INVESTIGATING THE USE OF GAMFICATION IN READING COMPREHENSION

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ABSTRACT

The lack of reading comprehension poses a significant challenge in developing countries such as Indonesia where the English Proficiency Index ranks the country at 79 which according to Education First is considered low. To address this issue the purpose of this study is to investigate the use of gamification in reading comprehension through a qualitative case study research design. This study involved the students of 3rd semester from one of the university in Banyuwangi, East Java with 38 total students. However, 24 students participated for open ended questionnaires and 7 students has consented and voluntarily become participants for one -on-one interview and focus group discussion. The data were analyzed quantitatively and qualitatively. The findings of this study revealed that gamification platform transform their classroom environment into more active and engaging affecting their reading comprehension by making them focus better and attentive towards the subject taught by the educator, key elements that strongly affected their reading comprehension is the competitive aspect particularly the leaderboard, challenges, and time limits. However due the time constraint contained within the gamification platform poses a challenge for deeper comprehension.

Keywords: Gamification, Reading Comprehension, Competitive Aspect, Classroom Environment.

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INTRODUCTION

In the context of English as a Foreign Language (EFL), reading is recognized as a pivotal skill having taught in the primary school with the goal of helping students grasp meaning embedded within the text in return this enables them to comprehend the content thoroughly (Rohimah, 2021). According to Joseph et al, (2015) when we read, we must recognize each individual word and incorporate its meaning into our evolving understanding of the sentence, ensuring that it fits grammatically and semantically within the context. This process allows students to maintain a coherent and comprehensive understanding of the entire discourse, helping them to grasp the narrative or argumentative flow of the text. This skill is foundational to their academic achievements, as it allow students to understand and engage with complex texts, critically analyse arguments, synthesize diverse sources of information which in turn achieving professional success due to the efficiency of

comprehending and gathering vast amounts of information (Al-Khamaiseh & Al-Jamal, 2022; Pratiwi, 2020). This in turn, leads to higher academic achievement and better preparation for advanced education enabling learners to acquire new skills and information, fostering a culture of lifelong learning and opening doors to new opportunities for personal and professional growth (Al-Khamaiseh & Al-Jamal, 2022).

However, despite many benefits reading comprehension offers, it is often perceived by students as one of the more challenging tasks. This problem is particularly pronounced in countries like Indonesia, where the English proficiency level remains low, as indicated by the Education First (EF) English Proficiency Index (EPI), which ranked the country at 79 in 2023 (EF, 2023). This low ranking reflects broader challenges in language education and literacy, which significantly impact students' reading comprehension abilities, particularly when they are not given enough time to reflect on the content or when the reading assignments become overly burdensome (Freiermuth & Ito, 2022). Another issue in reading comprehension arises because many educators are not adequately prepared for the changes in the modern era and still rely on conventional methods of teaching, this reliance on outdated approaches often fails to capture students' interest, leading to passive learning experiences and decreased engagement with the subject matter. This in turn make most undergraduate students uninterested and focused their attention more on their own communication devices rather than on the lessons given making their interest and motivation towards the reading comprehension discourses decreased (Marsa et al., 2021).

A recent questionnaire conducted by the researcher with educator specializing in reading on the location of the research highlighted several issues that impact both teaching and learning in the context of undergraduate reading comprehension. Educator reported challenges in teaching reading comprehension such as: a lack of effective communication between educator and students, difficulties staying updated with the latest learning technologies, pressures from administrators, the need to create engaging lesson plans that fit the curriculum, behavior and classroom management issues, and time-consuming administrative work. Students also face specific difficulties in reading comprehension, such as: a preference for different learning styles, a lack of interest in reading, insufficient prior knowledge, difficulty focusing on individual words and missing key ideas, and even reading disorders like dyslexia. These challenges most likely affect students' reading comprehension abilities, which can be problematic for their academic achievement. Based on this reported statement the researcher try to address these difficulties by using gamification approach, as gamification can take into account both the instructional abilities of educators and the individual needs of students with the hope of solving several problems mentioned above especially on the lack of interest in reading.

To address these challenges, one viable solution is integrating technology into reading comprehension lessons. Alfan et al., (2023) explained that technology serves as an effective tool for enhancing learners' knowledge and skills. Costley, (2014) further supports this, highlighting that technology can significantly increase student engagement in learning activities, fostering critical thinking and problem-solving skills which is essential for comprehending reading texts effectively. This integration not only supports traditional teaching methods but also adapts to modern educational needs, providing interactive and dynamic learning experiences that promote deeper understanding and application of reading comprehension strategies. Based on Costley, (2014) technology can be used to restructure the dynamic of classroom to produce an environment that promotes the developmental of higher order thinking skills. Technology also enables interactive and engaging activities that can increase students' collaborative ability in learning, which is a highly effective tool in learning (Costley, 2014). Integrating technology into the lesson also enhanced connectivity with other people and can benefit learners by increasing their learning opportunities (Alfan et al., 2023). Moreover, technology can enables interactive and engaging learning methods (Alfan et al., 2023), such as gamified lessons, which transform static subjects like reading into more exciting experiences for students. This integration especially in the context of reading can be quite beneficial for beginner learners as it allows them to make their own choices autonomously on what they want to read first and setting their own paces helping them grow as they progress (Kaban, 2021).

This integration between technology and education can be found in gamification. According to Chiang, (2020), while game-based learning and gamification sound similar, they differ significantly in their approach and application. Game-based learning involves using actual games as pedagogical tools to achieve educational outcomes through incidental learning, meanwhile gamification techniques uses an integration of game elements such as points, levels, badges, and challenges, into non-gaming contexts like classroom activities (Licorish & , Helen . Owen, 2018). According to Hew et al., (2016) and Hakulinen et al., (2015) by incorporating game mechanics such as points, levels, badges, etc into classroom activities can be proven beneficial by increasing their engagement level and their motivation towards the activities which in turn increases their academic achievement (Tóth et al., 2019). Moreover, gamification allows teachers to monitor student progress, adjust difficulty levels, and provide targeted interventions for students who require additional support thereby ensuring that all learners can benefit from and contribute to the classroom environment (Klock et al., 2020; Oliveira et al., 2023; Plump & LaRosa, 2017; Ten et al., 2020). By leveraging gamification in these ways, educators not only enhance student motivation and engagement but also promote a collaborative and empowering classroom culture. Students feel supported in their learning journeys, and teachers are better equipped to meet diverse educational needs effectively.

A great example of gamification platform in action is Kahoot! Kahoot! is a gamified educational tool designed to gamify the learning experience that can facilitate formative assessment to promote a fun and engaging learning through game like activities. (Mohd Muhridza et al., 2018; Wang & Tahir, 2020). Kahoot! offers numerous advantages for both instructors and students, one of its key benefits is that it is free and easy for instructors to learn. The platform simplifies the process for students as well, and it is compatible with smartphones, tablets, and computers (Ozdamli, F. & Asiksoy, 2017) The use of music and colors enhances student excitement and energy, significantly increasing engagement. Instructors can benefit from real-time results, which help them provide immediate clarification when needed. Additionally, instructors have the capability to download, review, and save student results. Kahoot! allows students to take quizzes multiple times, and instructors can create quizzes, discussion questions, or surveys, adjusting response times as necessary to suit different needs. These features make Kahoot! a versatile and effective tool for enhancing the learning experience (Plump & LaRosa, 2017). Additional benefit from using Kahoot! is the versatility of the platform meaning it can be utilized within every level of education, ranging from elementary into more advanced university level (Marsa et al., 2021).

The study that was conducted by Marsa et al.,(2021) entitled "The Effect of Kahoot! Game to Teaching Reading Comprehension Achievement" used an explanatory sequential mixed method design involving 39 students of the fourth semester students of the English Education Program of STKIP Nurul Huda resulted in the differences between two groups which proved that the use of gamification did impact students' motivation, engagement, and attitude towards the learning subject that can influenced their comprehension. Another study conducted by Wirani et al., (2022) entitled "Evaluation of continued use on Kahoot! as a gamification-based learning platform from the perspective of Indonesia students" that implemented a questionnaire methodology and utilizing 301 college students from various universities in Indonesia, The results of this study showed that the element of competitiveness, and enjoyment are proven to affect the continued used, meaning that by using Kahoot! in the classroom, it enhances the students' competitive drive, which engage their motivation to learn more and be better about the current subject. A study conducted by

& LaRosa, (2017) with the title "Using Kahoot! in the Classroom to Create Plump Engagement and Active Learning: A Game-Based Technology Solution for eLearning Novices" which utilized the survey method and involving a total of 139 students from both undergraduate and graduate classes. The study resulted in a highly positive experience for students that significantly boosts both their focus and engagement activity this was significant because it often revealed the discrepancies between their assumptions about what they understood and their actual knowledge which allowed them to promptly address any mistakes, provide additional clarification, and tailor the teaching to better meet the students' needs. Study conducted by Huang et al.,(2019) entitled "Investigating the effects of gamification-enhanced flipped learning on undergraduate students' behavioral and cognitive engagement" utilizing the experimental study method involving two classes of undergraduate students in an Information Management course, resulted in a positive effect on the treatment group's students and the study highlighted the one factor of gamification that significantly boosted their motivation.

Informed by empirical evidences above, the present study seeks to investigate how can gamification affect students' reading comprehension and which of the gamification elements that strongly affect in students' reading comprehension?

METHOD

Research Design

A qualitative approach will be applied within this study because according to Creswell and Creswell, (2018) the qualitative research approach is an approach for exploring and understanding the meaning that individuals or groups give to a social or human problem. This is the reason for selecting this approach in this research, since it is connected with the topic of this study which is to investigate the use of gamification based on the existing problem in reading comprehension.

Case study design will be employed for this study, according to Cresswell, (2013) the case study research design is a study about a case within real-life, contemporary setting or context. Considering the definition, the case study has been chosen because its objectives align with the objectives of this study which is to investigate how gamification can affect students' reading comprehension and which gamified elements that strongly affect the reading comprehension.

Participants

The researcher utilized 3rd semester students from the English Department of the Faculty of Teacher Training and Education at the university in Banyuwangi with the total of 38 students, any students that has consented with the researcher will be utilized as the primary data source. The reasoning behind the selection of this specific group was based on their relevant academic background and engagement in English language and of reading comprehension class potentially offering valuable perspectives and data connected to the study's objectives.

Data Collection Method

Data collection is the activity of taking necessary permissions, making a qualitative sampling strategy, recording information accurately through both digital and paper methods, securing the data, and addressing potential issues to ensure aggreement and integrity in research (Creswell, 2013). The technique for collecting data the researcher chose three viable options in accordance to the research design for this study, they are questionnaires, focus groups, interviews. The reasoning behind for these options are listed below:

a. Questionnaires:

A questionnaire is an important instrument in a research study to help the researcher collect relevant data regarding the research topics (Taherdoost, 2022). This method was

chosen because it is the most common ways to conduct surveys in different fields of study such as academic research, business organizations, and public institutions. With questionnaires, the researcher can get an understanding about the data given through the answers from the respondents thus ensuring a faster and more accurate data collection process.

b. One on One Interviews:

Interviews are also the most commonly used technique in the case study research design (Creswell, 2013). Interviews offer the researcher a personalized approach to data collection, allowing researchers to establish connection with participants and delve deeply into their thoughts, feelings, and narratives. Through interview researcher can uncover rich and valuable data that provide insights into individuals' experiences, motivations, and decision-making processes.

c. Focus Groups:

Focus group discussions are commonly employed as a qualitative method to deeply explore social issues. This approach seeks to gather insights from a deliberately chosen group of individuals rather than from a statistically representative sample of a larger population (O.Nyumba et al., 2018). Focus Groups was chosen because it provides participants to share their views, ideas, and insights in a collaborative setting towards a specific topic of discussion. This technique encourage interaction and exchange of perspectives, often leading to the emergence of shared themes, patterns, or consensus among participants, focus groups can uncover underlying motivations, attitudes, and beliefs that may not be clearly apparent in individual interviews or surveys.

Data Analysis Method

The technique chosen to analyse the multiple sources of data within this study is Coding. Coding refers to the process of systematically analyzing qualitative data to identify patterns, themes, and categories that involves assigning labels or codes to the segments of text, such as interview transcripts, field notes, or documents, based on their content or meaning (Creswell, 2013). This statement is supported by (Skjott Linneberg & Korsgaard, 2019) as they defined coding involves identifying meaningful segments within this data and assigning them a label, which simplifies the process of organizing and interpreting the information. In qualitative research a code is typically a word or short phrase that captures the essence or key attribute of a segment of data which can include various forms such as interview transcripts, observation notes, journals, documents, drawings, photographs, and more (Wicks, 2017). The choice to use coding as the main method for analyzing the various data sources in this study was due to its ability in helping the researcher to organize, understand, and make sense of the themes and pattern of information collected during the research.

FINDINGS AND DISCUSSION

Findings from Questionnaire

a. General Opinion

The participants explained their general opinion about their use of technology within reading comprehension, most of the participants the use of technology proven beneficial to their study of reading comprehension.

Q1 : How has technology influenced the way you learn English in

the context of reading comprehension

DRB : Technology is **very helpful** in my learning process because with technology I can find out many things that I don't understand

DLR : I think reading with technology such as internet make people **a little bit influenced** to start reading

YCP : Technology provides tools and resources that can make learning **more interactive, accessible, and personalized**

Based from these responses, the researcher deduced that respondents have positive opinion with the integration of technology in reading comprehension as a part of their learning, they also emphasized its purpose in facilitating information retrieval, enhancement of reading motivation, and provided aids that personalize the learning experience. In general, technology is viewed as a valuable resource to support the process of learning English especially in reading comprehension

b. Challenges in Reading Comprehension

The participants mentioned that their challenges in reading comprehension are their lack of engagement, boredom, and lack of vocabulary.

Q2 : While learning this course could you please describe what specific difficulties that you encountered

NRN : Maybe when I read a vocabulary that I never met because it will make me difficult to understand

RU: Bored, lots of reading

KP : Reading an article or text made me bored and sleepy

AJ: Usually I don't know for some vocabulary that I read

Based on these responses the researcher may deduced that participants struggle with low interest and boredom while reading or with limited vocabulary, resulting in a lack of understanding and engagement. Due to this, paying attention to long passages often results in boredom and sleepiness, further lowering the engagement level with the content being provided by educators

c. The Impact of Difficulties in Learning Reading Comprehension

The participants mentioned the impact of their difficulties in learning reading comprehension, and the lack of vocabularies and boredom emerge to be the most prominent among participants

Q3 : Have the difficulties you discovered while learning reading comprehension impacted the way you learn this subject? If yes, could you please provide a brief explanation?

- **DLR :** I can't read for a long time, **I feel bored** maybe the impact is my general knowledge is not wide enough
- **RAC** : This method of learning to read english using digital is very

exciting it's just that I don't memorize vocabulary

HS: Yes, because we can **misinterpret** things which can hinder our understanding of the lesson

Based on the responses, the researcher may deduced that participants face certain difficulties with vocabulary and even tend to get disinterested. Such factors have a considerable effect on the language learning process of the respondents as some respondents found it hard to comprehend how boredom could interfere with their reading given the time capacity needed, while others argued that having a restricted vocabulary prevent their ability to grasp the core of the material which can be misinterpreted at times.

d. Perception on Gamification

The participants' perception on gamification is mostly positive where they agreed that they describe gamification as an exciting and fun way to use in reading comprehension

Q4 : In your own words how would you describe gamification

DLR : Interesting, I'm having fun

KP: It's so fun, I'm so excited with gamification

FL : Learning by using gamification makes it easier for me to

learn because it feels like a challenge

SSP : It was **fun** because it was games, everybody loves to play games The participants had described their usage of gamification platform and their experiences of using them, they mostly have experience in using quizziz and Kahoot! which they described their experience as positive.

Q5 : Have you ever used any gamified applications or tools before? If so, could you provide the name of the applications and

describe your experience while using them in your study? PB : Kahoot, Quizziz the class always I would say happier because everyone loves playing games, the quiz that appear is easy NJR : Yes I have. Kahoot, duolingo, Quizziz, I feel enjoy when

JK: Yes I have. **Kanoot, duolingo, Quizziz, I leel enjoy** w using gamified application to learning

NRN : Yes, I use Quizziz, Kahoot! etc, I feel very happy and have fun when using that tools

The participants describe their familiarity of gamification elements such as points, leaderboards and rewards, etc. The result is mixed between participants with the elements in gamification

- Q6 : How familiar are you with the gamification elements such as points, badges, leaderboards and rewards etc? And can you
- please describe your experience with these elements?
- NJR : Very familiar—I feel happy when I got badges, like that is an achievement
- **DLR : Very familiar**—we usually get a reward such as a book or tumbler, but in this time we get nothing

FL : I don't understand it

HS: I don't understand it

From these responds the researcher may deduced that participants' overall perception of gamification is largely positive, as they describe it as an exciting, fun, and engaging way to support learning in reading comprehension. Gamified platforms as frequently used by participants included Quizziz, Kahoot!, and Duolingo, describing their experiences fun and beneficial. Some participants were very familiar with the concepts and were able to identify badges and rewards with a sense of achievement; however, some were not aware of or were unfamiliar with these elements at all despite their exposure to the gamified platform

e. The Potential of Gamification

The participants responded to the potential of the use of gamification which expressed that gamification build their competitive spirit which motivate them to learn more and making the class environment more active and it engage them through the interesting visuals

Q7 : How do you think the concepts of gamification could be applied to make reading comprehension more enjoyable and effective to learn?

AMAS: Maybe because students will be **competitive** about scores and ranks because of it they have the will to learn

RCA : Gamification makes the atmosphere **more exciting and relaxed** so that it is not as tense and also build a **competitive spirit** in us

NJR : Gamification to make reading comprehension more

interesting because there is an **attractive visual display** and audio

The participant describe their opinion on incorporating gamification elements, to help the challenges they mentioned. The result is mixed, with some participants seeing the potential benefits for example their scanning and skimming, and help controlling the class environment, while others remain uncertain or sceptical.

Q8 : In what ways do you think incorporating gamification into reading

comprehension could help you overcome the challenges you've mentioned

DLR : Maybe make an animation or picture so it is more attractive **AMAS:** I am not sure if it could help if it's about gamification because it still take a bit while for me to understand

- **PB : Scanning skill should be improved** while we're reading and have a
- limit time
- **KP** : When the **class condition crowded** and this is so helpful to handle this situation

The participants responded that the use of gamification may have some potential drawbacks when they use them, the majority of the responds mentioned that the potential drawbacks may be their distraction to open another app and their lack of mobile data connection to be able to participate within the gamification activities.

Q9 : What do you think the potential drawbacks for implementing gamification specifically in learning reading comprehension

- **RAM : When you don't have a data package** and are more interested in opening another apps
- **NRN :** Because **we focus too much on the points** instead of the comprehension itself
- **FL** : It makes them **too competitive**
- SKS : It might reduce the learner's interest

From these responses the researcher can conclude that in term of the benefits participants stated that gamification could create a competitive spirit, motivate students to participate more actively, and create a more fun and relaxed classroom environment. However, the potential downsides of gamification also become apparent with the concerns mentioned most often were that students would get distracted by other applications that they opened up, mobile data access was limited and some students would not have it and the too much focus on scores/points rather than comprehension.

The Findings from Interviews

In this study the researcher utilized 7 consented and willing individuals to be participants, with 3 males and 4 females. The participants has been exposed to the gamification platform at least twice resulting in various answers from 12 interview questions, the interview result is presented below:

a. Participants Perception on Their Reading Comprehension Ability

Participants describe on their reading comprehension ability and most participants agreed that their ability of their comprehension is on the intermediate to low level

R : As a student, what is your opinion about your reading ability? DYR : In terms of understanding English texts, I'd say it's on **the lower side.** Because sometimes I feel the need to look up words to understand their meaning, but I'd place myself **at an average level for overall comprehension**

NSR : I wouldn't say I'm very passionate about reading. I don't read a lot, but I'm able to understand what I read. My reading ability isn't too high, but it's not too low either. I'd say I'm intermediate.

DRB : Well, honestly, I'm pretty lazy when it comes to reading. It takes me two or three attempts to reread a text before I fully understand the gist of the material I read—I don't really enjoy reading that. For example, when it comes to books, I just find **them boring, and it makes me feel**

books, I just find **them boring, and it makes me fe uninterested**.

From these responses the researcher may deduced that the participants perceive

their reading comprehension ability as average to below average which some participants stated that they won't read because they found the text to be incomprehensible at first, and others who stated that their reading skills to be just intermediate or basic enough to get the gist of the reading

b. Participants Obstacles in Reading Comprehension

The participants describe their obstacle as they are learning reading comprehension, most of them noted that their main obstacle are their lack of interest and their lack of understanding of grammar

> **R : What are the obstacles you face in improving your reading ability? NSR :** Sometimes, **I come across words that are hard to understand**, which can slow me down.

AJ: Sometimes it's **the grammar and vocabulary**, especially when it's uncommon or rarely used words.

DRB : Lack of interest, that's part of the reason it's why I have to reread it multiple times to fully understand the material I read

DLR : My lack of interest. I get bored easily when reading

From these responses the researcher may deduced that the primary obstacles of reading comprehension the participants faced are disinterest in reading materials especially a lengthy one and difficulty with grammar and vocabulary, unfamiliar words or complex grammar structures become a significant barriers to comprehending reading materials.

c. Participants Method to Overcome the Challenges

The participants describe their method of overcoming the challenges they faced while they're learning reading comprehension, most of them do drills to enrich their vocabularies in order to be able to comprehend the reading material, another method emerges is repetition where they read the materials over and over until they get the idea of the text

R : How do you overcome the obstacles you mentioned?

DYR : I usually **drill myself** by reviewing words repeatedly or looking up their meanings online.

PB: I usually **reread the text**. By reading it again, I can better understand it. If there are unfamiliar words, I look them up to figure out their meaning. **NSR**: Whenever I don't know a word, I immediately look it up. I check its meaning and how it's used. That's how Limprove

meaning and how it's used. That's how I improve

From these responds the researcher may deduce that participants adopt practical methods to overcome the challenges in reading comprehension, focusing primarily on vocabulary improvement and repetition of reading. Many participants reported drilling themselves by repeatedly reviewing or looking up unfamiliar words to understand their meanings and daily usage

d. Participants Overall Experience in Kahoot

Participants describe their overall experience in using Kahoot, most of them agreed that the Kahoot is indeed an exciting and fun way to learn where it added challenges and pressure for them

R : How do you feel about using Kahoot?

- **RCA** : It was **fun**! Using Kahoot made the lessons **less boring** and it **encouraged a competitive spirit**.
- **DRB**: It was my first time using Kahoot, and I was **really excited**. The way it was presented in class was **fun** and **engaging**—I was really excited to try it out and the visuals were also cute and appealing to me.
- AJ: I found it **challenging**, in a good way. It added pressure, but it also made me more confident when answering, I didn't overthink as much because there's a ranking system. It made me feel competitive unlike

regular exams, where people might copy answers, with Kahoot, everyone's in a rush and focused on their own answer

NSR : It was fun! I realized it could be used effectively for reading activities. It was especially helpful because the questions aligned with the material we studied

Based on these responses the researcher may deduced that the participant experienced the gamification platform as fun and interactive, the participant also confirmed that they were more satisfied and excited in studying with the gamified platform, the competitive aspect of the platform also mentioned to bring them to focus and answer with confidence for better ranking

e. Participants Experience on Their Reading Comprehension after Kahoot Participants describe their experience on their reading comprehension after the use of Kahoot!, the responds for this are varied where some of the participants described their

experience as positive while the other may not experience the same. However most participants agreed that their experience was a positive one

R : Does using Kahoot improve your reading comprehension? RCA : Yes—because of the competitive aspect, I became more serious and focused on answering questions.

- **DRB :** Yes, with the use of Kahoot! it **motivated me to read faster** so I could answer quickly and rank higher, I had to read quickly because of the time limit.
- **NSR :** A little, for example, in Kahoot, there are questions with some text to read first. In the first session, I was too lazy to read the text, so I didn't understand the answers. But after that, I learned that if I didn't read the text, I couldn't answer the questions. So, little by little, I started getting **more interested** in terms of reading

Based from these responses the researcher may deduced that most participants enjoyed using Kahoot!, many participants reported improvements with the competitive aspect and time constraints of Kahoot! as factors that caused them to read more carefully and efficiently. Several participants stated that they found the need to increase their interest and engagement in reading the provided texts to answer the questions correctly.

f. Improved Aspects of Reading Comprehension

The participants described their improvement on their reading comprehension aspect after the use of Kahoot! the participants responded that their reading keyword identification mostly improved after their experience on using Kahoot!, and their reading fluency and their focus is improved

R : Which aspects of reading comprehension do you feel have improved by using Kahoot?

NSR : In terms of reading, I think my ability to **find keywords improved** the most. Because to answer the questions in Kahoot, you have to

identify the keywords right away.

- **DRB**: I think for me it improved my ability of **finding keywords**. I think for me the time limit played a big role. Initially, it was difficult because it was my first time, but by the second session, I started to get the hang of it and could read faster and I could answer faster.
 - **PB**: In my experience, the time limit in Kahoot really helped me **focus** on the questions. I think the time constraint was beneficial for me.

Based on these responds the researcher may deduced that participants gained improvements in some of their reading comprehensions areas after using Kahoot, most participants said that their ability to find keywords had improved and linked this into finding the relevant information to answer questions in a limited time. Some participants also noted that they became more fluent in reading and focused on the reading content, as the time limit forced them to read and internalize the information more quickly.

g. Unaffected Reading Comprehension Aspect

Most of the participants responded that they have no negative aspect of their reading comprehension after the use of Kahoot! most of them agreed that their reading comprehension aspect all improved, the only complaints they responded are about the time limit and small text size.

R : Are there any aspects of reading that have not improved by using Kahoot?

DRB : No, I think in my opinion everything improved

- NSR : No, I think everything improved, even if just a little
- AJ: I still hesitate sometimes, which affects my concentration. In traditional methods, I might have time to weigh my choices, but with Kahoot, if you're unsure, you might run out of time
- **DYR** : Sometimes the **text in the game is too small** or **the questions are too long** making it harder to fully understand the meaning of the materials, and the time limit makes it stressful to read and respond quickly

Based on these responses the researcher may deduced that the majority of participants did not feel like Kahoot had a negative impact on their comprehension, and that most agreed that all aspects of comprehension were improved after Kahoot, in a small way. However some participant mentioned such as the often-small text size and the amount of time limit meant reading and responding at times felt stressful rather than joyful.

h. Comparison of Kahoot and Conventional Learning Methods

The participants responded that they mostly preferred the Kahoot! method compared to the conventional one with the reason of it being more modern and it provides an engaging and interactive way of learning

R : How does learning with Kahoot compare to traditional learning methods?

- **DYR :** I think that the use of Kahoot! **allows for evaluation and interaction among students**, whereas traditional methods are more teachercentered and one-way and it's a great evaluation tool for students
- **DRB**: I think that Traditional methods, like lectures, feel a little bit one-sided and monotonous to me. Kahoot, on the other hand, is more **engaging with its game-like elements**, making it easier to absorb the material while we also had fun doing it
- **PB** : I prefer the modern approach—**it feels fresh and exciting**, it makes me more eager to learn
- AJ: Kahoot is much **more engaging**. The time limit keeps everyone focused, and it prevents things like cheating in traditional settings, people might look around for answers.

Based on these responses, the researcher may deduced that the majority of participants felt that Kahoot! was preferable to conventional learning strategies because it is more engaging, interactive, and suited for modern teaching practices; participants also noted that Kahoot encourages interaction between students, provides immediate evaluation for the learner, and makes the learning process more fun through gamification. Traditional methods are pretty known to be boring and one-sided, while Kahoot comes loaded with elements like time limits and competitiveness that keeps students attentive, motivated, and engage, minimizing distractions.

i. Motivator or Pressure Inducer While Using Kahoot!

The participants responded whether the elements in Kahoot! caused pressure or

motivated them to continue, most of the participants agreed that the elements in Kahoot motivated them instead of inducing pressure.

R : Does using Kahoot motivate you to read more, or does it create pressure?

DYR : It motivates me to study more, because Kahoot is like a quiz, and **it's exciting**. Competing with my friends makes me more enthusiastic about

finding the right answers

- AJ: It motivated me to read more. Even though there was some pressure, it was the kind that pushed me to do better, not the kind that makes you feel discouraged
 - **NSR : It definitely motivated me**. Because it was fun! It felt like a game, and there was an element of competition, which made it exciting

From these responses, the researcher may deduced that for most of the participants, the elements of Kahoot were more motivational rather than inducing pressure, The competitive and the features of Kahoot!, in addition to being interactive, made the participants study in a very active and enthusiastic way; while some admitted to a certain degree of pressure, it was perceived as positive and constructive, pushing them to do better rather than discouraging them.

j. Element of Gamification That Influence Reading Comprehension The participants responded their opinion on which gamification element that affected their reading comprehension, the participants mostly agreed on the competitive aspect of the gamification platform and the element is leaderboard

R : Which gamification elements do you think influence your reading comprehension?

- **DLR :** For me, **the leaderboard** was the most motivating. In the first session, I started high on the leaderboard, but I dropped down because I lost focus. In the second session, I stayed focused and ranked higher
- AJ : The leaderboard and ranking system. There's a sense of pride in seeing your name at the top. It pushes you to aim for first place.
 - **DYR : Points and the leaderboard** are the most motivating because they make it fun and competitive, it's exciting to compete with peers

From these responses, the researcher may deduced that it is the competitive elements of gamification especially the leaderboard and ranking system that strongly impacted participants' reading comprehension as most of the participants found these motivating because it gave them a sense of achievement and made them focus and work hard to sustain or improve their rankings in addition the points system within Kahoot! added to the excitement in their study.

k. Ineffective Gamification Element on Reading Comprehension

The participants responded their opinion on which gamification that ineffective on influencing their reading comprehension, most participants responded that the gamification element are all effective on reading comprehension, however some of the participants complained about the time limit

R : Are there any elements in Kahoot that you think do not help with your reading comprehension?

DRB : Not really. I think all the elements were effective to me.

DLR: I don't think so. **Everything improved** in the second session, especially because there were so many factors that helped me focus better.

DYR : The music can be **boring** if it doesn't match the theme. And the **time limits can be problematic**—longer texts feel rushed, while shorter texts leave too much time.

Based on these responses, the researcher may deduced that the majority of the

participants felt that the gamification elements in Kahoot! helped them improve their reading comprehension. Some did show some apprehension toward the time limits but other

participants mentioned that it was going to be a problem sometimes with longer texts which makes reading became rushed, and with shorter text the time given was too long potentially reducing the sense of urgency.

The Findings from Focus Group Discussion

In this study the researcher gathered all 7 participants to conduct a focus group discussion to further gather data from their previous experience with the application of gamification in their reading comprehension. The findings will be presented below:

a. Reasons to Self-Utilize Kahoot

The participants described that their reasoning to utilize Kahoot to regulate oneself is due to its property of being a suitable tool for examination and measure their ability specifically in reading comprehension and its fun and engaging property

R: What's the main reason you use Kahoot on your own?

- **PB**: Honestly, I play it just **for fun** sometimes. I got hooked on it because we used it a lot in class. From my experience, my classmates and I would often play Kahoot together.
- **DYR :** It's similar to Quizizz, but it can also be a **good tool for reviewing material.**
- **DLR :** For me, **it's a way to measure progress**, but only if you take it seriously and really try to answer correctly—not just guessing. In class, it's a way to see who's serious about answering and who's just playing around.
- AJ: I think it can even be used as a formal testing tool. My school once used Kahoot for exams, so it works well in that way.

From these responses, the researcher may deduced that Kahoot functions as a very flexible and multi-functional tool capable of meeting a lot of requirements, given the context and user. Not only is this platform fun and engaging, but it also fosters collaboration and joy among peers, making it an appropriate tool for both informal and formal settings in education, as it enables reviewing of material, progress monitoring, and assessment activities.

b. Reasons on Continuous Usage of Kahoot!

The participants responded on their reason on continuing to use Kahoot! in their study, the participants agreed that the reason to continue using Kahoot! is its interesting and challenging aspect of the platform

R : After learning about Kahoot, what makes you want to keep using it?

- AJ: It's super engaging and enjoyable. It also feels challenging—it helps you develop quick-reading skills, like skimming.
- **DYR**: You can use it **to review all sorts of material**, like movies—figuring out who the actors are or what certain scenes mean.
- **DLR** : But I think the use of **Kahoot is still a bit limited** because many teachers today are from older generations, so they might find it harder to adopt. That said, for millennials or Gen Z, there's still a lot of potential.

From these responds the researcher may deduced that the participants highlighted several reasons for self-utilizing Kahoot, emphasizing its dual nature as both a practical and engaging tool. One participant viewed Kahoot as a fun platform and playing it casually due to its engaging nature and frequent use in class while others appreciated its utility for reviewing material, similar to other gamification platforms. Participant also highlighted an interesting insight about the continued use of gamification, that the older generation might not be as sophisticated as the newer generation in term of continued use of gamification platform, making the usage feels very limited.

c. Important Aspect to Keep Using Kahoot Once It Starts

The participants described their aspect to keep them motivated of using Kahoot! once they start a session, the responds resulted in mixed reactions between participants **R : What motivates you to continue a Kahoot session once you start?**

DLR : For me, it's about **the competitive side of being a student**. At this age, competitiveness is still very high. Kahoot makes you want to score as many points as possible, even if you're not super serious about answering. People will still give it their best shot because they want to win. If Kahoot didn't have a ranking system, I don't think anyone would be as excited to

participate.

PB : It also feels **more like a responsibility**—like it's our job as students to complete the task, so we feel obligated to do it.

From the responds the researcher may deduced that the motivation for continuing on in a Kahoot session seems to be a combination of competition and responsibility as a student. The ranking system within the gamified platform motivates players to strive for high scores therefore further enhancing fun and engagement in participating. Additionally, a lot of participants discussed a sense of obligation as a part of their identity as students to fulfil the task, suggesting that there was also an extrinsic motivation to maintain participation of the gamification

d. Opinion of Using Gamification for Deeper Understanding

The participants responded that the use of gamification might not be as beneficial as the researcher thought it would be for deeper understanding due to their lack of interest in reading itself

R : Do you think using Kahoot affects your understanding, reading, or comprehension of information?

- AJ : It's good for skimming, but it doesn't really help with gaining a deeper understanding
- **DLR** : In Indonesia, people **tend to be lazy about reading**, and the time limits don't help. If the text is short, people might still read it. But if it's too long, they're less likely to bother. That said, some people will still read it, even if it's long, because they want to score points. It really depends on the individual

From these responses, the researcher may conclude that the gamification platform Kahootq provides a way to practice skimming or quick comprehension, however deeper comprehension may be less effective to utilize with the platform. This was expected since participants in the study because they were not generally interested in reading, especially longer texts, and Kahoot has time limit restrictions which may also discourage reading from reading, such as: participants may have been too busy to score points rather than fully consuming the information.

e. Opinion on the Competitive Elements

The participants responded that the competitive elements indeed help their learning of reading comprehension as it is mentioned earlier however it is depend on the person

perception towards the elements

R : Based on the competitive elements you mentioned earlier, do you think they help or create pressure?

DRB : They help.

PB : It can help, but for some, it might feel like added pressure.

DLR : It really depends on the person.

From the responses the researcher may conclude that the competitive components of gamification, can beneficially impact reading comprehension through engagement and motivation, but in reality, the effectiveness of certain elements is still fully dependent on how people percieved these components, however most participants still think that the elements of gamification still help them instead of inducing pressure and anxiety.

f. Example of Reading Comprehension Improvement after the Use of Gamification The participants responded that they have not seen any improvement within their reading comprehension after their exposure on gamification platform as they noticed insignificant changes only

R : Can you give examples of how your reading comprehension has improved during or after using Kahoot?

RAC : Not much improvement.

PB : There's maybe a little improvement, but it's not significant. It might help with vocabulary, but deeper comprehension is hard because of the time pressure.

Based on these responses the researcher may deduced that participants mentioned to have seen little to no improvement in their reading comprehension after using gamification platforms such as Kahoot. Although some benefits were highlighted, including vocabulary improvement, the overall effect on deeper understanding seems to be limited, with the nature of the platform emphasis on immediate answer creation, limiting its potential in developing meaningful change in deeper comprehension.

g. Impact of Gamification on their focus and understanding of the material Only one participant responded to this question as he stated that the use of gamification feels more interactive and active for students but it is too restrictive and the use of traditional method feels more relaxed but it is too passive

R : Compared to traditional methods, how does Kahoot impact focus and understanding of material?

DLR: With traditional teaching, it's more relaxed, and you can ask questions if you don't understand something. Kahoot makes learning more interactive and active for students. For example, students are asked questions through Kahoot and then explain the material.

Based on the responses, the researcher may deduced that the use of gamification like Kahoot makes learning more interactive and engaging for the students as it infuses active learning yet the restrictiveness of that approach also has the potential to hinder opportunities for deeper exploration and conversation, which can be more readily available in more traditional means of instruction since gamification tends itself to be immediacy and engagement, which does not necessarily align to promote deeper comprehension.

h. Disruption on Main Learning Processes

The participants described that the use of gamification may be beneficial as an icebreaker in between materials, another participant argues that if the material being presented is not relevant it might not be as effective as it should be

R : Does using Kahoot disrupt the main learning process?

DRB : No, not really. It can even be used as an icebreaker.

DLR : It depends—if it's not directly related to the subject being

taught, it might feel a bit distracting

From these responses, the researcher may deduced that gamification tools like Kahoot! doesn't stray away from the core of learning activity, they can actually serve as a useful icebreaker, bringing students back on track between classes. However the effectiveness of the platform becomes questionable if there are no relevant materials shown, and alligned content with the subject being taught.

i. Recommended Features for Future Use

One of the participant responded that the recommended feature the one might be interested in using are the feedback features, avatars etc.

- **R** : If you were to recommend Kahoot as a learning tool, what features would you highlight?
- **DRB : The avatars, name options, and feedback features.** The visuals and avatars make it more engaging and could encourage teachers to use it more often in classrooms.

From this response, the researcher may deduced that the participant appreciate aspects which encourage engagement, interactivity when recommending Kahoot as an educational tool. Avatars, names, feedback options were found to be appealing, and could be promoted more so that teachers could utilize the gamification platform more frequently.

Discussion

The discussion of the collected data reveals insightful perspectives in the usage of gamification underscoring its effect on the reading comprehension. Based on previous research, it is stated that the use of gamification resulted in a highly positive experience for students that significantly boosts both their focus and engagement activity (Plump & LaRosa, 2017) and that the use of the gamification platform resulted in increase of students engagement and attention of the subject of the lesson (Mohd Muhridza et al., 2018). Wirani et al., (2022) showed that the element of competitiveness, and enjoyment are proven to affect the continued use, meaning that the use of Kahoot! in the classroom enhances the students' competitive drive, which engage their motivation to learn more and be better about the current subject which is proven in this study.

Based on the result of open ended questionnaire it can be concluded that the use of gamification showed a positive statements towards gamification. It has shown a significant impact on enhancing student reading comprehension through engagement and motivation in the learning process. Respondents frequently mentioned how gamification transformed their learning experience into an enjoyable challenge, making it easier for them to stay focused and interested. For example, one participant noted that, "Learning by using gamification makes it easier for me to learn because it feels like a challenge." Another participant shared, "Gamification makes learning enjoyable and motivates me to read more deeply." Respondents shared that the use of gamification added excitement to activities like reading comprehension, which traditionally perceived as boring or difficult. One of the participants stated that, "It's fun because everybody loves to play games." Another one stated, "Gamification makes the atmosphere more exciting and relaxed so that it is not tense and also builds a competitive spirit in us."

Based on the interview result most of the participants indicated that they had a positive perception towards gamification. One of the participant stated that "It was fun! Using Kahoot made the lessons less boring and it encouraged a competitive spirit." In the interview the use of gamification also raises their competitive spirits which make them motivated into taking part in the gameplay and based on previous study by Bhuana, (2023) it is proven that Kahoot! can increase students motivation through competition as their score are displayed on screen. Beyond competitiveness, students emphasized the importance of the visual and interactive elements in gamification, gamification features such as: avatars, customizable names, and immediate feedback were praised for creating an engaging and immersive learning experience. As one participant noted, "The visuals make it enjoyable and encourage teachers to use it more frequently." Participants shared that competitiveness encouraged them to complete tasks, even if they might not initially have been inclined to participate as stated by one participant, "If Kahoot didn't have a ranking system, I don't

think anyone would be as excited to participate."

Based on the focus group discussion the researcher found that the use of gamification affected their reading comprehension by enhancing their skimming skills therefore making them able to answer faster and correctly, however the usage of gamification for deeper comprehension learning may not be perceived as beneficial as the initial use due to their time pressure and the length of reading materials. The theme of competitive aspect still emerge in the focus group discussion and all of the participants agree that the gamificaton element that strongly affect students' reading comprehension is the leaderboard from the gamification platform. The competitive aspects motivate students to participate more and put in more effort to achieve higher rank, and the visual features like avatars, customizable names, and feedback also make learning more engaging and can encourage teachers to use gamified platforms more often. In conclusion, the combined analysis of questionnaire, one-on-one interview, and focus group discussion provided compelling evidences of the impact of gamification on student engagement, motivation in the context of reading comprehension. Leaderboards, time limit, and challenges emerged as powerful tools for fostering competition and focus, while visual and interactive elements added to the overall appeal. However, the limitations mentioned from the participants particularly in addressing deeper comprehension emphasize the need for balanced and thoughtful application of gamification particularly in reading comprehension context.

CONCLUSION

Based on the discussion in the previous chapter, the researcher draws conclusions regarding the results of the research that has been conducted. The results of this research are presented to answer the research question of the study. Overall, from this research it can be concluded that the use of gamification in reading comprehension resulted in a positive note. Most participants agreed that the motivating and engaging aspect of the gamification affected their reading comprehension ability by enabling them to read better, focus better, and answer faster for the best result in the future, the classroom atmosphere also affected their reading comprehension as it makes students feel more at ease and relaxed therefore enjoying the lesson that is considered mundane by most people. The gamification elements that strongly affected their reading comprehension are leaderboards, time limits, challenges, visual aspect, and their immediate feedback, which makes them motivated and pleasantly entertained while also still learned about the lesson presented by their educators

REFERENCES

- Al-Khamaiseh, H. S., & Al-Jamal, D. A. (2022). The Effect Of Using Kahoot On Jordanian EFL Ninth-Grade Students' Reading Comprehension. Journal of Positive School Psychology, 6(6), 757–770. http://journalppw.com
- Alfan, L. M., Ihsani, F., Hasani, M. T., Al, M., Akma, F., & Jaelani, S. R. (2023). Exploring The Impact of Technology in Enhancing English Reading Skill. Jurnal Pendidikan Berkarakter,

1(4), 266–276. https://doi.org/10.51903/pendekar.v1i4.322

- Chiang, H. H. (2020). Kahoot! in an efl reading class. Journal of Language Teaching and Research, 11(1), 33–44. https://doi.org/10.17507/jltr.1101.05
- Costley, K. C. (2014). The Positive Effects of Technology on Teaching and Student Learning. Management in Education, 11(3), 29–30. https://doi.org/10.1177/089202069701100315
- Creswell, J. (2013). QUALITATIVE INQUIRY & RESEARCH DESIGN Choosing Among Five

Approaches 3rd EDITION. In SAGE Publications, Inc. (Vol. 3, Issue 3). http://link.springer.com/10.1007/978-3-319-59379-1%0Ahttp://dx.doi.org/10.1016/B978-0-7%0Ahttp://dx.doi.org/10.1016/j.ab.2015.03.024%0Ahttps://doi.org/10.1080/0735268 9.201 8.1441103%0Ahttp://www.chile.bmw-motorrad.cl/sync/showroom/lam/es/

- Creswell, J. W., & Creswell, J. D. (2018). Mixed Methods Procedures. In Research Defign: Qualitative, Quantitative, and Mixed M ethods Approaches.
- EF. (2023). EF English Proficiency Index 2023 Indonesia. 79, 2.
- Freiermuth, M. R., & Ito, M. (2022). Battling With Books: The Gamification of an EFL Extensive Reading Class. Simulation and Gaming, 53(1), 22–55. https://doi.org/10.1177/10468781211061858
- Hakulinen, L., Auvinen, T., & Korhonen, A. (2015). The Effect of Achievement Badges on Students' Behavior. International Journal of Engineering and Technology, 10(1), 18– 29. http://dx.doi.org/10.3991/ijet.v10i1.4221
- Hew, K. F., Huang, B., Chu, K. W. S., & Chiu, D. K. W. (2016). Engaging Asian students through game mechanics: Findings from two experiment studies. Computers and Education, 92–93, 221–236. https://doi.org/10.1016/j.compedu.2015.10.010
- Huang, B., Hew, K. F., & Lo, C. K. (2019). Investigating the effects of gamificationenhanced flipped learning on undergraduate students' behavioral and cognitive engagement. Interactive Learning Environments, 27(8), 1106–1126. https://doi.org/10.1080/10494820.2018.1495653
- Joseph, H. S. S. L., Bremner, G., Liversedge, S. P., & Nation, K. (2015). Working memory, reading ability and the effects of distance and typicality on anaphor resolution in children. Journal of Cognitive Psychology, 27(5), 622–639. https://doi.org/10.1080/20445911.2015.1005095
- Kaban, A. L. (2021). Gamified E-Reading experiences and their impact on reading comprehension and attitude in EFL classes. International Journal of Mobile and Blended Learning, 13(3), 71–90. https://doi.org/10.4018/IJMBL.2021070105
- Klock, A. C. T., Gasparini, I., Pimenta, M. S., & ... (2020). Tailored gamification: A review of literature. In International Journal of Elsevier. https://www.sciencedirect.com/science/article/pii/S1071581920300975
- Licorish, S. A., & , Helen . Owen, B. D. and J. L. G. (2018). Student perception Kahoot. Research and Practice in Technology Enhanced Learning, 13(9), 1–24.
- Marsa, S. S., Kuspiyah, H. R., & Agustina, E. (2021). The Effect of Kahoot! Game in Teaching Reading Comprehension Achievement. JET (Journal of English Teaching), 7(2), 133–149. https://doi.org/10.33541/jet.v7i2.2738
- Mohd Muhridza, N. H., Mohd Rosli, N. A., Sirri, A., & Abdul Samad, A. (2018). Using Game based Technology, KAHOOT! for Classroom Engagement. LSP International Journal, 5(2), 37–48. https://doi.org/10.11113/lspi.v5n2.77
- Moncada, S., & Moncada, T. (2014). Gamification of Learning in Accounting Education. Journal of Higher Education Theory and Practice, 14(3), 9–19.
- O.Nyumba, T., Wilson, K., Derrick, C. J., & Mukherjee, N. (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation. Methods in Ecology and Evolution, 9(1), 20–32. https://doi.org/10.1111/2041-210X.12860
- Oliveira, W., Hamari, J., Shi, L., Toda, A. M., Rodrigues, L., Palomino, P. T., & Isotani, S. (2023). Tailored gamification in education: A literature review and future agenda. In Education and Information Technologies (Vol. 28, Issue 1). Springer US. https://doi.org/10.1007/s10639-022-11122-4

- Ozdamli, F. & Asiksoy, G. (2017). Determination of university students' most preferred mobile application for gamification. World Journal on Educational Technology: Current Issues, 8(1), 18–23.
- Plump, C. M., & LaRosa, J. (2017). Using Kahoot! in the Classroom to Create Engagement and Active Learning: A Game-Based Technology Solution for eLearning Novices. Management Teaching Review, 2(2), 151–158. https://doi.org/10.1177/2379298116689783
- Pratiwi, C. P. (2020). Analisis Keterampilan Membaca Permulaan Siswa Sekolah Dasar: Studi Kasus pada Siswa Kelas 2 Sekolah Dasar. Jurnal Pendidikan Edutama, 7(1), 1. https://doi.org/10.30734/jpe.v7i1.558
- Rohimah, S. (2021). Reading difficulties and factors affecting reading difficulties of students of grade 1 elementary school. LADU: Journal of Languages and Education, 1(5), 189–195. https://doi.org/10.56724/ladu.v1i5.85
- Skjott Linneberg, M., & Korsgaard, S. (2019). Coding qualitative data: a synthesis guiding the novice. Qualitative Research Journal, 19(3), 259–270. https://doi.org/10.1108/QRJ-12-2018-0012
- Taherdoost, H. (2022). Designing a Questionnaire for a Research Paper: A Comprehensive Guide to Design and Develop an Effective Questionnaire. Asian Journal of Managerial Science, 11(1), 8–16. https://doi.org/10.51983/ajms-2022.11.1.3087
- Tóth, Á., Lógó, P., & Lógó, E. (2019). The effect of the kahoot quiz on the student's results in the exam. Periodica Polytechnica Social and Management Sciences, 27(2), 173– 179. https://doi.org/10.3311/PPso.12464
- Wicks, D. (2017). The Coding Manual for Qualitative Researchers (3rd edition). In Qualitative Research in Organizations and Management: An International Journal (Vol. 12, Issue 2). https://doi.org/10.1108/qrom-08-2016-1408
- Wirani, Y., Nabarian, T., & Romadhon, M. S. (2022). Evaluation of continued use on Kahoot! as a gamification-based learning platform from the perspective of Indonesia students. Procedia Computer Science, 197, 545–556. https://doi.org/10.1016/J.PROCS.2021.12.172