

The Utilization of Digital-Based Chain Picture Game Using Gartic Phone Application to Improve Students' Mastery of Arabic Vocabulary

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ABSTRACT

Digital-Based Chain Picture Game using the Gartic Phone application to improve students' mastery of Arabic vocabulary. The research employed a Quasi-Experimental Design with a Nonequivalent Control Group Design. The participants consisted of students from Grade VIII at MTs N 1 Klaten. The experimental group utilized the Digital-Based Chain Picture Game with the Gartic Phone application as the intervention, comprising 30 participants. Meanwhile, the control group did not receive any intervention and consisted of an equal number of 30 students. Data on the mastery of Arabic vocabulary were collected before and after the intervention using a vocabulary test. Additionally, students' perceptions regarding their experience using the Digital-Based Chain Picture Game with the Gartic Phone application were collected through a questionnaire employing the Technology Acceptance Model (TAM) instrument. Data analysis was conducted using appropriate statistical methods to compare the differences in vocabulary mastery between the experimental and control groups. The findings of this study are expected to provide a better understanding of the effectiveness of using the Digital-Based Chain Picture Game with the Gartic Phone application in enhancing students' mastery of Arabic vocabulary. It also serves as a recommendation for Arabic language instructors to incorporate the Gartic Phone application as one of the media to improve Arabic vocabulary mastery.

Keywords: Arabic, Gartic Phone, vocabulary, Digital Chain Picture Games

ABSTRAK

Penelitian ini bertujuan untuk mengeksplorasi efektivitas pemanfaatan permainan Gambar Berantai Berbasis Digital dengan menggunakan aplikasi Gartic Phone untuk meningkatkan penguasaan kosakata bahasa Arab siswa. Metode yang digunakan dalam penelitian ini adalah Quasi Experimental Design dengan model Nonequivalent Control Group Design. Partisipan terdiri dari para siswa di sekolah MTs N 1 Klaten kelas VIII. Kelompok eksperimen menggunakan permainan Gambar Berantai Berbasis Digital dengan aplikasi Gartic Phone sebagai intervensi dengan jumlah 30 partisipan, sementara kelompok kontrol tidak menerima intervensi dengan jumlah yang sama 30 siswa. Data penguasaan kosakata bahasa Arab dikumpulkan sebelum dan setelah intervensi menggunakan tes kosakata. Selain itu, persepsi siswa mengenai pengalaman menggunakan permainan Gambar Berantai Berbasis Digital

dengan aplikasi Gartic Phone juga dikumpulkan melalui kuesioner dengan menggunakan instrumen *technology Acceptance Model (TAM)*. Analisis data dilakukan menggunakan metode statistik yang sesuai untuk membandingkan perbedaan dalam penguasaan kosakata antara kelompok eksperimen dan kelompok kontrol. Hasil penelitian ini diharapkan dapat memberikan pemahaman yang lebih baik tentang efektivitas penggunaan permainan Gambar Berantai Berbasis Digital dengan aplikasi Gartic Phone dalam meningkatkan penguasaan kosakata bahasa Arab siswa. Dan menjadi rekomendasi bagi para pengajar bahasa Arab untuk menggunakan aplikasi *gartic phone* sebagai salah satu media yang dapat meningkatkan penguasaan kosa-kata bahasa Arab.

Kata kunci: Bahasa Arab, Gartic Phone, kosa-kata, Permainan Gambar Berantai Digital

Introduction

In essence, learning is a process of interaction that occurs between educators and students. In Law No. 22 of 2003 concerning the National Education System, Article 1 Paragraph 20, learning is a process of interaction between students and educators and learning resources in a learning environment. In other words, learning is an effort to create a process of teaching and learning activities. The effectiveness and efficiency of learning are very influential on the success of education, and for that reason, educators must know how learning activities should be designed so that they can run smoothly. This is because the learning process is the spearhead and core of educational activities that will affect the achievement of educational goals (Chatib & Said, 2012).

In a learning system, there are several important components that are integrated with each other. All components of it should not be ignored, one of which is learning media. Learning media is a teaching aid in increasing student understanding. According to E. De Corte in Mustapa Ali (Mappanyompa & Mustapa Ali, 2017) Learning media is a non-personal tool used or provided by teaching staff who play a role in the learning process to achieve instructional goals. It is important for an educator to choose and determine the right learning medium because this has an impact on the learning interests of students. Interesting and fun learning media will keep students from boredom and have a positive impact on them in growing and developing their knowledge and skills, especially in language learning.

In this era of very rapid technological development, educators are expected to be able to develop innovations, ideas, or concepts by utilizing technology in learning. According to Wena in Fadilah and Imron (Khomsah & Imron, 2020), The advantage of

technology in learning is that it can create an effective and fun learning atmosphere for students, and the presence of technology can stimulate students' abilities in practice, do assignments, and adjust the learning speed according to their abilities. By utilizing technology in teaching and learning activities, especially in language learning media, students not only learn to use books and listen to teacher explanations, but they can also use other learning media that are more interesting and fun. One form of utilizing learning media is game-based learning.

According to Prasetya (Shiddiq, 2021), game-based learning is a form of learning in the form of electronic or digital games for learning purposes. This digital game-based learning process, used as a medium for delivering learning materials, improves the ability to understand, knowledge, skills, and assessment and evaluation of students. Another term is also known as gamification. Dean Takahashi (2010) explained that gamification is a process of combining rules in games, namely patterns, designs, and game mechanics, that aim to change non-game activities.

The development of game-based learning can create a more creative, interesting, and fun learning atmosphere. As we know naturally every human being even makes a game his need because playing will bring happiness to the situations and conditions he faces. Games for children are one of the learning tools that are very important for the progress of children's development in everyday life. Play activities can also be used as an effective and efficient means for students to increase their interest in learning, exploring, and creating. In addition, utilizing games in learning. According to Marc Prensky (Shiddiq, 2021), it is able to stimulate emotional, intellectual, and psychomotor development in children. Therefore, utilizing game-based learning can be the right solution to be applied in the learning process, especially in language learning.

Arabic, as a foreign language among many languages in the world, is now widely taught at every level of education, from elementary school to tertiary level. Learning Arabic is one of the lessons that is often considered scary by students at school. As far as we know, two sources of Islamic law, namely the Qur'an and Al-Hadith, were revealed in Arabic, so the existence of Arabic is very important in the Islamic world. However, there are still many students who still consider it a fear to dislike Arabic lessons. In learning Arabic, students also often experience confusion in understanding what is presented and learned by

educators. This is because there is still a lack of basic vocabulary owned by students. While mastery of basic vocabulary is very important for future Arabic language learning,

One important aspect that must be considered in learning Arabic is vocabulary mastery because having an adequate vocabulary can support and develop one's language skills. A person's language skills are based on how much vocabulary he has. The more vocabulary he has, the better his language skills will be (Ulya, 2016).

The lack of vocabulary among students is one of the factors that makes it difficult for them to learn Arabic, so they think that learning Arabic is a scary lesson. The same phenomenon was also experienced by grade VIII Excellence students and Arabic teachers at MTs Negeri 1 Klaten. Based on the researchers' initial observations of Arabic students and teachers there, problems were found, such as different student backgrounds; some students were new to learning Arabic at the Mts level, and when learning, they had difficulty following and understanding the material presented, so they considered Arabic difficult. Then learning media is not enough to support Arabic learning, especially to improve vocabulary mastery, so that students' interest in learning is low and they feel Arabic lessons are boring.

Seeing the problems that occur, researchers are interested in making improvements in the Arabic learning process by applying more interesting and fun digital-based Arabic learning media to foster students' interest in Arabic language learning. So that if interest in Arabic grows, students can follow the learning without any element of coercion or pressure. Thus, the process of learning Arabic will be more fun, and it will be easier for students to understand the learning material delivered, especially in learning Arabic vocabulary.

The digital-based learning media that will be used in learning Arabic in class VIII Flagship MTs Negeri 1 Klaten is a chain image game media using the Gartic phone application. Gartic Phone is a chain-guessing game application where this game can be played by up to 30 people, with the number of rounds in the game following the number of players in the playing room. This GPS phone application is also very easy to access, either through a cellphone or laptop. The use of this GPS phone application is the latest form of innovation that is right for use in learning in the digital era.

Chain picture games are a learning medium that educators can use to deliver language learning materials. In principle, this chain picture game is a development of a chain message game or chain whisper. Chain whispering is a game that is done by

whispering a sentence to his group mates in sequence (Fathul Mujib dan Nailurrahmawati, 2012). The first player receives a whisper from the teacher, then relays what he heard to the second player; the second player conveys it to the third player; and so on. The last player then relays the grade back to his teacher. The chain image is a form of presenting images based on topics or events needed until they are composed, and each image is able to tell a story with the intention of taking the meaning contained in the image presented (Denafri et al., 2020). So what distinguishes chain whispers from chain pictures is that the message conveyed can not only use words but can also use pictures so that students can more easily understand the message.

According to Yuni Khodijah (2017), in her research entitled "The Effectiveness of the Direct Method by Using Chain Picture Card Media to Improve Arabic Speaking Proficiency of Junior High School Students of Babussalam Islamic Boarding School Pekanbaru," the chain picture game she studied was effective in improving the Arabic speaking proficiency of students at Junior High School Students of Babussalam Islamic Boarding School Pekanbaru. That is, this game can also be effective in improving the mastery of Arabic vocabulary because one's language proficiency can increase if accompanied by sufficient mastery of language vocabulary. With sufficient vocabulary mastery, it will be easier for students to express their ideas or feelings about something.

Based on the background stated above, researchers want to try to reveal the effectiveness of digital-based chain picture games by using the Gartic Phone application to improve students' mastery of Arabic vocabulary. The research objectives are as follows:

1. Whether digital-based chain drawing games using the Gartic Phone application can improve students' mastery of Arabic vocabulary?
2. Do students accept the technology used in digital-based chain drawing games using the Gartic Phone app in Arabic vocabulary learning?

Methods

This study used a quasi-experimental design using the Nonequivalent Control Group Design model. This research was conducted at MTs Negeri 1 Klaten by determining two classes, namely Class VIII Flagship 1 and Class VIII Seed 2. Class VIII Flagship 1 consists of 30 students, while Class VIII Flagship 2 also has the same number of students at 30 students.

The data collection technique used in this study used pretest-postes tests and the use of Technology Acceptance Model (TAM) questionnaires to see students' acceptance of Gartic Phone technology.

First of all, randomization of groups is carried out to ensure that both groups have balanced initial characteristics. Class VIII Flagship 1 was designated as the experimental group that would receive action using the Gartic Phone application, while Class VIII Featured 2 became the control group that did not accept intervention and continued learning Arabic conventionally.

The intervention was carried out in the form of a series of chain image-based games using the Gartic Phone application. Class VIII Seed 1 was given the opportunity to participate in this game as part of Arabic vocabulary learning. Meanwhile, Class VIII Flagship 2 follows the process of learning Arabic vocabulary without using the Gartic Phone application.

Data were collected through pretests and post-test given to both groups before and after the action was performed. This test aims to measure students' mastery of Arabic vocabulary. In addition, after the action was completed, TAM questionnaires were given to both groups to evaluate students' acceptance of the use of Gartic Phone technology in Arabic language learning. This questionnaire includes questions about usability, ease of use, and students' desire to use the Gartic Phone application.

The data collected from the pretest-posttest will be analyzed using appropriate statistical methods, such as the t-test, to compare the increase in vocabulary mastery between the experimental group and the control group. In addition, data from the TAM questionnaire will be analyzed descriptively to gain a better understanding of students' acceptance of the use of Gartic Phone technology in Arabic language learning.

Result and Discussion

Result

Can digital-based chain drawing games using the Gartic Phone app improve students' mastery of Arabic vocabulary?

To answer the first question, begin with a descriptive statistical analysis of the results of pretests and posts. From the data, it can be seen that the experimental group showed a

significant increase in post-test scores compared to their pretest scores. The experimental group's average post-test score (90.33) was higher than their average pretest score (74.67). This shows a significant improvement in Arabic vocabulary mastery after using the Gartic Phone application. On the other hand, the control group also showed an improvement in their post-test scores, although not as large as the experimental group. The control group's average post-test score (80.83) was higher than their average pretest score (71.67).

Table 1; Average Test Results of the Experimental Class and Control Class

		Mean	N	Std. Deviation	Std. Error Mean
Experimental Class	Pretest	74.67	30	9.553	1.744
	Posttest	90.33	30	7.761	1.417
Control Class	Pretest	71.67	30	8.023	1.465
	Posttest	80.83	30	6.958	1.270

To determine the significance of the difference between pretest and posttest values in the experimental class and the control class, paired sample t-test analysis was carried out (table 2). And it was found that there was a significant difference between the average pretest and posttest scores ($p < 0.05$). The negative difference in both groups showed an increase in post-action scores. This shows that the use of the Gartic Phone application in learning Arabic vocabulary has a positive impact on improving students' vocabulary mastery.

Table 2: Paired-Samples T Test Results

Paired Differences	95% Confidence Interval of the Difference				t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean				
Pair 1: Pretest - Posttest (Eksperiment)	-15.667	5.371	.981	-13.661 17.672	-15.976	29	.000

Pair 2:

Pretest - Posttest (Control)	-9.167	9.476	1.730	- 12.705	-5.628	-5.298	29	.000
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Based on the results of the t-test in Table 3, there is a significant difference between the mean post-test score of the experimental group and the control group. The experimental group (mean = 90.33) had significantly higher post-test scores than the control group (mean = 80.83). This shows that the use of the Gartic Phone application in learning Arabic vocabulary significantly increases students' vocabulary mastery compared to conventional learning without using the application. These results provide evidence that the Gartic Phone application is effective in improving students' ability to master Arabic vocabulary. With a bidirectional significance (Sig.) value of 0.000, it can be concluded that the difference between the mean post-test scores of the two groups did not occur by chance or as a result of random variability. These results confirm that the use of the Gartic Phone application significantly has a positive impact on students' Arabic vocabulary mastery.

Table 3: Independent-Samples T Test Hypothesis Test Results

Kelas	N	Mean	Sd	T-Test for Equality of Means		
				t	df	Sig. (2-tailed)
Eksperimen	30	90.33	7.761	4.992	58	0.000
Control	30	80.83	6.958			

Do students accept the technology used in digital-based chain drawing games using the Gartic Phone app in Arabic vocabulary learning?

The distribution of questionnaires was carried out at the end of the meeting, namely to the class given treatment (experimental class). The purpose was to provide supporting data to find out the responses of students to the media that had been applied to their learning. The statement contained in the questionnaire made by researchers based on the TAM (Technology Acceptance Model) model first introduced by Davis (1986) is one of the models used to analyze factors that affect the acceptance of a technology by users. Student

responses are measured using the Likert scale. Here is a statistically descriptive table of student responses to Gartic Phone games.

Table 3: TAM Questionnaire Results

Item	Mean	Std. Deviation
<i>Perceived Ease of Use: Perception of the Ease of Use of Gartic Phone Games</i>	4.28	0.50579
<i>Perceived Usefulness: Perception of the usefulness of using Gartic Phone Games</i>	4.18	0.47864
<i>Behavioral Intention: Behavioral interest in the use of Gartic Phone Games</i>	4.23	0.52904
<i>Actual System Use: A Real Form of Gartic Phone Game Use</i>	4.30	0.55086

The TAM Questionnaire table above displays the results of four items that measure students' perceptions and interest in the use of Gartic Phone games in Arabic vocabulary learning. First, there is a "perceived ease of use" item that measures the extent to which students feel that using Gartic Phone games is easy. The results show that the average score for this item is 4.28, with a standard deviation of 0.50579. This shows that students tend to have a positive perception of the ease of use of this game. Furthermore, the "perceived usefulness" item measures the extent to which students feel that the use of Gartic Phone games is beneficial in improving Arabic vocabulary mastery. The average score for this item is 4.18, with a standard deviation of 0.47864. These results suggest that students generally find the use of these games quite beneficial. The item "Behavioral Intention" measures students' interest in using Gartic Phone games in future Arabic vocabulary learning. The average score for this item is 4.23, with a standard deviation of 0.52904. This indicates that students are showing positive interest in future use of the game.

Finally, the "Actual System Use" item measures the extent to which students have used Gartic Phone games in vocabulary learning. The average score for this item is 4.30, with a standard deviation of 0.55086. These results show that most students have used this

game for real learning. Based on these results, it can be concluded that students have a positive perception of the ease of use and usefulness of the Gartic Phone game in learning Arabic vocabulary. In addition, students also showed a positive interest in using this game in the future. This is supported by the fact that most of the students have used this game for learning. The overall results showed good acceptance of the use of the Gartic Phone app and students' perceptions of its benefits in improving vocabulary mastery.

Discussion

In this study, researchers gave two different treatments in each class. In the experimental class, researchers gave treatment by applying a digital chain image game, namely the Gartic Phone game, as an additional learning medium to improve mastery of Arabic vocabulary. While in the control class, researchers gave treatment according to how MTs 1 Klaten Arabic teachers usually teach, namely without applying additional learning media to it.

Students in the experimental class, namely the class that was given treatment by applying digital-based chain image games, gave a positive response, as seen from their enthusiasm when playing the game and their activity during learning. The positive behavior and response of these students are the same as what is described by Jusuf (2016) in his journal, the development of gamification in learning aims to motivate students in learning and maximize feelings of happiness and interest in the learning process, besides that this media can also be used to capture things that interest students and inspire them in learning. While the learners in the control class were classes that were not given treatment by applying this game, they also participated well but were not as active as the experimental class.

The results of the hypothesis test analysis presented in Table 4.8 show that the posttest results hypothesis test data have a sig (2-tailed) value of < 0.05 , where the sig (2-tailed) value of the posttest result is 0.000. In accordance with the basis of the independent-samples T test, if the value of significance (2-tailed) is < 0.05 , then H_0 is rejected and H_a is accepted. This means that the Gartic Phone game effectively affects the mastery of Arabic vocabulary of grade 8 students in MTs Negeri 1 Klaten. This is also supported by the average value of pretest-posttest results in the experimental class and control class, which

has increased, as shown in Table 4.6. Likewise, the average score of the experimental class posttest results was 90.33, which was greater than the control class score of 80.83.

The results of this study are in line with the results of research findings Hidayati (2020) Namely the use of chain picture message games, where the results of the use of the game are effective and have an influence on increasing language vocabulary, as seen from the average score before and after treatment, which always increases. This chain message game is one of the factors that can support the mastery of language vocabulary. This is supported by many previous findings that discuss how this game can improve Arabic vocabulary and listening skills. Rohmatun Nurul Hidayah et al. (2022) in his journal that chain message games have a very strong influence on improving students' vocabulary mastery because the use of games is easy to understand, interesting, and also fun, so that students are motivated to learn language vocabulary. There are several ways to improve language vocabulary, one of which is through repetition (review). Repetition (review) can be done through chain message games.

Developing a chain message game into a chain image is a new presentation in implementing this game, where the message conveyed can not only use a word but also images. According to Hikmah (2021) The images presented to students will give direction and shadows about what message the educator wants to convey, and the material obtained by students will be more factual, memorable, and not easily forgotten. Laely in Denafri et al. (2020) Another benefit of image media is that channeling messages using the sense of sight can facilitate understanding, memory, and children's interests and can provide relationships between the content of the subject matter and the real world. So even though this chain message game is presented with pictures, the message given will still be effective and well conveyed.

The use of digital-based chain drawing games is one of the latest innovations in learning. The use of this game is an experience for students in learning Arabic vocabulary. The implementation of gamification makes learning fun and can be a good means to encourage student involvement in learning (Lutfiyatun, 2021).

In addition to the hypothesis test that has been described earlier, the effectiveness of this digital-based chain image game is also supported by student responses in the form of questionnaires in which each statement of the researcher is compiled in accordance with the TAM (Technology Acceptance Model). Legris in Syafrizal et al. (2016) explains that the

purpose of this TAM model is to get a broader perspective and a better explanation of the process of receiving technology from individuals. The average result of student responses in Table 4.9 is ≥ 4 , or the same as agreeing to each get a good response from student participants. The average assessment is in accordance with the scale of research that researchers use, namely the Likert scale. Seeing the four acceptance factors get an average value that is not too far apart, it is because the four are interconnected with each other that the ease of use of technology has a positive effect on efficacy. The usefulness obtained by users will affect their attitudes and interests. If users feel comfortable and each factor of acceptance of this game means that the game is happy, users will continue to use it and motivate other users to use the technology (Rahayu & Riska, 2018).

Conclusion

Based on the results of the experiments and analysis of TAM questionnaire data that have been carried out, it can be concluded that there are several important things in this article. First, the use of digital-based Gartic Phone games in Arabic vocabulary learning has proven effective in improving students' vocabulary mastery. The experimental results showed a significant difference between pretest and posttest scores in the experimental group. That is, after using Gartic Phone, students experience a significant improvement in their mastery of Arabic vocabulary. In addition, data analysis from the TAM Questionnaire showed that students had a positive perception of the use of GPS phone games. They feel that the game is easy to use, useful, and show a positive interest in using the game in the future. In addition, most students have also used the Gartic Phone game for real in the learning process. By combining findings from the experiment and the analysis of the TAM Questionnaire, it can be concluded that the use of Gartic Phone games in Arabic vocabulary learning has a positive impact on students' vocabulary mastery. In addition to increasing vocabulary mastery, the use of this game also gets a positive response from students in terms of ease of use, usefulness, and interest in behaving towards its use. Thus, the use of Gartic Phone games in Arabic vocabulary learning can be considered an effective and innovative approach. This method provides an interesting alternative to improve students' achievement and motivate them to learn Arabic vocabulary. In addition, these results can be a recommendation for Arabic teachers to use the Gartic Phone application as an effective learning medium for improving mastery of Arabic vocabulary.

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