The Effect of Kahoot Application on the Students' Achievement in Reading Comprehension

https://doi.org/10.31004/jele.v8i1.367

Nur Fadillah Hasanah[1] Yunita Mutiara Harahap[2] Linda Astuti Rangkuti[3]

University of Alwashliyah

A B S T R A C T

The goal of this study is to determine how using Kahoot affected students' reading comprehension proficiency in the second grade throughout the academic year 2022–2023 at Mas Proyek Univa. This study used an experimental research design as its methodology. This study was carried out at Mas Proyek Univa during the XIIth grade. There were three XII grade classes. In each class, there were 30 students. Therefore, there were 90 pupils in all. The sample was taken using a cluster random sampling and lottery technique. The experimental group, designated as XII ipa, and the control group, designated as XII ips, were chosen. 60 students were selected as the sample. A multiple-choice test was the tool utilised to obtain the data. The t-test was used to analyse the data. Following data analysis, it was discovered that tobserved exceeded ttable (13.24 > 2.00) with a degree of freedom of 58 and a significance level of 0.05. It meant that although ho was turned down, ha was accepted. For the academic year 2022–2023 at Mas Proyek Univa Medan, there is a strong impact of the Kahoot application on students' achievement in reading comprehension.

Keywords : *Kahoot Application, Reading Comprehension*

INTRODUCTION

Education becomes an important thing for the progress of a nation which will be achieved in today's global era, if an effort is being made to raise the standard of education in the country, itself. Thus, it requires students to have the knowledge and skills to master science in order to keep up with the increasingly sophisticated times. Among the four skills, According to Reading is essential for kids to succeed in learning English, according to Cambia and Guthrie (2010). to be aware, students must be able to read. Students can learn a range of things through reading, including communication and ideas that broaden their knowledge dependent on their language proficiency (Chaniago, Badusah & Embi, 2011). Furthermore, Ahmadi & Pourhossein (2012) say In order to explain mental representations and integrate textual material Considering the reader's understanding already, reading comprehension requires a complicated cognitive capacity.

In fact according to the preliminary studies done at Mas Proyek Univa, the researcher had depth speaking with the English teacher about the difficulties students are having in their studies reading especially class XII. It was found that many students are unable to understand texts, especially descriptive texts because students find it difficult lack of vocabulary and difficulty identifying the essential idea mastery so it is difficult for students to comprehension of the text's substance. So the next problem the teacher lack of knowledge in using technology based media so that they still use conventional methods.

Although reading for basic information is a typical reading skill, some studies believe that reading for simple information is a relatively autonomous cognitive activity. When reading to search, we often skim the material in quest of a certain word, a particular fact, or a few illustrative lines. Similar to reading to scan, skimming entails an amalgamation of tactics for determining where critical the text may contain information, and utilizing simple reading comprehension strategies on specific passages until a conclusion is reached general understanding is gained. According to Wang and Lieberoth, (2016). Initially utilised only as a tool in education, both Kahoot is a game-based educational tool utilized in schools and other learning environments environments. However, Kahoot is a learning tool that uses games to help students understand the material, boost motivation and engagement, help them become more focused, and offer insightful and useful feedback.

Moreover, Coca and Slisko (2013). Explain that researchers are well aware of the Kahoot Application's utilisation. There are many advantages to using the Kahoot application to increase student during the process of teaching and learning, motivation and focus, including: Learning will catch students' attention so they can cultivate enthusiasm and motivation to learn, the learning objectives will be achieved well because it is presented more clearly for students easily understand the material, Bringing up a new method learning for teachers, and the last students will engage in more interaction in learning activities and media kahoot this quiz-based game stimulates a competitive spirit among students. It implies that using the Kahoot app can help students attain better reading comprehension and that using the app is a suitable way to address their issues.

As the researcher written previously, this study aims to find out the effect of applying Kahoot Application on students' achievement in reading comprehension. Therefore, the researcher is interested in carrying out the research entitled: "The effect of Kahoot Application on Students' achievement in reading comprehension at Twelfth Grade of MAS Proyek Univa Medan". Based on the background described above, the researcher identifies the problems as follows; the students' lack of achievement in reading comprehension and the teacher lack of media of teaching learning procesess.

METHOD

The research was conducted at the MAS Proyek Univa Medan, located on Jalan SM.Raja km 5,5 alwashliyah university Medan. It was conducted in class XII students on August academic year 2022-2023. Pre-test and post-test designs were used in this study's experimental research design, which was used to gather data. While the control group was treated using the traditional method, the experimental group will be treated using the Kahoot application.

The test for both classes are identical in terms of both quality and quantity to maintain the validity of the study. It was made known how effective of Kahoot Application on students' achievement in reading comprehension. The students will be chosen randomly using the cluster random sampling method. It obtain two are classes: class XII MIA consist of 30 students and XII IPS consisted thirty students. 60 students make up the entire sample for this study.

The questions were on the knowledge the students have acquired. the pupils performed poorly on the objectives test required to select the right response. The cumulative score for the test, which ranged from 0-100, was calculated using the following formulas:

$$S = \frac{R}{N} \, X \, 100$$

Noted :

S = the score

R = the number of correct answer

N = the number of questions

Test validation is used for the process of validating reliability. Before employing the item to generate reliable data for a research study, these two conditions must be met. The next sections go on each aspect's establishment and procedure.

One of the qualities of a good test is reliability. The consistency of the measurement is referred to as reliability. According to Cohen, et al. (2017)Cohen, et al. (2007), the term "reliability" when referring to quantitative research fundamentally refers to dependability, consistency, and repeatability across time, instruments, and respondent groups. claims that if the test is repeated on many subjects, the results shouldn't vary too much.

Data analysis in this study was carried out by analysing data pertaining to the outcomes of the pre-test and post-test findings of the experimental and the control groups utilising both descriptive statistical analysis and inferential statistical methods classess. Then data analysis regarding a result of Kahoot game media on learning outcomes twelfth grade students of MAS Proyek Univa Medan.

This method used to do to see if there was a big difference between the experimental and control groups' pre-test results and their respective control group's post-test results. Using the t-test formula, the researcher calculated the data that were acquired.

$$ t = \frac{\overline{X_1} - \overline{X_2}}{\sqrt{\left[\frac{SS_1 + SS_2}{n_1 + n_2 - 2}\right]\left[\frac{1}{n_1} + \frac{1}{n_2}\right]}} $$

Three steps made up the data collection process: the pre-test, the treatment, and the post-test.

1. **Pre-Test**

Before treatment was begun, A pre-test was taken by both the experimental and control groups. The pre-test was used to determine the homogeneity of the sample and the mean score for each group will be used.

2. **Treatment**

Following the pre-test, the therapy was administered. In the experimental class was taught utilizing the Kahoot program, whereas the control group received instruction using the conventional manner.

After the test administered after the treatment had been completely conducted to know the results of the different treatment. The test administered in posttest was is the same as that one administered in pre-test. Then the results of posttest were determined using the t-test method. It is intended to find out the different effect on the two groups.

FINDINGS AND DISCUSSION

The following was the results of the experimental tests' pre- and post-tests and control groups.

Table 1.Students' Scores of Pre-test and Post-test of Experimental Group

No	Students' Intial Names	Pre-Test (X)	Post-Test (Y)
1.	VS	55	75
2.	MAN	50	80
3.	MRK	50	80
4.	MPR	60	90
5.	PRA	35	80
6.	QK	40	80
7.	NAP	30	70

8.	AA	35	85
9.	SA	40	80
10.	TPR	30	75
11.	MH	35	80
12.	MDK	50	85
13.	MA	60	90
14.	ZYA	45	95
15.	KP	40	95
16.	YP	50	80
17.	BAA	55	80
18.	MDA	40	95
19.	MHR	25	70
20.	SKI	35	85
21.	NFH	40	90
22.	DS	40	90
23.	RP	45	90
24.	NP	30	75
25.	ZH	45	80
26.	CRN	35	85
27.	DK	50	85
28.	FR	40	85
29.	RAH	45	80
30	RS	40	80
	Total	**1270**	**2490**
	Mean	**42.33**	**83**

According to Table 1 above, the experimental group's lowest pre-test score was 25, while the maximum was 60, and its lowest post-test score was 70, while the best score was 95.

Table 2

Students' Scores of Pre-test and Post-test of Control Group

NO	Students' Intial Names	Pre-Test (X)	Post-Test (Y)
1.	ARA	45	65
2.	AF	40	55
3.	ARMS	20	30
4.	ANB	20	30
5.	AAH	15	25
6.	FFH	20	30
7.	JAU	25	30
8.	KPL	20	25
9.	KAD	30	35
10.	KF	30	35
11.	LA	30	40
12.	MS	30	45
13.	MDA	40	45
14.	MRH	35	50
15.	NZ	45	45
16.	NA	35	55
17.	NS	40	50
18.	NHN	50	55
19.	PP	35	45
20.	RU	45	50
21.	RA	40	65
22.	SAR	30	50
23.	TMS	10	40
24.	TSF	50	60
25.	YAA	35	45
26.	YZ	45	50
27.	ZA	55	50
28.	MMI	50	55
29.	EA	40	50
30.	YMD	45	55
	Total	**1050**	**1360**
	Mean	**35**	**45.33**

From Table 2 above, it is clear that the control group's lowest pre-test score was 10 and its highest was 55, while its lowest post-test score was 30 and its best was 65.

Table 3. The Calculation of Standard Deviation in Experimental Group

No	Students' Intial Names	Pre-Test (X)	Post-Test (Y)	D	D^2
1.	VS	55	75	20	400
2.	MAN	50	80	30	900
3.	MRK	50	80	30	900
4.	MPR	60	90	30	900
5.	PRA	35	80	45	2025
6.	QK	40	80	40	1600
7.	NAP	30	70	40	1600
8.	AA	35	85	50	1600
9.	SA	40	80	40	1600
10.	TPR	30	75	45	2025
11.	MH	35	80	45	2025

No.	Name	X1	X2	d	d²
12.	MDK	50	85	35	1225
13.	MA	60	90	30	900
14.	ZYA	45	95	50	2500
15.	KP	40	95	55	3025
16.	YP	50	80	30	900
17.	BAA	55	80	25	625
18.	MDA	40	95	55	3025
19.	MHR	25	70	45	2025
20.	SKI	35	85	50	2500
21.	NFH	40	90	50	2500
22.	DS	50	90	40	1600
23.	RP	45	90	55	3025
24.	NP	30	75	45	2025
25.	ZH	45	80	35	1225
26.	CRN	35	85	50	2500
27.	DK	50	85	35	1225
28.	FR	40	85	45	2025
29.	RAH	45	80	35	1225
30	RS	40	80	40	1600
	TOTAL	**1270**	**2490**	**1220**	**52700**
	MEAN (MX)	**42.33**	**83**	**40.66**	**1756.66**

deviation of the test (d) = X2 – X1

deviation of experimental group (dx) = d – mean

mean of the test (Mx) = <u>total deviation of the test</u>

total of students

$$= \frac{\sum d}{n}$$

$$= \frac{1220}{30}$$

$$= 40.66$$

So mean of experimental group (Mx) was 40.66

Standard deviation = total square deviation - $\frac{(\text{ total deviation})^2}{\text{total number of the students}}$

$$dx^2 = \sum dx^2 - \frac{(\sum d)^2}{Nx}$$

The Effect Of Kahoot Application On The Students' Achievement In Reading Comprehension

$$dx^2 = 52700 - \frac{(1220)^2}{30}$$

$$dx^2 = 52700 - \frac{1488400}{30}$$

$$dx^2 = 52700 - 49613.33$$

$$dx^2 = -3086.67$$

Table 4. The Calculation of Standard Deviation in Control Group

NO	Students' Intial Names	Pre-Test(X)	Post-Test(Y)	D	D^2
1.	ARA	45	65	20	400
2.	AF	40	55	15	225
3.	ARMS	20	30	10	100
4.	ANB	20	30	10	100
5.	AAH	15	25	10	100
6.	FFH	20	30	10	100
7.	JAU	25	30	5	25
8.	KPL	20	25	5	25
9.	KAD	30	35	5	25
10.	KF	30	35	5	25
11.	LA	30	40	10	100
12.	MS	30	45	15	225
13.	MDA	40	45	5	25
14.	MRH	35	50	15	225
15.	NZ	45	45	0	0
16.	NA	35	55	20	400
17.	NS	40	50	10	100
18.	NHN	50	55	5	25
19.	PP	35	45	10	100
20.	RU	45	50	5	25
21.	RA	40	65	25	625
22.	SAR	30	50	20	400
23.	TMS	10	40	30	900
24.	TSF	50	60	10	100
25.	YAA	35	45	10	100
26.	YZ	45	50	5	25
27.	ZA	55	50	-5	25
28.	MMI	50	55	5	25
29.	EA	40	50	10	100
30.	YMD	45	55	10	100
	Total	**1050**	**1360**	**310**	**4750**
	Mean	**35**	**45.33**	**10.33**	**158.33**

deviation of the test (d) = X2 – X1

deviation of control group (dy) = d – mean

mean of the test (My) = <u>total deviation of the test</u>

total of students

$$= \frac{\Sigma d}{n}$$

$$= \frac{310}{30}$$

$$= 10.33$$

So mean of control group (My) was 10.33

Standard deviation = total square deviation - $\dfrac{(\text{total deviation})^2}{\text{total number of the students}}$

$$dx^2 = \sum dx^2 - \frac{(\sum d)^2}{Nx}$$

$$dx^2 = 4750 - \frac{(310)^2}{30}$$

$$dx^2 = 4750 - \frac{96100}{30}$$

$$dx^2 = 4750 - 32033.33$$

$$dx^2 = 1546.67$$

The following t-test was used to calculate the test results from the results of the tests in order to determine whether the Kahoot application significantly affects students' reading comprehension.

$$t = \frac{Mx - My}{\sqrt{\left(\frac{dx^2 + dy^2}{Nx + Ny - 2}\right)\left(\frac{1}{nx} + \frac{1}{ny}\right)}}$$

Notes:

t   = Total Score

Mx   = Mean of Experimental Group

My   = Mean of Control Group

Dx   = Standard Deviation of Experimental Group

Dy   = Standard Deviation of Control Group

Nx   = Total Numbers of Experimental Group

Ny   = Total Numbers of Control Group

Thus, based on the data analysis, the calculation showed that :

Mx = 40.66	My = 10.33
Dx² = 3086.67	Dy² = 1546.67
Nx = 30	Ny = 30

$$t = \frac{Mx - My}{\sqrt{\left(\frac{dx^2 + dy^2}{Nx + Ny - 2}\right)\left(\frac{1}{nx} + \frac{1}{ny}\right)}}$$

$$t = \frac{40.66 - 10.33}{\sqrt{\left(\frac{3086.67 + 1545.67}{30 + 30 - 2}\right)\left(\frac{1}{30} + \frac{1}{30}\right)}}$$

$$\frac{30.33}{\sqrt{\left(\frac{4633.34}{58}\right)\left(\frac{2}{30}\right)}}$$

$$t\text{obs} = \frac{30.33}{\sqrt{5.2708}}$$

$$\text{tobs} = \frac{30.33}{\sqrt{2.29}}$$

$$\text{tobs} = 13.24$$

The Test were made aware wether the hypotheses were acceptable or unacceptabl The basis for testing hypotheses was Ha was approved if the t-table value > total table. While If the t-table value was less than the total table, Ho was approved.

According to the t-test calculation, it was discovered that the t-table score = 13.24 while ţ-table = 2000 at the level of significance 0.05 with the degree of freedom (df) = 58.

As a result, the test's outcome revealed that the value observed was more than the table value, as as evidenced by the following formula:

ţ-observed > ţ-observed   (P=0.05) with df = 58
13.24 > 2000   (P=0.05) with df = 58

It indicated that Ha had been accepted whereas Ho had been effectively rejected. In other words, the Kahoot Application had a considerable impact on the pupils' reading comprehension performance.

As stated before, This study's goal was to establish how the Kahoot Application impacted how well pupils could read performance. Calculations revealed that The mean score of the experimental group was higher than that of the control group. The t-test formula was used to analyse the difference. The test calculation's findings indicated that the t-obs value (13.24) was greater than the t-table value (2.000). In other words, Kahoot Application had a considerable impact on pupils' reading comprehension proficiency.

This research In September, this study was carried out at Mas Proyek Univa Medan. To complete this research, an experimental research design was used. The control group received instruction using Concentional Away, while Kahoot was used to deliver instruction to the experimental group. Application.

The population was made up of 60 students from two concurrent classes, the XII IPA class and the XII IPS class. 30 pupils were enrolled in each class. Class of IPA was selected as the control group class using the cluster random sample lottery technique, while class of IPS was selected as the experimental group class.

The experimental group used the Kahoot application, which assisted the teacher in creating lesson plans. The information regarding the text provided by the researcher to the students was able to be obtained. It could be demonstrated by looking at the student test scores, demonstrating that the experimental kids outperformed the control group in performance.

Thus, it is possible to draw the conclusion that the Kahoot Application has a considerable impact on students' progress in reading comprehension for the twelfth grade at MAS Proyek Univa Medan during the academic year 2022–2023.

CONCLUSIONS

According to the results, The mean post-test result for the experimental group (40.66 > 10.33) was noticeably greater than that of the control group. The computation using the t-test procedure revealed that, at the level of significance = 0.05 and with 58 degrees of freedom (df), the t-obs value was greater than the t-table value (13.24 > 2.000). It indicates that Ha was accepted whereas Ho was successfully refused. The Kahoot Application has a considerable impact based on data from the pupils' performance in the twelfth grade at MAS Proyek Univa Medan during the academic year 2022–2023, it is found.

REFERENCE

Ahmadi, M. R., &PourhoseiinGilakjani, A. (2012). Reciprocal Teaching Strategies and Their Impacts on English Reading Comprehension. Theory and Practice in Language Studies, 2(10), 2053-2060. http://dx.doi.org/10.4304/tpls.2.10.2053-2060

Cambria, J., & Guthrie, J. T. (2010). Motivating and engaging students in reading. New England Reading Association Journal, 46(1), 16-29.

Chaniago, S., Badusah, J., & Embi, M. (2011). Teaching problems in language skills at Indonesian school. Malay Language Education Journal, 1, 109-122.

Coca, D. M., & Slisko, J. (2013). The influence of active physics learning on reasoning skills of prospective elementary teachers: A short initial study with ISLE methodology. Latin-American Journal of Physics Education, 7(1).

Cohen, L., Manion, L., & Morrison, K. (2007). Research Methods in Education. In British Journal of Educational Studies (sixth, Vol. 55).

Wang, A. I., & Lieberoth, A. (2016, October). The effect of points and audio on concentration, engagement, enjoyment, learning, motivation, and classroom dynamics using Kahoot. In European conference on games based learning (Vol. 20). Academic Conferences International Limited.