THE USE OF KAHOOT AS A LEARNING TOOL IN LEARNING CAUSE AND EFFECT CONJUNCTION FOR SENIOR HIGH SCHOOL STUDENTS

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Abstrak

Kahoot merupakan seuah website gamifikasi yang dikenal popular oleh sebagain besar pengajar untuk diadopsikan dalam kegiatan belajar mengajar. Hal ini juga diimplementasikan dalam pembelajaran abhasa inggris yang memiliki manfaat cukup signifikan, terlebih khusus dalam pembelajaran grammar. Grammar merupakan sebuah komponen bahasa inggris yang dikenal cukup sulit dipahami. Kajian penelitian ini bertujuan untuk mengetahui apakah terjadi perbedaan yang signifikan antara hasil belajar dari siswa yang belajar *Cause and Effect Conjunction* menggunakan Kahoot dan siswa yang tidak menggunakan Kahoot saat pembelajaran. Peneliti menggunakan metode kuantitatif dengan menggunakan design kuasi eksperimen.Sampel dalam kajian penelitian ini yaitu siswa kelas 11 dari salah satu SMA Negeri di Surabaya. Instrumen dari penelitian ini adalah test yang terdiri dari *pre-test* dan *post-test.* Hasil dari penelitian ini menunjukkan bahwa ada perbedaan yang sigifikan antara siswa yang belajar grammar menggunakan kahoot dan yang tidak menggunakan kahoot. Hasil dari nilai signifikansi (sig 2-tailed) menunjukkan 0.04 yang berarti kurang dari 0.05. Selain itu, nilai rata-rata dari kelompok eksperimen lebih tinggi daripada kelompok kontrol. Perbedaan nilai rata-ratanya dalah 13.269. Ukuran efek dari penelitian ini adalah 0.081 yang termasuk efek sedang berdasarkan Cohen (1988).

Kata Kunci: Kahoot, Cause and Effect, Media Pembelajaran

Abstract

Kahoot is a game-based website that many students utilize as part of their learning process. This is also used in English language learning, which offers substantial advantages, especially in grammar learning. Grammar is difficult learning component. The goal of this study is to discover if there are any significant variations in learning results between students who utilize Kahoot for studying cause-and-effect conjunction and those who do not. The researcher uses quantitative method by using quasi-experimental design. The sample for this study is made up of eleventh grade students from a public senior high school in Surabaya. The tools used in this study are tests, which contain a pre-test and a post-test. The results of this study reveal that there is a significance difference between students who use Kahoot to learn grammar and those who do not. The outcome shows that the significance level (sig 2-tailed) is less than 0.05. Furthermore, the mean score of the test group is higher than that of the control group. The average deviation is 13.269 percent. The impact size of this study, according to Cohen, is 0.081, indicating a moderate magnitude.

Keyword: Kahoot, Cause and Effect, Learning Tool

INTRODUCTION

Understanding grammar helps us comprehend what makes sentences and paragraphs clear and engaging. Moreover, without grammar, any language would be absolutely unpleasant and difficult to deal with, not to mention that the language would soon grow illegible and meaningless (Dalil & Harrizi, 2013). Based on Haudeck in Sani, 2016, EFL students still struggle when they learn one of the English components that is grammar. Besides, grammar is one of the linguistic components that help students overcome adversity.

Learning grammar consists of a subtheme called conjunction. Conjunction is a connector from one word, phrase or sentence to another word, phrase, or sentence (Pangaribuan et al., 2018). It means that without conjunction, the sentence is unsustainable and incoherence. On this paper, the researcher focuses more on

cause-and-effect conjunction because one alternative to create powerful and efficient sentences is by stating a cause or effect and explaining how or why it occurs (Karim and Rachmadie, 1996 as cited in Agustrianti Sawitri et al., 2014).

Based on Zarzycka-piskorz (2016), the use of game in grammar learning is effective that is graded very high (90%). According to students who have used it, Kahoot is a learning tool or medium that may be utilized in distant learning activities and is more successful than others (Wang, 2015). As a result, Kahoot may be utilized as an additional learning tool. Kahoot is a well-known platform that practically be used to support the learning (Plump & LaRosa, 2017).

These are some previous studies that are similar to this study that was utilized for supporting the findings of this study. The first study is from Saleh Alharti (2020) in the research article, "Assessing Kahoot's Impact on EFL Students' Learning Outcomes" (2020), claims that using Kahoot for learning is advantageous for classroom dynamics, increase students' motivation, learning outcomes and also engagement.

The next one is from Ewa Zarzycka-piskorz (2016) in the research article, "Kahoot It or Not? Can Games Be Motivating in Learning Grammar?" (2016), claims that learning by using games can increase learners' motivation in learning grammar and using games can be more efficient for the learning activity.

The third is from Yasmina Aidoune (2022) in her research article "Effect of Online English Learning Game 'Kahoot' on L2 Undergraduate Learners in a Malaysian University" states that Kahoot can be one of effective method that is used for learning English because Kahoot increases motivation, and performance of the learners.

Based on the previous research, the sample that the researchers used is from university students (Alharti, 2020; Zarzycka-piskorz, 2016; Aidoune et al, 2022). Hence this research uses senior high school students as the sample of study. Besides, the material is also different from the previous study. This research use grammar topic which is cause-and-effect conjunction as the material.

The material that the researcher uses for this study is about conjunction. Based on Frank (1972), conjunctions are divided into three types: coordinate conjunction, corelative conjunction, and subordinate conjunction. In this research, the topic will focus more on conjunction that is related to cause-and-effect sentences. The explanation of term cause and effect sentences based on Bashir, 2017 as cited in Indriana 2020, itself as follow:

a. Cause: an activity's motive or cause. What causes this?

b. Result or conclusion: There is a result or conclusion. What happened as a result of this conduct? What has occurred? The outcome of a cause.

Yet, the conjunctions that are used for cause-and-effect sentence, as follow:

Based on Frank (1972):

1. As

Example: Learning English in this era is so important as English is used for many aspects.

"As" is followed by a clause that consist of subject and verb.

2. Because

Example: I do not like learning in study room because it is still noisy around there.

"Because" is followed by a clause that consist of subject and verb.

3. Because of

Example: Rey was recruited as a model because of his good appearance.

"Because of" is followed by noun phrase.

4. Since

Example: Since you are here, why don't we go to PTC to feast our eyes.

"Since" is followed by A word or phrase made up of a subject and a verb

5. Due to

Example: Music festival in Rungkut is postponed due to heavy rain.

"Due to" is followed by a noun phrase and it is similar to "because of".

6. Owing to

Example: He eats a lot of food in that restaurant owing to its taste.

"Owing to" is followed by noun phrase.

7. Therefore

Example: Mira often does not go to school. Therefore, her parents are called by the principal.

"Therefore" is followed by a clause that consists of subject and verb.

8. So (that)

Example: She is at the front of the crowd, so (that) she can take clearly fan cams of her bias.

"So" is followed by a clause that consists of subject and verb.

According to Eastwood (1994),

1. As a result of

Example: as a result of making a beautiful poem, Dina gets applause from her friends.

"As a result of" is followed by noun phrase or gerund.

2. As a result of this

For example, the concert may be interrupted in the middle of the performance, causing the audience to get enraged. "As a result" is followed by a clause that consist of subject and verb.

Those are some conjunctions that the researcher used for the treatment. During the treatment, the researcher used

Kahoot for the learning tool. Kahoot is a platform that contains games and quiz and it can be utilized for learning activity. This platform is easily used. Nowadays, Kahoot is popular in educators for learning process because it is one of the remodelling for learning activity (Budiati, 2017).

There are twelve features that creators can use on Kahoot.

1. Quiz: it gives players multiple choices and they have to choose the correct answer among the choices.
2. True False: it lets the players decide which statement is true or false.
3. Type answer: it asks players to type a short correct answer.
4. Slider: it lets the players guess the number on the slider.
5. Puzzle: it asks learners to place their answers in the correct order.
6. Quiz + audio: it gives players multiple choices with audio attached and they have to choose the correct answer among the choices.
7. Poll: it gives players multiple choices from up to 6 choices and they have to choose one among them.
8. Drop pin: it asks the players to drop pins on an image.
9. Word cloud: it collects short free-form poll responses.
10. Open-ended: it asks players to type long answers.
11. Brainstorm: it collects, groups up, discusses, and votes on ideas.
12. Slide: it shows the players more content of additional explanation.

In this research, the researchers did not use all the features of Kahoot because the researchers only used the most suitable features on Kahoot as learning tools.

According to the explanation, the research question of this study is "Is there any significance difference in students' achievement by using Kahoot as learning tool in learning cause and effect conjunction?" therefore the research objective if this research is to find out the significance difference in students' achievement by using Kahoot as learning tool in learning cause and effect conjunction.

This research is expected to advantage teachers or educators in finding the use of Kahoot as learning tool for learning grammar in senior high school students. Furthermore, research findings are predicted to provide an incentive for boosting student performance while learning grammar using Kahoot as a learning tool. Teachers and educators can use Kahoot as an alternative learning tool for their class. Also, it can be used for other researchers who want to investigate more about Kahoot as learning tool.

METHODS

The researcher examines this research by using quantitative approach with quasi-experimental design. The researcher divides the participants into two group: control group and experimental group. An experimental group is allocated to learn specifically using Kahoot, but the control group learn grammar without utilizing Kahoot since they only study using the Power Point presented. Both groups are given a pre-test and a post-test with the identical questions to collect data.

In this research, the population is all pupils in one of Public Senior High School in Surabaya. While the sample of this study is chosen purposively who are the 11th grader. They are from two different classes that are picked purposively due to the similar ability during learning English.

Both experimental and control class consist of 26 students. Beside those two groups, there is also one class as a try-out class. This try-out class is used to test the instrument of this research before the instrument is used in experimental and control group. This try-out group consist of 30 students. The students in try-out class also have similar English ability with experimental group and control group. To make sure those three classes have similar ability, the researcher compares the mean score of pre-tests of try-out group, experimental group, and control group.

This study uses two different types research instruments. The first one is a pre-test for assessing pupils' ability to understand cause and effect conjunctions before they begin studying. The second one is a post-test designed to assess students' ability to analyse cause-and-effect conjunction understanding after they are given a treatment.

The test consists of 20 multiple-choice questions that have five possible choices. All of the questions for control group and experimental group are same.

Before investigating the experiment. The try-out group, which comprise of 30 students, are given a pre-test and a post-test by the researcher. The data is utilized to assess the instrument's validity and reliability.

The researcher uses Pearson Product Moment in IBM SPSS Statistic 25 Program to test the validity. According to the result, it shows the significance of all of the items are less than 0.05 ($\alpha < 0.05$) which means both of pre-test and post-test are valid and the test can be used for the instruments of the research.

After calculating the validity of the instrument, the researcher calculates the reliability of the pre-test and post-test instrument by using Cronbach's Alpha in IBM SPSS Statistic 25 Program.

According to the result, it shows that the pre-test and post-test are reliable because the value of Cronbach's Alpha in both tests are greater than 0.6. (Donald, et.al,

2010) The tables show that the Cronbach's Alpha for pre-test is 0.769 while in post-test is 0.805.

As a result, the pre-test and post-test can be used as the instrument of research because they are valid and reliable based on the explanation above and the instruments can be used for the research.

Observing the activities of the experimental and control groups, both groups are provided the same learning material. The difference is the experimental group learn the material by using Kahoot, while the control group learn the material without using Kahoot. In learning activities, the control group exclusively uses PowerPoint learning resources given by the researcher. The treatment of this study consists of two meetings for each group.

The treatment for experimental group consists of:

1. First meeting
   a. The students are given pre-test to know the students' ability in learning cause and effect.
   b. After that, the researcher explains a bit about Kahoot.
   c. The researcher asks students to open https://kahoot.it/ on their smartphone. Then the researcher also shows the layout of Kahoot as teacher on LCD projector.
   d. On LCD projector, there is a game pin that the students have to type on their own smartphone to play the game.
   e. After all of the students join the game, the researcher starts the game by clicking the start button.
   f. The features of Kahoot that the researcher uses are slide feature, quiz feature, and true and false feature.
   g. First, the teacher shows some explanation about the definition about cause and effect, the example of cause-and-effect sentences, and when they have to use cause and effect. While the students have to pay attention to the material that is shown on LCD projector.
   h. After some explanations, the next feature is quiz. As a result, students must be able to respond rapidly to the projector-displayed quizzes by picking the correct answer on their own smartphone. As a result, on their smartphone there are only some possible answers while the question is on the projector.
   i. After answering the quiz, their ranking will show up on projector and the whole class can see the ranking and the points.
   j. Then, the researcher discusses the answer together with the students. The researcher also asks some random students why they choose that answer and discuss together.
   k. The next activity is similar to the previous activity with the next topic about the importance of conjunction for creating cause and effect sentences, and kinds of cause-and-effect conjunction. Also, with different kind of features. In this activity, after there is explanation, the true and false feature will suddenly show up and the students have to immediately answer it.

2. Second meeting
   a. In the next meeting, the pattern of the learning activity is similar but the topic is different.
   b. The researcher shows on slide feature, some examples about cause-and-effect conjunction that are commonly used and how to use those cause-and-effect conjunction.
   c. In the middle of the explanation, there will face some quick questions with true and false feature about the material and they should answer immediately.
   d. Then the researcher asks some random students to explain their answer. After that, they discuss it together.
   e. The next explanation is about the cause-and-effect sentences and the tricks to understand and remember when we use this kind of conjunction.
   f. Then the quick quiz will show up and the students have to answer immediately.
   g. For closing the treatment, the researcher asks the students about the difficult material that they have learned from the first meeting and the second meeting. Then the researcher discusses it.
   h. Lastly, the students are given post-test to know their ability of learning cause and effect conjunction after they learn by using Kahoot.

The instrument in this study is utilized to assess whether or not there is a significant difference in students learning results while utilizing Kahoot as a learning tool in learning cause and effect conjunctions, as well as the effect of learning using Kahoot for students.

To analyse the data after all the treatments done, the researcher uses an independent sample t-test. An independent sample t-test is used to see if there are any significant changes in student outcomes when learning with Kahoot. Besides, an independent sample t-test is used to compare the means of two groups statistically.

Meeting 1

- Students have to do pre-test.
- Students open Kahoot on the students' smartphone.
- They join the game with game pin.
- The researcher started the game.
- On slide feature, the researcher showed some explanation about cause-and-effect conjunction.
- In the middle of explanation, the students have to answer the quick quiz on their own smartphone. There are two kinds of quick quiz: true false and quiz.
- The researcher discussed the answer.

Meeting 2

- The pattern of the learning activity was similar but the topic is different.
- The researcher showed some material on slide feature.
- In the middle of the explanation, the students have to answer the quick quiz: true and false and quiz features.
- The teacher asked students to explain their answer,
- For closing the treatment, the researcher asked the students about the difficult material that they have learned from the first meeting and the second meeting. Then the researcher discussed it.
- Students have to do post-test.

Pre-test → Treatment (Learning grammar by using Kahoot) → Post-test → Analyzing data → Reporting data

Figure 1. Framework for experimental group

RESULT AND DISCUSSION

After gathering the data, the researcher examines it to discover the normality of the data by using Shapiro-Wilk test on IBM SPSS Statistic 25 Program. The researcher uses Shapiro-Wilk test because it is the statistical test used to verify whether the sample data is normally distributed or not. Besides, Shapiro-wilk is also used to test small sample (<50) such as the researcher has. Therefore, it is suitable to test the normality of the data by using Shapiro Wilk.

Table 1. Test of Normality

	Class	Shapiro-Wilk		
		Statistic	df	Sig.
Score	Pre-test experimental group	.924	26	.056
	Post-test experimental group	.958	26	.357
	Pre-test control group	.929	26	.073
	Post-test control group	.924	26	.057
*. This is a lower bound of the true significance.				
a. Lilliefors Significance Correction				

According to table 1, the result states that the data is normally distributed because the significance values of the experimental group's pre-test and post-test results are larger than 0.05. The pre-test significance value in the experimental group was 0.56, whereas the post-test significance value was 0.357. Furthermore, the control group's pre-test and post-test significance scores are both larger than 0.05. They are 0.73 and 0.057, respectively. Based on the results above, the researcher employs an independent sample t-test to carry out data analysis activities since it is included in parametric analysis because the data is normally distributed.

Prior to computing the data using the independent sample t-test, the researcher determined the homogeneity of variance by assessing the Levene test results
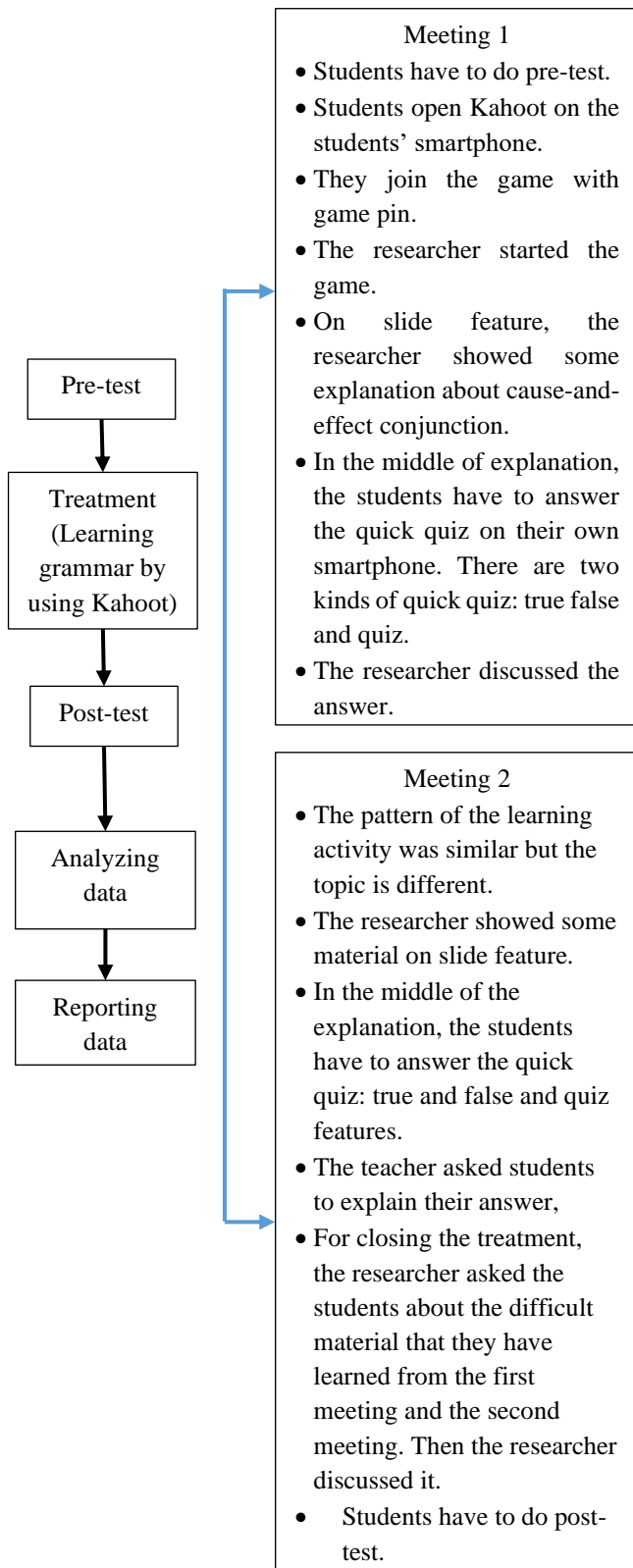
Table 2. Test of Homogeneity of Variances (Pre-test)

Test of Homogeneity of Variances					
		Levene Statistic	df 1	df 2	Sig.
Pre-test	Based on Mean	.050	1	50	.823
	Based on Median	.112	1	50	.739
	Based on Median and with adjusted df	.112	1	49.957	.739
	Based on trimmed mean	.067	1	50	.796

Table 3. Test of Homogeneity of Variances (Post-test)

Test of Homogeneity of Variances					
		Levene Statistic	df 1	df 2	Sig.
Post-test	Based on Mean	.339	1	50	.563
	Based on Median	.208	1	50	.650
	Based on Median and with adjusted df	.208	1	49.502	.650
	Based on trimmed mean	.301	1	50	.585

Based on the table 2, the P value is larger than 0.05 which shows 0.823. Besides, according to the table 3, the significance value is also larger than 0.05 which shows 0.563. It indicates that the requirement of equal variance is satisfied.

Table 5. The Mean Score of Students' Post-test

Group Statistics				
class	N	Mean	Std. Deviation	Std. Error Mean
Experimental	26	53.85	21.877	4.290
Control	26	40.58	23.466	4.602

According on the table 5, the mean score of post-tests in experimental group is 53.85 while in control group, the mean score for post-test in control group is 40.58. It indicates that there is a difference between the mean scores of experimental and control groups. Hence, it shows that the pupils who have learned by using Kahoot have accomplished better outcomes than the pupils who have learned by using PowerPoint only.

The experimental and control groups' post-test results are compared using an independent sample t-test. Based on table 4, it shows that the mean difference is 13.269 and the significance value (sig 2-tailed) is 0.04. It means that there is a significance difference between the post-test of experimental group and control group because the significance value is less than 0.05.

After finding out the result of the independent sample t-test that indicates there is a significance difference between the students who learned cause and effect conjunction by using Kahoot and the students who did not use Kahoot for learning, the researcher finally calculates the effect size by using eta squared formula because this formula is the most frequently measurement that can be applied after t-test (Gass and Mackey, 2005 as cited in Madani, R. R., & Pourmohammadi, M., 2017).

$$Eta\ Squared = \frac{t^2}{t^2 + (N1 + N2 - 2)}$$

$$Eta\ Squared = \frac{(2,109)^2}{(2,109)^2 + (26 + 26 - 2)}$$

$$Eta\ Squared = \frac{4,447881}{4,447881 + (50)}$$

$$Eta\ Squared = \frac{4,447881}{54,447881}$$

$$Eta\ Squared = 0,0816906171$$

Table 4. The Independent Sample T-Test of Students' Post-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
Equal variances assumed	.339	.563	2.109	50	.040	13.269	6.292	.632	25.907
Equal variances not assumed			2.109	49.756	.040	13.269	6.292	.630	25.908

The eta square value of 0.081 indicates a moderate effect size, according to Cohen's table of effect sizes. The result of this study indicates that there is significance difference between students who learned cause and effect conjunction by using Kahoot and the students who did not use Kahoot for learning because the significance value (sig 2-tailed) is 0.04 which is less than 0.05. The mean difference for the post-tests in experimental group and control group is 13.269. It means that the students who learned English by using Kahoot have better outcome than the students who do not use Kahoot. After calculating the effect size, the researcher also shows that the effect size is moderate because it shows 0.081 and based on Cohen (1988), it considers to be moderate effect.

The outcome of this research shows that it supports the previous study that was conducted by Saleh Alharti (2020) "Assessing Kahoot's Impact on EFL Students' Learning Outcomes". The study discovered that Kahoot had a greater influence on students' outcomes because the students' achievement significantly increased after getting the treatment that is using Kahoot as learning tool. This finding is in line with this study because both of the findings show the positive impact when using Kahoot during the learning and Kahoot.

This study also supports the theory by Ewa Zarzycka-piskorz (2016), "Kahoot It or Not? Can Games Be Motivating in Learning Grammar?" that states gamification may be a useful method for improving language learning, especially in grammar acquisition because according to the findings of the study, game components such as competition, feedback, and incentives might boost students' intrinsic desire to learn and practice grammar. The finding of the research is also in line with this study because it states that using Kahoot is useful in learning grammar.

Besides, the article by Yasmina Aidoune, titled "Effect of Online English Learning Game 'Kahoot' on L2 Undergraduate Learners in a Malaysian University" (2022) also can be supported by this study. Yasmina Aidoune (2022) states that Kahoot can be one of effective method that is used for learning English because using Kahoot more vary than traditional learning method. This finding show that using Kahoot is useful for teaching and learning English.

Based on the data provided and the discussion, it indicates that Kahoot has positive effect on learning English especially learning cause and effect conjunction because the understanding of students who have learned by using Kahoot is better than those who only use PowerPoint for the learning. It shows from the outcomes of experimental group is better than the control group. Therefore, there is significance difference in the students' achievement after using Kahoot as learning tool in learning cause and effect conjunction.

CONCLUSION

In conclusion, based on the research's findings and discussion, it is possible to conclude that there is significance difference between classrooms that utilize Kahoot as learning tool and ones that do not. It shows from the better understanding and better outcomes from experimental group than the control group. Besides, according to independent sample t-test that has calculated, the significance value (sig 2-tailed) is 0.04 which less than 0.05 and it means there is significance difference between experimental group and control group. In addition, the effect size of this research is moderate effect because the eta squared value shows 0.081 which includes in the moderate effect.

Suggestions

According to the conclusion above, the researcher gives suggestion to English teachers in the future to consider using Kahoot as learning media for learning English especially learning grammar. Since most of students in this era use smartphone and they have been familiar to internet. Besides teachers, the researcher also gives suggestion to future researchers who are interested in Kahoot, games, learning media, grammar for considering to use this research as additional information or reading material for their future research.

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