Fostering Junior High English Vocabulary Mastery Through Cake Application

[Membina Penguasaan Kosakata Bahasa Inggris Siswa Melalui Aplikasi Cake]

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Abstract: This study investigates the effectiveness of the Cake application in enhancing vocabulary mastery among eighth-grade students at SMP Muhammadiyah 5 Sidoarjo. The rapid development of technology in the era of globalization necessitates innovative educational tools, with English vocabulary acquisition being crucial for global communication. Despite the growing availability of mobile-assisted language learning (MALL) applications, there is limited research on their impact on vocabulary learning. This study aims to address this gap by evaluating the Cake application's effectiveness compared to traditional teaching methods. Utilizing a true-experimental design, pre-test and post-test assessments were administered to both control and experimental groups, with the latter using the Cake application. Data analysis was conducted using SPSS 26. Results indicated a significant improvement in the experimental group's vocabulary mastery, demonstrating the application's efficacy as an instructional tool. The study highlights the potential of mobile applications to enhance learning outcomes and student engagement, providing valuable insights for educators seeking to integrate technology into language teaching. These findings underscore the transformative role of educational technology in facilitating English vocabulary development and propose the Cake application as a viable alternative to conventional methods.

Keywords: Cake Application, Vocabulary, Listening Skills

Abstrak: Penelitian ini menyelidiki efektivitas aplikasi Cake dalam meningkatkan penguasaan kosakata di kalangan siswa kelas delapan di SMP Muhammadiyah 5 Sidoarjo. Pesatnya perkembangan teknologi di era globalisasi memerlukan alat pendidikan yang inovatif, dan penguasaan kosakata bahasa Inggris menjadi hal yang penting dalam komunikasi global. Meskipun ketersediaan aplikasi pembelajaran bahasa berbantuan seluler (MALL) semakin meningkat, penelitian mengenai dampaknya terhadap pembelajaran kosakata masih terbatas. Penelitian ini bertujuan untuk mengatasi kesenjangan ini dengan mengevaluasi efektivitas penerapan Cake dibandingkan dengan metode pengajaran tradisional. Dengan menggunakan desain eksperimen sejati, penilaian pra-tes dan pasca-tes diberikan kepada kelompok kontrol dan kelompok eksperimen, yang terakhir menggunakan aplikasi Cake. Analisis data dilakukan dengan menggunakan SPSS 26. Hasil menunjukkan peningkatan yang signifikan dalam penguasaan kosakata kelompok eksperimen, yang menunjukkan kemanjuran aplikasi sebagai alat pembelajaran. Studi ini menyoroti potensi aplikasi seluler untuk meningkatkan hasil pembelajaran dan keterlibatan siswa, memberikan wawasan berharga bagi para pendidik yang ingin mengintegrasikan teknologi ke dalam pengajaran bahasa. Temuan ini menggarisbawahi peran transformatif teknologi pendidikan dalam memfasilitasi pengembangan kosakata bahasa Inggris dan mengusulkan aplikasi Cake sebagai alternatif terhadap metode konvensional.

Kata kunci: Aplikasi Cake, Kosakata bahasa Inggris, Keterampilan menyimak

I. INTRODUCTION

The era of globalization and advances in information technology that continue to develop, it can have a large and broad impact on every region of the world. Education, which is one of the most important fields, is greatly influenced by these technological advances [1]. English is increasingly important in various aspects of life because it is considered a global communication language. The world of education must adapt to technological advances so that students can prepare for the future. Governments and educational institutions are paying close attention to this as they seek to provide students with the skills required to succeed in a globalized environment. English is very important for students

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because it allows them to communicate and express themselves well all over the world [2]. Vocabulary development is a crucial component of language competency since our ability to understand and convey meaning is positively correlated with the number of words we know. Vocabulary is very important for learning English. Without vocabulary, students will not be able to understand and speak well in English [3].

According to Mansur et al, vocabulary plays a vital role in language acquisition [4]. When learning English, it is important not only to acquire each of the four skills of reading, writing, speaking, and listening, but also to develop general language proficiency. Students must not only understand words and sentences but also develop their vocabulary through listening in English effectively. Uzer asserts that the first step in helping students comprehend and advance their reading, writing, and speaking abilities is listening. Through listening exercises, students learn new vocabulary and learn how to pronounce words without realizing it [5]. Listening activities involves capturing sounds by the auditory system, refining them to produce meaningful words, or forming meaningful phrases. [6]. It is worth noting that each student has a different vocabulary, which can greatly affect how they learn the language. Thornbury, emphasizes, that while grammar is crucial for communication, vocabulary is the key to expressing oneself [7]. When students actively expand their vocabulary, they can improve their ability to communicate, understand words that they don't know, and improve their general English skills. Additionally, having a strong vocabulary base makes it easier for them to communicate in English. It's important to remember that vocabulary is an essential part of learning a new language and is connected to all of the other language skills.

Fatin carried out a study titled "The Effectiveness of Using Cake Application Toward Students' Vocabulary Mastery of the Seventh Grade at MTs PSM Rejotangan" to address the issue [8]. The Cake application, which is the subject of this study, is a useful tool for increasing students' vocabulary knowledge as a learning medium and resource.

Tiamanda conducted the next research with the title "The Use of Cake Application to Improve Students' Vocabulary at Karangan State High School" [9]. The research found that there was definitely significant variance between teaching vocabulary and using methods of quantitative research and a quasi-experimental method. The research findings indicate that utilizing Cake has a consequence on vocabulary mastery. The pre-test had an average value of 46.59, while the post-test had an average value of 59.14 after therapy. In conclusion, using the Cake application has increased students' vocabulary mastery. Another study was conducted by Sofia et al with the title "Students' Perception Towards the Use of Cake Application as a Medium to Increase Vocabulary Knowledge in Junior High Students" [10]. This research focuses on student pronunciation and vocabulary mastery. This Cake application is useful, has interesting features, is easy to use, and is free. The results of these findings show that they are aggregated into positive perceptions. Apart from that, researchers found negative perceptions in this study. It was found that students felt that implementing this Cake had challenges for them. The students shared that they found it difficult to use the microphone and had limited scribbles or hearts when using the Cake application.

Contrast to the studies reviewed previously, the researcher focused on teaching vocabulary by implementing this cake application. Listening improves our understanding of the speaker's message by helping us understand their pronunciation, vocabulary and grammar simultaneously [11]. To see students' vocabulary mastery in learning listening skills, the researcher chose listening skills activities because this application is suitable for listening activities. In this case, research highlights that teaching vocabulary through the Cake application not only provides variety in teaching media but also utilizes advanced technology to improve students' listening skills effectively. Therefore, the significance of this application was researched below the title "Fostering Students' Mastery of English Vocabulary Through the Class VIII Cake Application at SMP Muhammadiyah 5 Sidoarjo". In connection with the worth of vocabulary previously, the process of learning and teaching requires an optimal educational setting to attract student learning. The importance of this research lies not only in improving listening skills or vocabulary mastery but also in the contribution of English language teaching media to the educational environment. In this way, students can actively participate in the media used, not only in acquiring new vocabulary but also in being responsive to technological developments.

Choudron (2015) explained that learning English has become easier for students, thanks to applications that can be accessed via smartphones connected to the internet [12]. Smartphones serve not only as a basic means for communication, but they can also as efficient tools for learning because they have all of the capabilities of a computer.

According to E. Gerlach, teachers must consider student qualities that are directly related to the learning process, such as verbal ability, visual perception, and audio, when choosing the right media [13]. Our learning system model must also consider other components of media selection. They include the way the group is organized, the amount of time available, and the location where the media is used. The right media can encourage students to be more active. Psychologically, students want to study certain topics in a safe environment and are not afraid. Practically, the use of this medium can stimulate students to learn. The results are clear, allowing students to understand the material and learn the concepts. Students will be filled with enthusiasm after engaging in the lesson as a result of this. We know that utilizing this learning application media will improve your ability to speak English, including English conversation. This is due to several useful features in this application, which you can utilize to improve your English skills. According to Darwis et al, Online learning media provides easy access and time flexibility for users, users can

access learning materials anytime and anywhere [14]. Apart from that, online learning media also provides various interactions with other users, such as online discussions and collaboration in group assignments. On the other hand, offline learning media, such as books and printed materials, offer advantages in terms of stable availability and can be accessed without depending on an internet connection. Users can also learn in depth through offline learning media. As a result, educational media can be defined as anything that can transform and solidify knowledge from any source



Figure 1. Cake application in listening activities

practically and efficiently, resulting in a critical learning environment in which learners can carry out the learning process efficiently and effectively. As stated by Yanthi, The Cake application is South Korea's newest and most popular Android mobile application. He mentioned that this app is part of MALL (Mobile Assisted Language Learning), which may be accessed through smartphone devices [15]. It is claimed that utilizing this application can improve the user's proficiency in the English competence, including vocabulary because it contains many interesting function that can be applied to effectively increase English language skills. Cake is not only an application, but also an English educational platform available for Android and iOS. Cake Learn English has a variety of impressive capabilities, such as short and funny subtitled video conversations, practicing speaking with native speakers, and a Speech Awareness tool that could be used to verify pronunciation. Interestingly, the app is easy for students to use, and it's familiar to Indonesians. There are various advantages to using the Cake application as an English learning tool. It is easier to use and a new approach to learning English makes it a very effective choice. Because it is smartphone-based, students can access it with flexibility, anytime and anywhere. This app offers diverse content and, more importantly, is free once students use it. Learning English through this application is considered fun and never boring.

The Cake application has become considered to be the most efficient English teaching medium for improving students' vocabulary mastery and listening activities, seeing the large number of people who download this application. Since students will become more active in class, using Cake will become more effective. The Cake application is recognized as an efficient and fun medium for vocabulary acquisition in listening activities since it allows students to confidently listen, speak, and discussion the vocabulary that they have just learned. Studying with the Cake program encourages students to improve their English vocabulary and listening activities.

II. RESEARCH QUESTION

Can listening activity in Cake application improve students vocabulary mastery at SMP Muhammadiyah 5 Sidoarjo?

III. METODE

The research design used is quantitative experimental research. According to Creswell 2015, This method is known as a quantitative method while the researchers data is in a form of numbers and uses analysis based on statistics [16]. The researchers uses one of the experimental research styles in this experimental quantitative research, which is true-experimental, with one group pre-test and post-test. For the collection of data for this study, students will be accompanied into two groups: control and experimental. The control group learns language using conventional

technical methods with PowerPoint accompanied by audio to discover new vocabulary, while the experimental group learns vocabulary using the Cake application program. This study used a purposive sampling technique for sampling. The purposive sampling technique, as defined by Cresswell (2015), is a method of determining and selecting samples chosen by the researcher based on certain considerations. In this circumstance, these considerations vary and are adjusted to the specific requirements of the research being conducted. The research sample consisted of two classes, control and experimental classes that were purposively selected based on certain criteria considered relevant to the research objectives.

Table 1 Pretest and Posttest

Group	Pre-test	Treatment	Post-test
Experimental	V	X	V
Control	V	Y	V

Explanation:

X: The Cake Application will be given to the students Y: The Cake Application will not given to the students.

This table 1 outlines the structure of the research design, which involves both an experimental group and a control group, detailing the steps each group underwent during the study.

Pre-test (V): Both groups underwent an initial assessment to measure their baseline vocabulary mastery and listening skills before any treatment was applied. This pre-test helps establish a reference point for each group's performance. A pre-test was given to students before being given treatment by researchers to determine students' vocabulary mastery in listening abilities or skills. The test is in the form of an audio given to students to measure the level of student mastery of vocabulary and listening activities. Students in both groups, the experimental group and the control group, were given the same test.

Treatment:

Experimental Group (X): The experimental group received the treatment, which involved using the Cake application as a tool for vocabulary learning and listening practice.

Control Group (Y): The control group did not use the Cake application; instead, they continued with traditional teaching methods involving audio provided by the teacher.

The treatment strategy was implemented in the second week after the pretest, used to help students solve problems in learning activities. At this stage, the control class was not given the treatment using the cake app but instead used the traditional teaching method through audio provided by the teacher to improve vocabulary and listening activities. Meanwhile, for the experimental class, students were given treatment through video cake application.

Post-test (V): After the treatment period, both groups took a post-test identical to the pre-test to evaluate any changes in their vocabulary mastery and listening skills.

For the post-test, students are given audio listening which covers various levels of difficulty, then students listen and answer the questions in writing. The condition after the pre-test and treatment test attempts to identify any variations between the experimental and control groups.

The comparison of pre-test and post-test results for both groups allow researchers to assess the effectiveness of the Cake application in enhancing vocabulary and listening skills among students. Then, The pre-test and post-test results were then calculated using the SPSS 26 program to measure whether there was a positive influence.

The population in this study were 8th grade students of SMP Muhammadiyah 5 Tulangan which amounted to 60 students. From the 8th grade students at SMP Muhammadiyah 5 Tulangan, 2 samples were selected, namely 8th grade A students as the control class and 8th grade C as the experimental class.

The instruments used are audio listening and tests. The test instrument is a written test given to students to construct vocabulary based on the results of the listening learning that has been carried out.

Data analysis in this study used SPSS 26. This analysis technique aims to test differences in vocabulary skills between the control group and the experimental group taught through the cake application media. In this way, the difference in effectiveness between the control group and the experimental group will be known.

IV. RESULT & DISCUSSION

The researchers sought to see how effective a cake application was for teaching students vocabulary. The substantial advantages difference for students average scores between the pre- and post-tests demonstrates their effectiveness. After completing data analysis, the researchers provides the statistical analysis results to address the study challenges raised in the previous chapter. The researchers conducted pre- and post-tests to collect numerical data on students' vocabulary mastery before and after treatment. The following is a display of student scores as pre-test and post-test results.

This chapter presents data analysis in pre-test and post-test activities. This chapter contains an overview of the problem, problem solving and discussion. The values were compared before and after the treatment to assess the progress in each group. As shown in the table below:

Table 2 Score pretest and posttest

No.	Class name	Average before treatment (Pre-test)	Average after treatment (Posttest)
1.	Control Class (8C)	45	75
2.	Experiment Class (8A)	55	82

The first section of Table 2 shows that the experimental group's pre-test score was 55, whereas the control group's was 45. This indicates that the experimental group had a little higher score than the control group. Furthermore, the table also shows the average post-test score of both groups. The researchers employed the t-test to compare students' pre- and post-test scores in the experimental and control groups. Before performing a t-test calculating, the researchers determined the data's normality. The normality test determines whether data is regularly distributed or not. In this true-experimental test, the research involved a control group and an experimental group as subjects. This can be seen in the table below.

Table 3 Tests of Normality to determine whether the data is normally distributed or not

		Kolmogorov-Smirnov ^a		Shapiro-Wilk			
	Class	Statistic	df	Sig.	Statistic	df	Sig.
Student Learning	Pre-Test Experiment	.197	30	.005	.856	30	.001
Outcomes	(8C)						
	Post-test Experiment	.285	30	.000	.789	30	.000
	(8C)						
	Pre-Test Control (8A)	.136	30	.167	.930	30	.050
	Post-Test Control (8A)	.293	30	.000	.845	30	.000

The normality test results in the table 3 above show abnormalities in the data of one of the groups. namely in the saphiro wilk column located in the control pre-test class with a test value of 0.050 which means that the data is less than 0.05. data is said to be normal if > 0.05. With this non-normality, the researchers decided to use the Wilcoxon test. This Wilcoxon test is a not parametric approach that's effective better with data that is not regularly distributed. The Wilcoxon test is a not-parametric approach that is more effective in dealing with data that is not normally distributed.

Table 4: Wilcoxon Test

Comparison	Z	Asymp. Sig. (2-tailed)
Post-test Experiment – Pretest Experiment	-4.869b	.000
Post-test Experiment – Pretest Control	-4.817b	.000

Table 4 presents the results of the Wilcoxon Signed Ranks Test, which was used to determine if there is a significant difference between two paired data sets.

• Comparison: It shows the pairs of data being compared.

Post-test Experiment – Pretest Experiment: This comparison measures the difference in scores within the experimental group between the post-test and pre-test.

Post-test Experiment – **Pretest Control**: This comparison measures the difference in scores between the experimental group's post-test and the control group's pre-test.

- **Z**: The Z-value represents the test statistic for the Wilcoxon Signed Ranks Test. Negative Z-values indicate the direction of the change.
 - **-4.869b**: For the comparison within the experimental group.
 - **-4.817b**: For the comparison between the experimental group's post-test and the control group's pretest.
- **Asymp. Sig. (2-tailed)**: It shows the p-value for the test. A p-value less than 0.05 indicates a significant difference between the compared groups.
- .000: For both comparisons, indicating a statistically significant difference.

The results show that there are significant differences between the pre-test and post-test scores within the experimental group and between the experimental group's post-test scores and the control group's pre-test scores. This indicates that the use of the Cake application had a significant positive impact on students' vocabulary mastery.

The research has proven that the Cake application is an effective tool for improving students' vocabulary skills. One of the key factors contributing to its success is the students' engagement and interest in choosing their learning materials, which is facilitated by the application's variety of stories presented in video format. This approach makes the learning process not only more enjoyable but also more memorable. By allowing students to select materials that align with their interests, the Cake application fosters intrinsic motivation, which is crucial for effective learning.

The findings of this study align with Mongomery (2007), who emphasized that videos are a valuable method for learning vocabulary, practicing listening skills, and developing critical thinking abilities [17]. The multimedia approach used by the Cake application enhances these aspects by providing a dynamic and interactive learning environment. This method goes beyond traditional rote learning by incorporating contextual and authentic language use, which aids in deeper comprehension and retention of vocabulary.

Additionally, this study supports the work of Kuo (2010), cited in Abdul Latif (2019), which highlighted the effectiveness of the dictation method in vocabulary acquisition [18]. The Cake application employs a similar drill-based approach, which has been shown to significantly improve students' vocabulary skills. Both the dictation method and the Cake app rely on repeated exposure and practice, which are essential for solidifying new vocabulary in long-term memor

Momen (2022) further supports the effectiveness of the Cake application, explaining that its primary objective is to help students learn a language by watching authentic films that demonstrate language use in specific contexts [19]. This aligns with the research of Marian Tyson (1989), who found that intermediate-level ESL students who listened to audio tapes achieved better scores in listening comprehension tests than those who only read the same content. This highlights the importance of auditory learning and live text in enhancing language comprehension [20].

The combination of visual and auditory stimuli in the Cake application creates a comprehensive learning experience that caters to different learning styles. By integrating these elements, the application not only improves

vocabulary skills but also enhances overall language proficiency. This study underscores the potential of mobile-assisted language learning tools like the Cake application to transform traditional educational practices and provide more effective and engaging learning experiences.

In conclusion, the Cake application has demonstrated its efficacy in improving students' vocabulary mastery through its interactive and engaging approach. Educators are encouraged to incorporate such digital tools into their teaching strategies to enhance learning outcomes. Future research should continue to explore the long-term impacts of mobile-assisted language learning applications on various language skills and consider their implementation across different educational settings and demographics. Addressing the challenges faced by students in using these technologies, such as difficulties with interactive features, can further enhance their effectiveness and usability.

V. CONCLUSION

This study demonstrates that the Cake application significantly enhances the vocabulary mastery of eighth-grade students at SMP Muhammadiyah 5 Sidoarjo. The experimental group, which utilized the Cake app, showed a marked improvement in vocabulary scores compared to the control group, as evidenced by pre-test and post-test assessments analyzed using SPSS 26. The use of mobile-assisted language learning tools, such as Cake, proves to be effective in engaging students and improving their learning outcomes. These findings suggest that integrating technology into language learning can provide substantial benefits, particularly in enhancing vocabulary and listening skills. Therefore, educators are encouraged to adopt innovative digital tools like the Cake application to foster a more interactive and effective learning environment. Future research should explore the long-term impacts of such applications on various language skills and consider diverse student demographics to generalize the findings more broadly. Additionally, addressing the challenges students face with these technologies, such as difficulties with the microphone or limited interactive features, could further enhance the learning experience and effectiveness of such tools.

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Conflict of Interest Statement:

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.