

## Reading engagement, achievement and learning experiences through Kahoot

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**Abstract:** Side-synchronizing between English reading teaching and learning and latest technology is highly encouraged to happen nowadays in order to get better learning achievement. The main purpose of this study was to find out the effect of Kahoot! on reading comprehension. This study involved 244 students of one of the established private universities in East Kalimantan. Data analysis was conducted using descriptive statistics in the form of frequency, mean, standard deviation and t – test. The results showed that the students' reading comprehension taught using Kahoot! was higher than that of those without Kahoot! Furthermore, their cognitive, psychomotor and affective learning attitudes showed positive and significant effects as well. Based on the findings, it implies that online media like Kahoot! is strongly recommended to be used in reading teaching and learning process. It is expected that the finding would enrich and enlighten the relevant literature of the area.

**Keywords:** Kahoot, Reading comprehension, Higher Education, Student Engagement, Student Experience

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## INTRODUCTION

At present, the educational system still adopts a traditional framework for teaching. This is in great contrast to the outside world where everything is done using digital tools, with lots of visual impacts and quick updates to engage people towards regular use of an app, becoming a loyal customer or engaging in sporting activities. In recent years, a new trend called gamification has evolved as an approach to engage and encourage active participation (Bista et al., 2012). By definition, gamification is the use of game elements in a non-game context (Deterding et al., 2011). It is important to separate play, which is a free form of action, and games to entertain from serious games that usually encompass real-world activities (Barata et al., 2013).

Gamification means utilizing the motivational and emotional power of games for other purposes not solely related to the entertaining purposes of the game itself (Sailer et al., 2014). One purpose could be to engage and boost student activity during a lecture or even to create a positive change in attitudes towards studying and taking exams. In gamification studies, it was found that apart from physical awards, an internally motivated goals setting and competence could have important effects on work engagement. It has been argued that computer technologies are convincing for permanent changes in human behaviors, they may have an effective role combining with motivation. Gamification applications may be justified as necessary for students to think and create alternative atmospheres, and for creating a competitive environment.

Gamification can be explained through three distinctive concepts; dynamics, mechanics, and components. Game mechanics have rules and rewards, they arouse certain feelings (curiosity, competitiveness, frustration, happiness, etc.) in the player. In most of the gamification attempts; point, badges and leader-boards are used in order to convince the participants and change their behaviors. Attention must be paid that the elements were not games and how those factors of the game are combined for

making the game entertaining. Understanding the roles, motivations and behaviors of the users is required in order to be able to look beyond the game's design components such as game mechanics and dynamics.

In educational setting, teachers are expected to be able to send messages to the students effectively. In doing so, they make use of media in their teaching such as pictures, realia, real objects, or technology in order to deliver the point of the discussion. There are various kinds of media teachers can use in teaching process, including in the teaching of reading. Pan and Wu (2013); Yang et al. (2018) stated that the conventional instructions in teaching learning process on reading comprehension class is still dominant in most EFL context. The teachers provide the reading class with only text explanation, vocabulary illustration, grammar instruction, and intensive drills on the language forms (Jin & Cortazzi, 2002; Pan & Wu, 2013; Wei, 1996). These traditional methods make students' focus more on linguistic accuracy and rote learning. Furthermore, teachers usually act as the sole source of language knowledge, and students are treated as passive learners, rather than active learners, and exhibit limited autonomy (Ning, 2011).

Zooming into the issue of reading comprehension, recently, the teaching of reading comprehension has changed to be more student-centered and communication oriented (Brown, 2007). Besides, technology is involved as well (Leu et al., 2008), Suh (2009) stated that teaching reading comprehension must be a meaning making and self-directed task, and should be advanced to the level of inspiring certain communicative approaches into the reading classes. Furthermore, in the context of learning EFL reading, it calls for more cooperation, interaction and sophisticated learning methods.

One of the promising alternatives to the use of traditional teaching methods in reading comprehension classes is by utilizing online learning, which emphasizes interaction and communication and improves the socio-linguistic students' achievement (Bolukbas et al., 2011; Gömleksi'z, 2007; Leu et al., 2008; Ning, 2011; Pan & Wu, 2013; Tsai, 2004). The use of online learning media also interferes the process of teaching. Based on these theory, the researchers aim to try the use of adaptive media that include educational games content named Kahoot.

According to Kapuler (2015), Kahoot is one of the top 100 new apps to use in the classroom and even it sits at number 36 on the list of apps related to educational trends. Kahoot is also advantageous in educational trends as it is including gamification and students engagement (Ciaramella, 2017). Siegle (2015) defined Kahoot as an online game that can test the knowledge of the students on English reading skill. Even though it is a simple free multimedia online media for both teachers and students, the character is limited up to 95 for questions and 60 for answers. This quiz maker media contains various media such as pictures or videos which can be limited for its time to answer the questions provided. The application can be accessed through laptops, smart-phones, or other devices. In fact, his study showed participants like to continue to play Kahoot after every lecture and they thought that they learned something from playing Kahoot (Wang, 2015). Students like to play game in Kahoot because it brings something to learn and their boredom disappears when playing game in Kahoot. In conclusion, Kahoot is the an alternative medium that can engage students' motivation in learning. Therefore, this study is conducted in order to find out the effects of Kahoot! on students' reading comprehension, engagement and learning experience.

## **Literature**

### **Gamification**

In recent years, gamified learning environments have spread to fulfill the needs of both teachers and students from the most basic level to the complex one. Furthermore, applications and platforms with different visual representations and eased usability parameters meet with the needs of K-6 (e.g. ClassDojo, Socrative, Schoooooools.com) all the way up to higher education (e.g. Classflow, Google School) (Simões et al., 2013). Applying gamification in higher education can be effective where a digital learning management system (LMS) is in use, for example, Moodle or BlackBoard (Bernik et al., 2017). Students can access different study materials, communicate with each other and teachers and individually and constantly test their knowledge online. Teachers can prepare course materials and setup reviews, grade and also monitor students' activities (Dečman, 2015). A reason behind the popularity of Moodle could be that new features and modifications can be implemented at a minimal cost. On the other hand, the lack of dedicated support could be a drawback (Machado & Tao, 2007). From the

gamification point of view, both systems have the possibility to implement basic (e.g. PBL, Avatar, Progress Bar) and somewhat advanced (e.g. levels) and personalized game design elements. After discussing the theories and possibilities of gamification in education, the practical application can be introduced to the students then.

In terms of enhancing motivation, concentration, effort and positive attitudes, gamification can be accepted as an important means in non-game contexts like classrooms. In classroom settings, gamification can be applied as a strategy that is gradually gaining popularity and has become common in educational environment. According to Dellos (2015), “game-based learning which provides a best practice in education and teaching methods which give ways for teachers to integrate competitive games in the classroom that promote learning is essential for educators in the twenty first century”. Games have some features like goals, rules and some specific standards. They are all voluntary activities in common. By establishing time limits and a set of rules, games serve as an incentive element to engage participants. Also in learning and teaching process, games play an important role and can contribute much to education. Activities, tasks, assignments and all elements used during teaching process can be gamified. This will enhance success as it creates an improves the level of learners’ motivation. More-over, teachers support the idea behind gamification because they think that it increases motivation and creativity among learners. Also, reward and feedback system of gamification increases the achievement levels of learners. As motivation, curiosity, excitement and joy are the most important elements of successful learning and teaching, it means that all activities that are gamified can be used as a source of motivation and fun in class.

Gamification provides lots of opportunities for both learners and teachers. In a foreign language learning context, these kinds of activities are considered to foster learning and increase the pace of achieving the learning outcome because learners participate actively in the process. It also enables learners to feel in a relaxed and confident atmosphere in the class and this triggers social and communicative skills of learners that are necessary while learning a foreign language. That is why the activities prepared by the teacher should be evaluated and determined carefully beforehand. Teachers should keep in their minds that these kinds of gamified activities should be arranged according to the needs, level, personality, age, and interest of the learners; otherwise these activities will lose their meanings to make learners reach successful learning and have fun at the same time. When these characteristics and contributions of games and gamified activities are taken into consideration, the pedagogical value of them cannot be ignored.

#### Kahoot enhances learning experience

Clark and Mayer (2016) noted that the benefits gained from the use of new technology will depend on the extent to which they are used in ways compatible with the learning process. Regarding Kahoot, utilizing it is believed to help support students’ metacognition by providing them with immediate feedback. Kahoot also offers an opportunity to not only assess students’ conceptual understandings but also support the construction of new knowledge and understanding through further explanation during or after the game. A study in two different business courses carried out by Plump and LaRosa (2017) addressing students' experience using Kahoot yielded a result of an 88.7% positive response rate. Overall, utilizing Kahoot is a positive experience that imbues the classes with activity and focus as well as provides a way for all students, not just the extroverted students, to participate and contribute to the learning environment.

#### Kahoot enhances student engagement

Raymer (2013) reinforced that engagement and learning go hand in hand and that one cannot go without the other. Perhaps most significantly, the “gamification” of learning increases student engagement by appealing to all students, combining both a cooperative fast-paced learning environment and friendly competition (Kapp, 2012). Bergin and Reilly (2005) stated that the use of games to promote students’ learning has been done to capture students’ interest as all of us learn better when we are motivated. Caldwell (2007) asserted that engaged students have a high level of involvement that lead them to prepare themselves better for the class, pay more attention, take good notes, think and be able to recall material from previous lectures.

### Kahoot enhances student collaboration

Collaborative learning occurs when students work together in small groups toward a common goal, creating meaning, exploring a topic or improving skills (Prince, 2004). It increases the ability to think critically, enhances student involvement, satisfaction, engagement and higher-order learning, and encourages students to participate in giving the answer, explaining and justifying their opinion (Lantz, 2010). Stowell and Nelson (2007) further addressed that the effect of active collaborative learning on student performance is further enhanced when it is combined with the use of technology. With respect to the technology studied in this paper, Kahoot enables students to cognitively process questions asked by the teacher and to increase participation by introducing important changes in the class format because it fosters the processing of new concepts and the integration with prior knowledge, and encouraging students to discuss ideas and debate points of view critically (Mayer et al., 2009). Kahoot facilitates the development of active learning and students' contribution to knowledge creation, so that students feel that they are participating in their own learning.

By stimulating two-way communication during the process of answering questions and in the discussions about the correct answers, PRSs increase the degree of perceived interactivity in the classroom both among students (interactivity with peers) and between the students and the teacher (interactivity with teacher). Interactivity is conceived as a critical element in the learning process. It stimulates students to participate in the classroom active collaborative learning (Guthrie & Carlin, 2004; Thalheimer & Ali, 2003), and to develop a sustained behavioral involvement in learning engagement (Carnaghan & Webb, 2007; Kay & LeSage, 2009). The presence of these two elements is instrumental in enhancing students' learning performance. Only when students actively collaborate in the learning process can the teacher adapt the pace, style and topic of the lecture to better fit the students' needs, identify any misunderstandings so as to clarify them properly and punctually, and make sure that they have understood all the materials before continuing with the next learning step.

### METHOD

This study belongs to the quantitative type of research. It specifically features the experimental research method to find out the effect of Kahoot on students' reading comprehension. The statistical features used were descriptive statistics in the form of frequency, mean, and standard deviation. Furthermore, a t-test procedure was administered in order to find out the effect of Kahoot on students' reading comprehension. In addition to the quantitative type, this research also used qualitative data as the back-up. The qualitative data were collected by doing intensive observation and a little informal interview if needed. In conducting the research, there were 244 undergraduate students of an established private university in East Kalimantan, Indonesia involved. They were divided into two equal groups i.e. the control group that consisted of 122 participants and the experimental group which consisted of 122 participants. In collecting the data, the researcher used a reading test as the main instrument. It was a reading comprehension test using multiple matching which was then modified using multiple choice test questions in order to adjust to the application standard of Kahoot.

### RESULT AND DISCUSSION

Based on the calculation results of the N-Gain Score test, the results showed that the average value of the N-Gain Score in the Experimental group that used Kahoot in the lecture process was 56.6516% or 57%. Referring to the interpretation of the effectiveness of the N-Gain, it fell into the category of Quite Effective with a minimum M-Gain value of 27.3% and a maximum value of 80%. As for the control group, the average was 7.6959% or 7.7%. It means the use of lecture methods without Kahoot in the class was categorized as Ineffective category.

Seen from the post-test score, based on the results of the Group Statistics calculation on Table 1, it is found out that the average value of the post-test for the control group was 61.05 while the experimental group reached 84. Thus, statistically, it can be concluded that there was significant difference in terms of learning outcomes between the the experimental group which used Kahoot and the control group which didn't use Kahoot. and In other words, the use of kahoot is effective in teaching reading comprehension. In addition, it also helped improve the overall reading outcomes of the students.

**Table 1.** Group Statistics Result

		Group Statistics			
	Group	N	Mean	Std. Deviation	Std. Error Mean
Post-test	control	122	61.05	9.27	0.839
	experiment	122	84	3.839	0.348

Based on the results of the t-test from both groups, it can be concluded that the use of Kahoot is quite effective in teaching reading comprehension to the students. On the contrary, lecturing method is considered ineffective. This is proven from the significant success of the learning outcomes attainment. Referring to Table 2, the score of the Sig. (2-tailed) was  $0.001 < 0.05$  It means that there was a difference in achievement of reading outcomes between the control and the experiment groups. The students in the experimental group, that used Kahoot to support their learning activities, showed significant learning outcomes compared to the control group that used the conventional lecturing method without Kahoot.

**Table 2.** Independent Sample Test

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Posttest	Equal variances assumed	56.498	0,001	25.265	242	0.001	-22.951	0.908	-24.740	21.161
	Equal variances not assumed			-25.265	161.317	0.001	-22.951	0.908	24.745	21.157

Furthermore, considering the results of the observation result, it could be summed up that the learning of reading comprehension using Kahoot gave more positive effects. The effects were seen on all aspects of cognitive, psychomotor, and affective. As these aspects improved, they caused the students' reading comprehension to be better because the students were more active in working with these three individual aspects of theirs. The process of learning in general also showed good result as the students were able to better understand and be ready to do the test.

Regarding the research results, they're practically in line with the results of the studies concerning Kahoot!'s applications within the teaching learning process which were previously conducted by other researchers. Among these studies are as follow: First is the study of Wang (2015) and Bicen and Kocakoyun (2018) who conducted almost similar study with the present study. It researched the university students' motivation and lecturers which proved to be a great success and found in finding out that there was a positive impact of gamification through Kahoot! on the students' willingness to explore more on the lecture. The second is the study by Damara (2016). The results of this study It showed that Kahoot! used as the ice-breaker was beneficial to increase the students' motivation in learning the materials.

Considering the results of these previously conducted studies and the present study, it can be concluded that the use of Kahoot! is beneficial to the betterment of the ELT learning process, including reading.

### CONCLUSION

In ELT setting, teachers have to face the fact that the need of including a game based technology in language classrooms is more tangible by time. Teachers have to face that learning happens every day, and it is hard sometimes, particularly in the case of delayed gratification or accomplishment of the students. And they need to find solution for that situation. Games can be an alternative as they add motivation to learning activities and therefore, it they should not be underestimated. Fortunately, there have been technological forms and applications that are available for teachers nowadays, one of them is

Kahoot. Kahoot, which is known to be successful online learning media, can be used as an alternative tool in engaging students to be more active in the learning process. Therefore, the use of Kahoot is highly recommended for teachers.

Referring to the results of this study, it concludes that the use of Kahoot in improving students' reading comprehension ability is proven positive and significant. In addition, the use of Kahoot is also proven to be able to improve the students' learning attitude on all aspects of cognitive, psychomotor, and affective. As these aspects improve, they cause the students' reading comprehension to be better because the students are more active in working with these three individual aspects of theirs. The process of learning in general also shows good result as the students are able to better understand and be ready with their learning journey.

Considering the results of the research, it can be concluded that the the use of Kahoot! is beneficial to the betterment of the ELT learning process, including the learning of reading. Therefore, ELT teachers are highly encouraged to use Kahoot in their classes.

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