant can’t change anything because everything is automatic in this application so the results are absolutely non-existent fraud. Then I also enjoy doing it because of the form of the question colorful and interesting interface.”
Student 2	“I agree Kahoot can provide positive competition because Kahoot minimizes cheating during exams. Because it's really working on your own cellphone or laptop so it's for the cheating rate is smaller than on paper and we are more focus on our own application rather than us asking other people and I enjoy the moment using Kahoot.”
Student 3	“I think it depends on situations and conditions, Kahoot really enjoys using it because Kahoot is a platform pretty fun learning.”
Student 4	“Kahoot is better than paper-based test because now there are many especially students can show their expertise in Kahoot”.
Student 5	“Agree, because when using Kahoot I feel more challenged to get a high score.”

From the frequent words mentioned, it can be seen as proof that Kahoot can create positive competition. It means that Kahoot creates a positive atmosphere in the classroom. The students agreed that Kahoot is an enjoyable, fun, and interesting application. Moreover, Kahoot is better than paper-based activities because it can minimize cheating. Then, Kahoot offers a fun and interesting interface that can provide positive competition because everything is automatic in this application, so the results leave little room for cheating. Thus, it can be concluded that Kahoot can boost students’ motivation and interest. As shown in Figure 3, the results of the visualization of words that appear and dominate from the word cloud generator indicate that Kahoot is an application that resourceful instructors often use, such as

[Kahoot], [students], [application], [enjoy], [positive], [agree], [cheating], and [paper].



Figure 3. Tag Cloud of Interest and Motivation

The weakness of Kahoot

The statements and presentations on answers about students’ views in terms of the weakness of Kahoot are presented in Table 4.

Table 4. The Result of Percentage Questionnaire of The Weakness of Kahoot

Statement	Percentage (%)				Index (%)
	SA	A	D	SD	
Sometimes I have internet connection problem while using Kahoot	34.41	58.06	6.45	1.08	77.50
The time given in answering the question is too fast	44.90	48.98	6.12	0.00	81.67
Students have to had a supported/appropriate device	17.78	76.67	4.44	1.11	75.00
Average Percentage (%)					78.06
Interpretation Interval					Agree

Table 4 displays the percentage result in terms of weaknesses of Kahoot, which are 78.06% related to the interpretation interval–strongly agree. The findings are obtained from (Bicen & Kocakoyun, 2018; Hadijah et al., 2020; Lofti & Pratolo, 2021; Mada & Anharudin, 2019; Muhridza et al., 2018) emphasized the data findings of this research for the indicator the weakness of Kahoot. Those researchers revealed that the students generally faced the problems of Kahoot with the timer and the internet connection. They mutually agreed that poor internet

connection was a challenge. It can be observed that, during the game, some students became quite demotivated when a group was not able to submit their answers due to the loss of connection (Muhridza et al., 2018). In accordance with results from Hadijah et al., (2020), the students failed the test due to insufficient time allotted to answer and their unfamiliarity with Kahoot. Because of these two issues, their scores were low, and their names appeared at the end of the list. In addition, Manurung (2021) revealed other problems such as poor internet connections, difficulties reading questions and answers on a projected screen, inability to change the answer after submission, stressful time pressure for giving answers, insufficient time to answer and fear of losing. Otherwise, with a system of timers and points in Kahoot that are focused on their speed in answering questions, it gives them the motivation to answer the questions quickly (Lofti & Pratolo, 2021).

In addition, to confirm the data presented, the interview was conducted by the researcher to students, with the question “What do you think is the biggest constraint of Kahoot?”. Here are several excerpts from the interviewee that have been converted from speech to text:

Interviewee	Excerpts
Student 1	“When I meet a long question but given a short time limit so I often miss and can't repeated again so that my points are reduced then this application also provides a good sound actually make the participants get more nervous when doing it so I always turn it off so I can do it more focus and enjoy.”
Student 2	“The problem in this Kahoot application may be not the timer. If that timer depends on the teacher, for example, wants to give how much time. What makes it become an obstacle of Kahoot application is in use in areas that do not have a network because the application uses a network.”
Student 3	“I don't think the constraint is exists because of the Kahoot working system.”
Student 4	“Based on my experience, Kahoot is online based, so the problem is on an Internet connection. Next is time is too fast or audio sound that makes tense.”

Interviewee	Excerpts
Student 5	“I think the most problematic when using Kahoot is internet connection.”

From the excerpts mentioned, it can be confirmed that Kahoot’s weakness during the application is that because of the limited time, the students turn off the music to reduce distraction. The second problem faced is the network. To run Kahoot, students need a good internet connection. If the internet connection is low, the use of Kahoot will be disrupted. Thus, the challenges that Kahoot faced the most among the students were time and internet connection. Based on the results of the visualization, the words that appear and dominate from the word cloud generator (see Figure 4) are [Kahoot], [application], [time], [connection], [problem], [network], [obstacle], [timer], [sound], and [based].



Figure 4. Tag Cloud of The Weakness of Kahoot

CONCLUSION

Since this study investigates the students’ views regarding the use of Kahoot as an online assessment tool, it shows that most respondents gave positive responses towards the tool. The research results reveal that Kahoot is preferable to students to paper-based tests, which offers challenges, an interactive interface, sound, and music, helps students focus on the subject, and increases their interest and motivation. Meanwhile, the researcher found that the weaknesses of Kahoot are the time limit given and the unstable internet connection. On the other hand, students’ engagement can be fostered towards this assessment tool, and the future lecturer that employs it can minimize or even eliminate the obstacles before running the class.

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