# Japanese Students' English Language Learning Experience through Computer Game-Based Student Response Systems

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**Abstract:** Technology has been vastly used in learning context for the purpose of enhancing students' learning performance. The integration of computer in language teaching and learning is growing. In particular, the computer game-based student response systems such as Kahoot! application is implemented by some educators in their teaching classesto improve students' learning experience. Meanwhile, collaborative learning plays an important role in teaching and learning practice. Thus, this paper aims to examine the use of Kahoot! application integrated with collaborative learning approach influences the learning experiences of Japanese students in English language classroom. An experimental research approach was conducted to study how Kahoot! application is affecting the learning experiences of Japenese students. Student engegement observation checklist and feedback form were used as the research instruments in this study. The population comprised 20 Japanese students who enrolled in English language classroom participated in this experiment. The findings show that Kahoot! integrated with collaborative learning approach made positive impact on students by contributing to better engagement and enhanced learning experience of students. This study can be a reference for instructors who plan to implement game-based student response systems and collaborative learning in English language classroom.

**Keywords:** Technology in Education, Kahoot!, Collaborative Learning; English Language Classroom

## 1. Introduction

The development of technology in learning context has led to different learning experiences to students and improve their learning performance. In this regard, it is important to create a positive engagement and motivating learning environment to engage students in their learning process. The role of technology is vital to support the instructors to create such learning environment or students to increase their engagement and enrich their learning experiences. In particular, game-based student response systems such as Kahoot! is implemented by some educators in English language classroom to improve students' learning experience. In fact, educational games can be used as a learning tools in teaching and learning practice. It is especially used to support the development of students' learning performance (Papastergiou, 2009). Thus, it is believed that game-based student response systems can increase student motivation and engagement (Barrio et al., 2016). Besides that, the role of collaborative learning is getting important as it encourages students to work together and learn from each other to achieve the common goal. This collaborative learning approach can help to develop students' English language proficiency (Kreijns, Kirschner and Jochems, 2013).

With the advantages of game-based student response systems such as Kahoot! and the usefulness of collaborative learning; therefore, this paper aims to examine the use of Kahoot! application influences the learning experiences of Japanese students in English language classroom integrated with collaborative learning approach. An experiment research approach was conducted to explore how Kahoot! affects the learning experiences of students. In our study we addressed the following two research questions:

(i) How does the use of Kahoot! application integrated with collaborative learning approach influence students' engagement?
(ii) How does the use of Kahoot! application integrated with collaborative learning approach enrich students' learning experiences?

## 2. Conceptual Framework

The theories used in this research are theory of intrinsic motivation who leads to game-based student response systems and social constructivist theory that is about collaborative learning. With the use of these two theories, Kahoot! application integrated with collaborative learning approach was designed and implemented in English class for Japanese students with the aims of enhancing their engagement and learning experience.
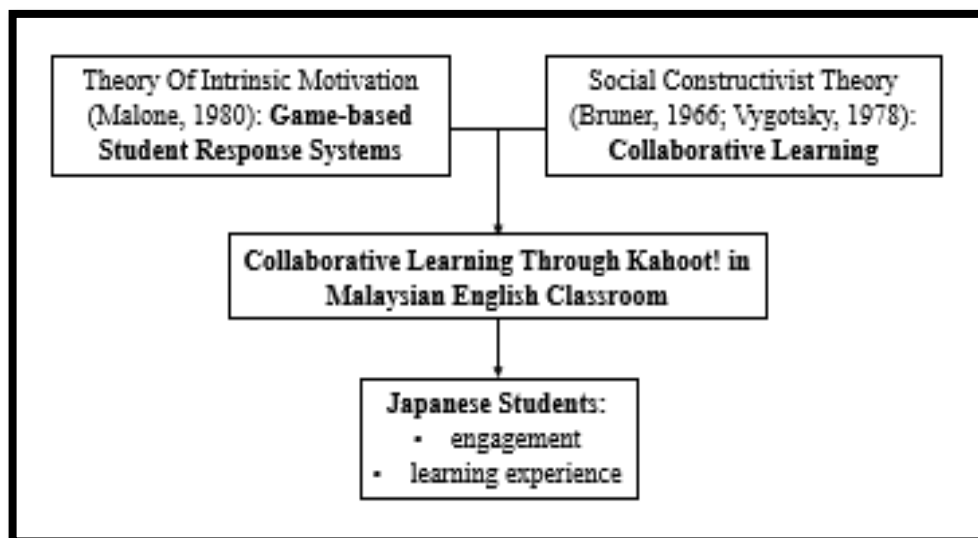
**Figure 1.** Conceptual framework

## 3. Literature Review

### 3.1 Game-Based Student Response Systems

Technology is progressively utilised by educators to improve teaching and learning. One of the examples is the use of gamification such as the online game, Kahoot!, which is used to measure knowledge gained by students in the course. It is also named as game-based student response systesm that is used to gauge the responses of students. According to Muhridza et al. (2018), Kahoot! is effective in teaching language skills and can enhance participation of students in the class, as Kahoot! consists of multimedia visuals that can help increase the engagement of students (Dellos, 2015). This most exciting part is that students can receive points if they answer questions appropriately and quickly, reducing students' distraction and boredom (Graham, 2015). Nonetheless, the use of Kahoot! needs to match with the proper learning objectives. This is echoed by Zahn et al. (2012) that the potential use of technologies can be maximized if teachers combine them with suitable learning objectives. Thus, instructors need to pay attention on this.

Lin and Kaur (2018) conducted a research on 51 university students in Malaysia. These students were exposed to the use of Kahoot! for one semester. A survey was distributed to these students and the results showed that Kahoot! enhanced motivation and engagement of students. It has also reinforced learning. Besides that, another similar research was carried out by Locorish et al. (2018) in New Zealand university by interviewing students about the extent to which Kahoot! affect their learning process and motivation. Correspondingly, the results revealed that Kahoot! can increase the quality of student learning, for instances they became more motivated and engaged to the learning process. This is due to students received timely feedback via Kahoot! that motivated them. Moreover, Prieto et al (2019) investigated students' satisfaction level of using Kahoot! application. Students provided their perceptions about how Kahoot! helped them in their learning process. The outcome of the research confirmed that this Kahoot! is positive and can help them to in the learning process.

### 3.2 Collaborative Learning

Rao (2019) and Hussain (2018) has pinpointed some important features of collaborative learning. These include collaborative learning involves groups of students to finish mutual activities given. This also helps to develop their critical thinking skills, encourage engagement of students, particularly weak students. Students' mutual cooperation and relationship can be developed through collaborative learning, which in turn enhances their learning performance. Therefore, this research integrates this collaborative learning approach in Kahoot! to enrich the learning experience of students.

## 4. Materials And Methods

An experiment research approach was employed in this study to address the aforementioned research

questions. A total of 20 Japanese students who enrolled in the English subject classroom became the respondents of this study. Their age was between 18-20 years old. The game-based student response system (Kahoot!) integrated with collaborative learning approach was used as a part of an English subject. This tool was used throughout the lesson. These include: to quiz students on various topics to explore students' knowledge of topics after they were delivered in lectures and to help students to validate their comprehension and understanding of topics. Two different research instruments such as student engagement observation checklist and feedback form were used. The student engagement walkthrough checklist is adapted from Jones (2009) and used to examine the engagement of students in the English classroom integrated with Kahoot!. Another instrument is the feedback form that all students were asked to write their feedback on the paper provided after the lesson. There are three main questions given to students when they wrote the feedback such as (i) Do you like this lesson?, (ii) How do you feel about this lesson?, and (iii) What have you learned from this lesson?.

**4.1 Lesson Design**

Figure 2 presents the ways to design and carry out the lesson in English classroom which uses Kahoot! integrated with collaborative learning. Firstly, students received the lecture from the lecturer. Then, these students were asked to work in pair to do the English exercises in the textbook collaboratively. These exercises were transformed into questions in Kahoot! and answered by students. Lecturer discussed on each question. Lastly, students were asked to write their feedback to share their experiences in using Kahoot! and working with their friends in the classroom.
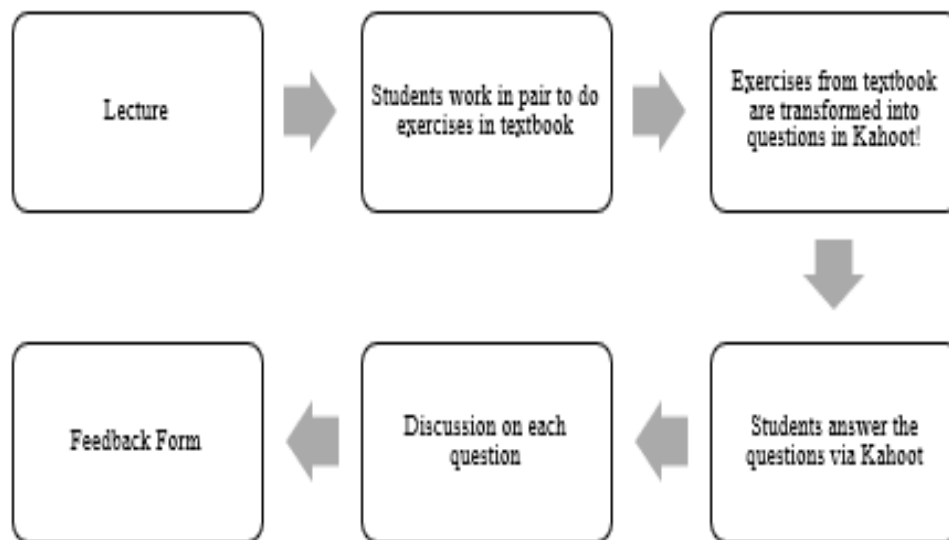


**Figure 2.** Lesson Design Integrated with Kahoot! in English Classroom

**5. Results and Discussion**

**5.1 The Use of Kahoot! Application Integrated with Collaborative Learning Approach Influences Students' Engagement**

Table 1 shows the result of student engagement. The majority of students possessed very high in positive body language (80%), consistent attention span (65%), verbal participation (100%), student confidence (50%), and fun and excitement (100%), resulting in very high level of engagement (90%) in the English classroom. This portrays that most of the students gained benefits from the use of Kahoot! integrated with collaborative learning approach. Students with 80% paid high attention on the classroom, as they needed to answer the questions in Kahoot! correctly and quickly. This has made them to have consistent attention on the classroom. Besides that, all students discussed with their partner the questions and answers. They expressed and shared their ideas with their partner to reach the consensus. They also exhibited confidence in the class, as most of them answered the questions in Kahoot! correctly. Lastly, they all showed excitement and enthusiasm in the classroom. These findings are parallel with the outcomes of the researches conducted by Linand Kaur (2018) and Locorish et al. (2018) that learners became more enjoyed, motivated and learned new knowledge from the Kahoot! activity. The collaborative learning approach also encourages engagement of students and enables them to complete the task given.

**Table 1.**Student engagement observation

| No | Observations | Very high | High | Medium | Low | Very low |
|---|---|---|---|---|---|---|
| 1 | **Positive Body Language** | 16 (80%) | 2 (10%) | 2 (10%) | 0 (0%) | 0 (0%) |
| | Students exhibit body postures that indicate they are paying attention to the teacher and/or other students (eg. have eye contact, etc) | | | | | |
| 2 | **Consistent Attention Span** | 13 (65%) | 3 (15%) | 4 (20%) | 0 (0%) | 0 (0%) |
| | All students are focused on the learning activity with minimum disruptions (eg. chatting with his/her friends, sleeping, etc). | | | | | |
| 3 | **Verbal Participation** | 20 100%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| | Students express thoughtful ideas, reflective answers, and questions relevant or appropriate to learning (eg. students participate in Kahoot game, etc) | | | | | |
| 4 | **Student Confidence** | 10 (50%) | 4 (20%) | 4 (20%) | 2 10%) | 0 (0%) |
| | Students exhibit confidence and can initiate and complete a task with limited coaching and can work in a group | | | | | |
| 5 | **Fun and Excitement** | 20 100%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| | Students exhibit interest and enthusiasm and use positive humor | | | | | |
| 6 | **Overall Level of Engagement** | 18 (90%) | 1 (5%) | 1 (5%) | 0 (0%) | 0 (0%) |

### 5.2 Students' Learning Experiences on the Use of Kahoot! Application Integrated with Collaborative Learning Approach

Students' learning experiences was analysed based on the feedback written by students after the lesson.

### 5.2.1 Do you like this lesson?
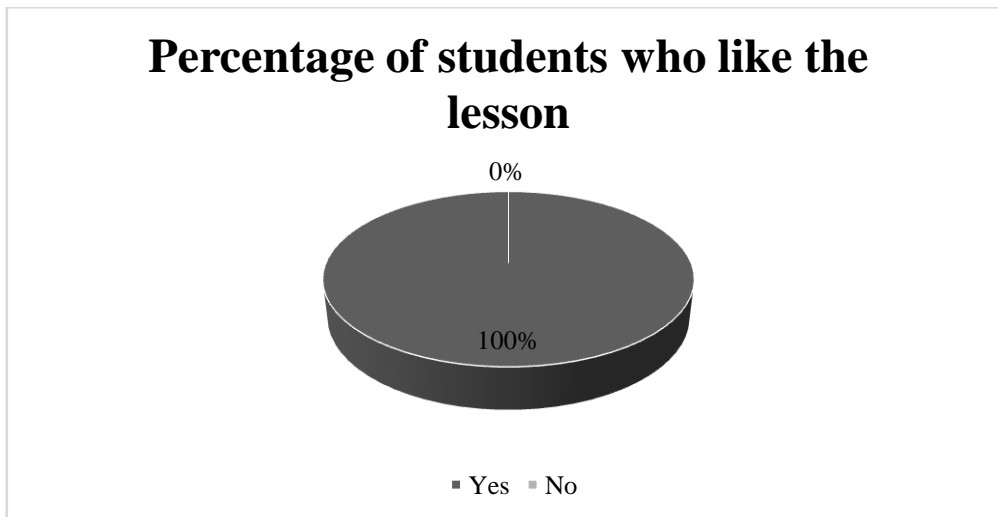


**Figure 2.** Percentage of students who like the lesson

The majority of the students wrote "Yes, I like" and the rest of them expressed that they like the lesson with more elaborations. For example,

ID7     *I like this lesson because this lesson has the moment I become active. For example, it is quiz using smartphone. I tap my smartphone to answer the quiz.*
ID12    *I like this class because this class system is good.*
ID13    *I like this lesson. Our classmates and I were able to enjoy a lot.*
ID14    *I like this lesson. This lesson makes me happy*
ID18    *I like this lesson. The game was very interesting.*
ID19    *Yes, I do. I enjoyed kahoot with everyone.*

Undoubtedly, this can conclude that they like the lesson with the use of Kahoot! and this might because Kahoot! made their learning more interesting. This could boost up their motivation and their learning experience was enjoyable.

**5.2.2 How do you feel about this lesson?**

25% of the students expressed their feeling that they had fun in the class, followed by enjoyed (20%) and excited (20%) in the classroom. This shows that they had become more motivated to learn English language. The exciting and comfortable learning environment can make students more engaged to the lesson.

**Table 2.**Feeling described by students

| Feeling described by students | ID | Number | Percentage (%) |
|---|---|---|---|
| Fun | 1,3,10,15,16 | 5 | 25 |
| Enjoyed | 2, 17, 18, 14 | 4 | 20 |
| Good | 4, 5, 9 | 3 | 15 |
| Excited/ Happy | 8, 11, 13, 20 | 4 | 20 |
| Motivated/ Not boring | 6, 7 | 2 | 10 |
| Other (amazed, etc) | 12, 19 | 2 | 10 |
| Total | | 20 | 100 |

**5.2.3 What have you learned from this lesson?**

The students were also asked to share what they have learned from the lesson. Most of them (45%) wrote that they had learned the new knowledge from the topic taught by the lecturer. In other words, their learning experience was meaningful.Besides that, they also learned the importance of teamwork (20%). This indicates that students acquired knowledge from this class which utilise Kahoot! and also they learned the teamwork is important for them to complete the task and win the Kahoot! game. Thus, more such lesson design should be implemented in the English class.

**Table 3.**Students' learning outcome

| Students have learned | ID | Number | Percentage (%) |
|---|---|---|---|
| The topics of the lesson | 2, 3, 8 ,9, 10, 14, 15, 16, 19 | 9 | 45 |
| The importance of teamwork | 1, 4, 6, 11 | 4 | 20 |
| The topics of the lesson and importance of teamwork | 17 | 1 | 5 |
| Other (eg, enjoyment that play and study together or without mentioned in feedback form) | 5, 7, 12, 13, 18, 20 | 6 | 30 |
| Total | | 20 | 100 |

**6.   Conclusion**

This research has applied both theories to enhance 20 Japanese students' English language proficiency. The findings show that Kahoot! integrated with collaborative learning approach makes positive impact on students by contributing to better engagement and enhanced learning experience of students. This study can be a reference for instructors who want to implement game-based student response systems in English language classroom. The researcher used a small number of participants in the study, hence future researchers could increase the number of participants and the number of questions for the survey for a better representation of the effect of Kahoot! in a certain population.

### 7. Acknowledgment

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