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Using game-based learning on students' reading comprehension in recount text: Kahoot Application

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Abstract. *The difficulty of students in reading comprehension require fun learning so that students are happy and motivated to learn. Learning can be done by using game-based learning especially the use of game-based learning media can make students interested in learning. Moreover, reading comprehension has benefits for students because it can add other skills for students. Many learning-based games can be applied, one of which is the Kahoot application. Kahoot application is one of the learning-based games that can be easily accessed by teachers and students. This study aims to determine whether there is a difference in students' reading comprehension before and after the application of Kahoot application. This study used quantitative research with a pre-experimental approach. The data in this study used pre-test and post-test scores. A total of 20 students from class VIII were involved in this study. The data analysis technique in this study used paired sample T-test. The results of the use of game-based learning showed that game-based learning Kahoot application can improve students' reading comprehension as evidenced by the increase in post-test scores.*

Keywords: Learning media. Game based learning, Kahoot application

Abstrak. *Kesulitan siswa dalam membaca pemahaman membutuhkan pembelajaran yang menyenangkan agar siswa senang dan termotivasi untuk belajar. Pembelajaran dapat dilakukan dengan menggunakan pembelajaran berbasis game terutama penggunaan media pembelajaran berbasis game dapat membuat siswa tertarik untuk belajar. Terlebih lagi, membaca pemahaman memiliki manfaat bagi siswa karena dapat menambah keterampilan lain bagi siswa. Banyak pembelajaran berbasis game yang dapat diterapkan, salah satunya adalah aplikasi Kahoot. Aplikasi Kahoot merupakan salah satu game berbasis pembelajaran yang dapat dengan mudah diakses oleh guru dan siswa. Penelitian ini bertujuan untuk mengetahui apakah terdapat perbedaan pemahaman membaca siswa sebelum dan sesudah penerapan aplikasi Kahoot. Penelitian ini menggunakan jenis penelitian kuantitatif dengan pendekatan pra-eksperimen. Data dalam penelitian ini menggunakan skor pre-test dan post-test. Sebanyak 20 siswa dari kelas VIII terlibat dalam penelitian ini. Teknik analisis data pada penelitian ini menggunakan paired sample T-test. Hasil dari penggunaan pembelajaran berbasis game menunjukkan bahwa pembelajaran berbasis game aplikasi Kahoot dapat meningkatkan pemahaman membaca siswa terbukti dengan adanya peningkatan skor post-test.*

Kata kunci: Learning media. Game based learning, Kahoot application

I. INTRODUCTION

The use of learning media in the teaching and learning process in the classroom is very important so that students can be more interested and can understand the material being taught well. According to Ge, the development of increasingly developed technology has produced many media that can be used such as videos, images, animations and audio designed for learning [1]. The use of technology can assist teachers in developing a variety of engaging applications [2]. Utilizing technology with learning can create an effective learning atmosphere for students who are slow in learning, stimulate students to work on practice questions and can adjust the pace of learning according to students abilities [3]. Learning media is one of the technologies that can have an impact on education. It involves exchanging knowledge and skills in the form of information [4]. Learning by using games makes tools that can help students solve problems, improve students' thinking skills and can make assessments in the teaching and learning process [5]. Students can be motivated by using learning techniques using games because interactive learning media can stimulate students internally [6]. Designing interactive learning activities that may gradually introduce concepts and direct students toward a desired outcome is known as game-based learning. Additionally, it encourages the development of students' soft skills and welfare in a dynamic, pleasant, and playful learning environment [7]. Game-based learning encourages learning in an enjoyable way and supports student motivation to boost involvement in the educational process [8]. In game based learning there are elements that can be applied to learning. There are several elements that exist in game based learning: rules, immersive, enjoyment, feedback, multimedia technology, challenge and competition and rewards [9].

The Kahoot application is a web based learning application related to games learning, Kahoot is a platform for game based learning that is used to increase student understanding, and as a new innovation in learning in this modern era [10]. Kahoot is an interactive learning media because Kahoot can be used for the learning process in class such as practice questions, materials, and more adequate features in Kahoot make quizzes clear and easy for users [11]. Kahoot is a system for answering questions for students based on games and intended to change the classroom atmosphere by playing technology-based games in learning [12]. Reading skill is one of the four skills that must be mastered by students in learning English. However, this English skill is still a problem, this is caused by the lack of students who are not used to reading English. Reading skill is one of the important skills in learning English [13]. Reading comprehension is the interaction between the reader and the text being considered to gain knowledge and insight from the text in question. When looking for information and suggestions, readers not only read but also analyze the text to get some ideas from it [14]. Reading is a valuable skill and requires great attention because reading can develop other skills including listening and speaking skills [15]. Therefore the importance of students in reading comprehension because reading is one of the four skills that must be mastered in learning English. So the use of Kahoot media as a way to help students understand the process of reading through recount text.

According to Arif, Kahoot was used as a game based learning tool, especially in reading skills, giving teachers the opportunity to use Kahoot to take scores simultaneously. Through Kahoot you can work together with groups of students and also compete with other groups. The results obtained are that the use of Kahoot can improve students reading comprehension skills [16]. In research by Pratiwi, it was found that Kahoot can be used in improving student skills regarding the simple present tense in descriptive text. The researcher collected data through classroom action research in three cycles. The author observed the

improvement of students in mastering simple material by collecting data through observation checklists, field notes and test multiple choice. This research was conducted in class X Senior high school [17]. In a study by Nugroho, it was found that there was an increase in students reading comprehension in seventh grade students at SMPN 2 Tegalrejo by using the Kahoot application as a learning media. The data collection that the researcher did was using a descriptive descriptive research type with data collection, observation, data reduction, data presentation, and drawing conclusions [18]. In research conducted by Çetin, aims to investigate the use of Kahoot as a digital assessment tool in elementary schools. Using qualitative and quantitative research methods with survey techniques used to collect and descriptive analysis techniques to collect data to be analyzed [19]. Based on research by Yürük, it was found that students were able to follow well in lessons and students were able to master English effectively. Students also enjoyed learning with games, namely using the Kahoot application. This study discusses the use of games combined with traditional classes to create new strategies in learning. This type of research is quantitative by collecting data through questionnaires [20].

From the five studies above, there was an increase in students using the Kahoot application media in learning. The five studies discuss using several skills by going through some of the materials used in the learning process. This type of research on average uses a descriptive quantitative. For this study, researchers used the Kahoot application as a learning media on reading comprehension in recount texts.

The Kahoot application is a web based learning application, also known as web-based learning. Because they offer a motivating learning environment, playing games can influence students level of confidence in learning [21]. Kahoot is an online game application there are various features, one of which is a quiz that can be used in training students' reading comprehension. The teacher chooses the classic game mode all students in the class can play using a smartphone or laptop students enter the pin that has been given by the teacher then type the student's name. The students understand the reading text while playing the quiz contained in the application. Feedback will appear every time students finish working and rewards appear when students finish doing all the quizzes in Kahoot [22]. Reading comprehension has benefits for students who can add skills to students. Reading comprehension also provides skills for students to analyze and evaluate various types of data from reading texts [23]. A recount is a piece of writing that describes prior experiences or events, which may be based on the author's own life or actual historical occurrences [24].

The update that distinguishes this research from previous studies is the first from the location that has different characteristics from previous studies and this location has never used the Kahoot application as a learning media. The use of the Kahoot application is on average used as a digital assessment tool in this study the Kahoot application as a treatment tool and not only quiz games there is material about recount text. The subjects in this study used a different population, namely using eighth grade as many 20 students and the research method in the previous study used descriptive quantitative methods in this study using experimental quantitative methods.

Based on the results of the pre observation carried out by researchers on November 4, 2022 at SMP Muhammadiyah 4 Gempol, the teacher only uses video as a learning media in class by looking at this, it is necessary to have new learning media used during the learning process, especially in learning English which can be used as a media that can make learning not monotonous, especially in reading skills where students still have difficulty. In the eighth grade of junior high school it has been found that students are still unable

to understand reading and there are still students' difficulties in reading skills. Researchers use the Kahoot application as game-based learning media that is use to help students understand reading through learning recount text material because the media that has been used is felt to be insufficient to improve students' reading comprehension.

This study aims to determine the results of using the game-based learning Kahoot application in improving students reading comprehension. The results of the pre-observations that have been carried out by researchers indicate that there are still many students who have difficulty understanding a reading text. Based on these objectives, research question is: Is there any different on students reading comprehension before and after the implementation of Kahoot application?

II. METHODOLOGY

This research conducted by using a type of quantitative research, quantitative research is a set of constructs or interrelated variables that are formed into propositions, or hypotheses, which determine the relationship between variables. Using a pre-experimental approach to organize the research data and to know the effect of using the Kahoot application in SMP Muhammadiyah 4 Gempol, the researchers uses one group and provides treatment using the Kahoot application. This design does not have a control group to compare with other designs [25].

Research Variable

There are causal variables (X) or independent variables (Independent variables) and effect variables (Y) or dependent variables in research that examines the impact of a treatment [26]. The independent variable (X) of this study is the effect of Kahoot application for teaching reading comprehension. Dependent variable (Y) in this study is reading comprehension achievement at eight grade of SMP Muhammadiyah 4 Gempol.

Population

This study use a population of 20 students of eight grade at SMP Muhammadiyah 4 Gempol.

Sample

The sample in this study is use saturated sampling, this saturated sampling technique is used when the study uses all members of the population to be sampled. Saturated sampling is a technique that uses the entire population as a sample and is also referred to as a census. If there are fewer than 100 people in the total population, the entire sample is taken, however if there are more than 100 people, it is possible to take 10-15% or 20-25% of the total population [25].

Data instrument

The data in this study is collected by test. The test consists of a series of questions or exercises as well as other instruments that are used to evaluate a person's or group's knowledge, skills, abilities, or talents [26]. In this study, researchers use pretest and post-test. Pre-test before giving treatment, the researchers use the pre-test to determine students' first reading comprehension. Before the teaching and learning process with the Kahoot application. Then it use the post test, the post-test provides a measure of students' abilities after the treatment of using the Kahoot application as a media for learning students' reading comprehension.

The instrument has been tested by 2 expert lecturer validators and by validity test through spss. In the r table with a sample of N 20, namely 0.4227 the results obtained show that all instruments consisting of 10 questions produce r Count > r Table so that all instruments are valid.
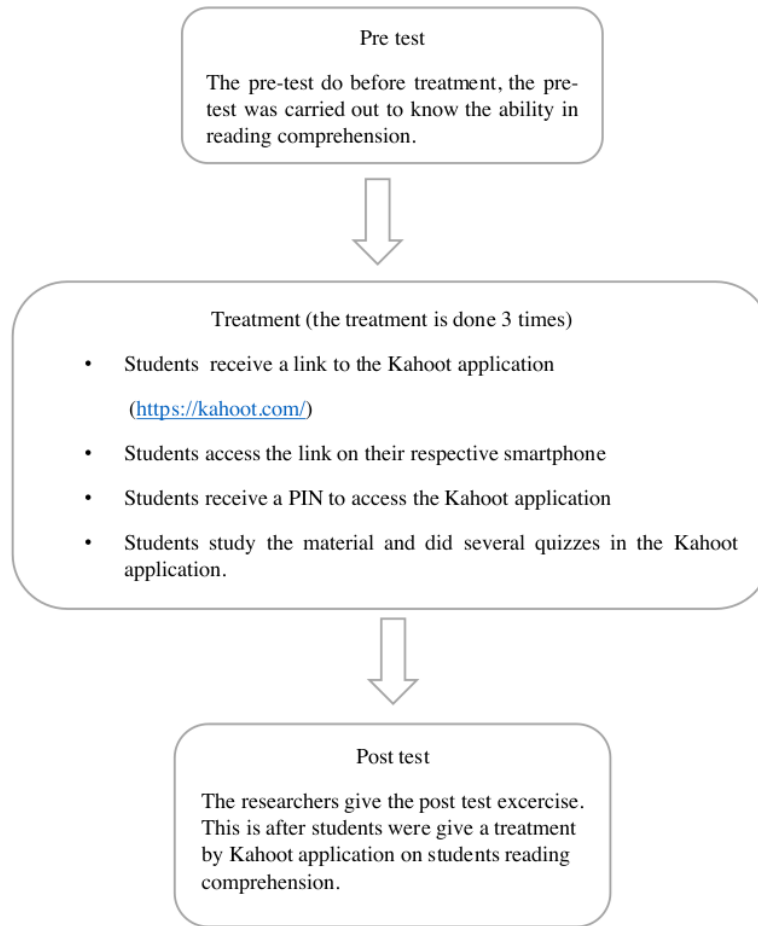
Data Collection

1. Pre test

   The pre-test gave before treatment, the pretest was carried out to know the ability in reading comprehension. The test is consists of 15 questions researchers gave 10 multiple choice and 5 essay questions of reading, and the students do the test individually.

2. Post test

   The researchers gave the post test. This is after students receive a treatment by Kahoot application on students reading comprehension. The test consists of 15 questions researchers gave 10 multiple choice and 5 essay questions of reading, and the students do the test individually.

   Data analysis

   The researchers data analysis technique uses the t test, the results of the data analysis calculation are stated if the significance is <0.05 then Ho is rejected but Ha is accepted, if > 0.05 then Ho is accepted but Ha is rejected. The hypothesis test in decision making use the t test to find out whether the Kahoot application media variable has an effect on the reading comprehension variable [28]. The tool used by researchers to calculate data is by using spss.

Pre test
The pre-test do before treatment, the pre-test was carried out to know the ability in reading comprehension.

Treatment (the treatment is done 3 times)
• Students receive a link to the Kahoot application (https://kahoot.com/)
• Students access the link on their respective smartphone
• Students receive a PIN to access the Kahoot application
• Students study the material and did several quizzes in the Kahoot application.

Post test
The researchers give the post test excercise. This is after students were give a treatment by Kahoot application on students reading comprehension.

III. FINDING AND DISCUSSION

This study was conducted to determine whether or not there is any effect of using Kahoot based learning games on students reading comprehension. This study used one group pre-test post-test with 20 students in grade eight. The data obtained through student test scores the results of the data calculation were carried out through the test in SPSS. Before the t-test, the calculation through the data analysis prerequisite test, namely the normality test to determine whether the data is normally distributed or not.

Table 1. Normality test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		20
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	3,82379743
Most Extreme Differences	Absolute	,161

Positive	,161
Negative	-,092
Test Statistic	,161
Asymp. Sig. (2-tailed)	,185ᶜ

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Based on the results of the normality test in the table above, it is known that the significance value of 0.185 is more than 0.05, so it can be seen that the residual value is normally distributed after knowing that the data is normally distributed, then the t test and the following are the results of the t test.

Table 2. Paired T-test

Tests	n	Descriptive Statistics	Paired T-Test		
		Mean	t	df	Sig. (2-tailed)
Pre-test	20	65.55	-11.859	19	0.000
Post-test	20	81.00			

The t-test results of the data between the pre-test and post-test scores show that the p-value sig. (2-tailed) 0.000 or less than 0.05, so Ho is rejected. So from these results there any different on students reading comprehension before and after the implementation of Kahoot application in class VIII SMP Muhammadiyah 4 Gempol.
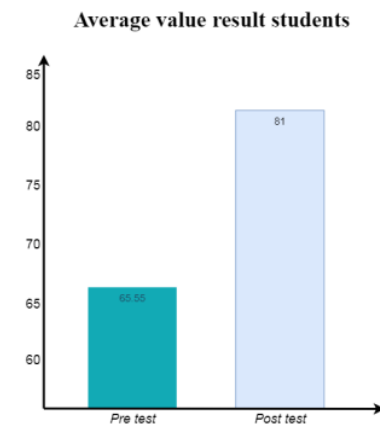

Figure 1. Average value diagram

The first meeting researchers have given a pre-test consisting of 10 multiple choice questions and 5 essay questions about reading of recount text with an average pre-test score of 65,55. The pre-test is given to find out how far students can understand a reading text, the results of the

scores that have been obtained that some students still have difficulty in understanding the reading of recount text. The next meeting the researchers provides treatment in the form of material using the Kahoot, what is done is that students receive the Kahoot link that has been given by the researchers, both students access the link on their respective smartphones, then students receive the PIN that has been given to access the Kahoot, after that students write their names then students can choose characters as users and students study the material and do some quizzes in the Kahoot. The last meeting after the treatment, the researcher repeated the material that had been given and then gave a practice post test questions without using the kahoot application consisting of 10 multiple choice questions and 5 essay questions with the average post test score of 81.

In reading comprehension of recount text, students identify the meaning of the recount text, understand the structure of the recount text and know the linguistic elements of the recount text. The researchers have created 15 questions about the aspects of the recount text. Students reading comprehension of recount text by using Kahoot application. Kahoot has many features, themes and animated images in the Kahoot that can be used [29]. The feature used is a quiz feature totaling 10 quizzes accompanied by recount text material containing four multiple choice answers and has a time limit when students answer it. Using the summer theme in this theme, students as players can choose animated animal characters as icons.
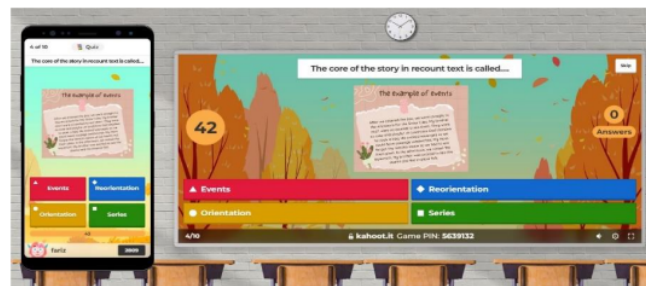

Figure 2. Kahoot quiz

The student who gets the most points is the student who answers the quiz correctly and quickly. The results of the quiz will show the 5 highest student points on the leaderboard and the highest points are announced after the quiz is over as a reward that can make learning fun and exciting [30]. Rewards are an important component that makes the game fun, increases interest in learning, builds enthusiasm, improve student mindset and creativity. Rewards have been used in education to encourage students to learn and recognize their achievements [31].
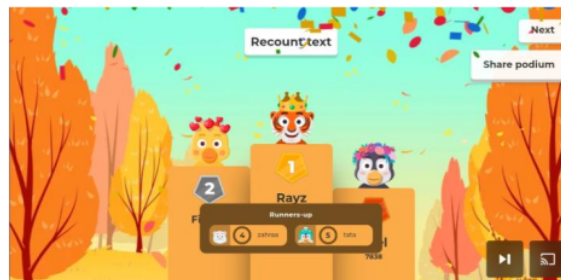
Figure 3. kahoot app leaderboard

The Kahoot application is used through a smartphone or laptop which makes learning flexible because it can be done anytime and anywhere by students and this application is included in game based learning. The use of game based learning can have a positive effect on students cognitive development [32]. Game based learning (GBL) aims to increase students participation in learning while playing and make learning more fun [33]. Game based learning (GBL) methods are used as one of the innovative ways or learning media that can increase motivation, emotional engagement, and fun for students [34]. Based on A. Mcvay game based learning can provide: Games are created using proven learning strategies, games increase the learner's level of engagement, games offer individualized educational opportunities, games instruct 21st century competencies and games offer a setting for genuine and pertinent evaluation [35].

Based on figure 2. it can be seen from the previous data that the average score of students in the pre-test is 65,55 which is included in the less category. After the researchers used Kahoot treatment to improve students reading comprehension scores. The average score on the post test score is 81, which means that it has increased and is included in the good category because it reaches the value of the minimum completeness criteria of 75. So the results is any effect in student scores after using the Kahoot on student reading comprehension in eighth grade at SMP Muhammadiyah 4 Gempol.

IV.   CONCLUSION

Kahoot application is a game-based learning media so that learning becomes more interesting and students are motivated to learn. In addition, Kahoot can be used for free so that everyone can access this application especially this application can be used anywhere and anytime by using a laptop or smartphone during the learning process. This study used Kahoot as a tool in teaching reading comprehension to students. The researcher made 15 recount text questions on pre-test and post-test questions. The researcher compared the results of the pre-test and post-test scores to find out if there was a difference before and after the use of Kahoot on students' reading comprehension. Based on the data, students scores increased after being treated with Kahoot. The average value of the pre-test is 65.55 and the average value of the post-test is 81 from the data, the student's score has increased to reach the minimum completeness criteria value of 75. So the result is that there is a difference in student scores after using Kahoot on reading comprehension of grade VIII students at SMP Muhammadiyah 4 Gempol.

To optimize the updates in the Kahoot, The future researchers can use this application by using the assignment feature. This feature is used as homework so students can study material online from their respective homes and there are also many features in this Kahoot. Researchers can use the Kahoot by using updated characters and themes because that way it can attract students interest in learning.

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