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The Effect Of Using Mondly Application As Platform Teaching Basen On AI To Improve English Vocabulary Mastery At Junior High School 04 Bengkulu

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ABSTRAK

This research aimed to analyze the effect of using the Mondly application based on Artificial Intelligence (AI) on improving English vocabulary mastery among seventh-grade students at SMP Negeri 04 Bengkulu. The main problem was the students' low vocabulary ability, which resulted from traditional teaching methods and the lack of interactive learning media. To address this issue, the study employed a quasi-experimental method using a Non-Equivalent Control Group Design that involved two classes: VII.1 as the experimental group and VII.2 as the control group. Multiple-choice test instruments were administered as pre-tests and post-tests to measure students' vocabulary mastery before and after treatment. The results show that the experimental class experiences a significant improvement compared to the control class. These findings indicate that the Mondly application is effective as an AI-based learning platform for enhancing students' vocabulary mastery and creates a more interactive and engaging learning environment for seventh-grade learners.

Keywords: *Mondly Application, Artificial Intelligence, English vocabulary.*

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PENDAHULUAN

Vocabulary mastery is a very important basic ability in English language learning because vocabulary becomes the foundation for listening, speaking, reading, and writing skills. Vocabulary knowledge plays a fundamental role in language proficiency and correlates positively with performance in the four language skills." (Hartini & Ardini, 2024). Additionally, other research found that "productive vocabulary knowledge significantly enhances second language comprehension, especially in real-time sentence processing" (Allal-Sumoto, Miyoshi, & Mizuhara, 2023).

Vocabulary can be defined as words in a language, including individual items and phrases or multi-word chunks that convey specific meaning, such as individual words" (Alam, 2023). Without adequate vocabulary mastery, students will have difficulty understanding texts and conveying ideas effectively. Furthermore, the development of globalization and increasing inter-language contact makes English vocabulary continue to develop (Uteshova & Reymova, 2025).

However, evaluation results at SMP Negeri 04 Bengkulu show that most seventh-grade students still experience difficulties in mastering vocabulary so that the scores obtained have not reached the Minimum Completeness Criteria (KKM). This problem is worsened by teaching methods that are still traditional and do not provide interactive and meaningful learning experiences. The monotonous learning process makes students feel bored and less motivated to improve their English language abilities.

In the context of language learning, the strategies used by students greatly influence the development of their language abilities. Research by Anita and Wahyudi (2021) shows that EFL students more often use problem-solving strategies compared to supporting strategies such as taking notes or making summaries. This finding confirms that students need learning media that are practical, interactive, and can increase their engagement during learning.

One alternative that can be used is the utilization of Artificial Intelligence (AI)-based learning applications such as Mondly. This application provides various features such as vocabulary exercises, conversation simulations, speech recognition, and direct feedback. Mondly also integrates

gamification elements to increase student motivation. Research by Dwi Handayani Setyaningrum et al. (2024) shows that the use of Mondly significantly improves students' vocabulary and grammar abilities through interactive exercises. Additionally, research by Chingakham & Tamuk (2024) found that AI applications can significantly improve high school students' vocabulary mastery through adaptive exercises and instant responses.

Nevertheless, most previous research emphasizes short-term results and has not extensively discussed how this application affects students' interest and learning independence. Therefore, this research is important to examine the effect of using the Mondly application as an AI-based learning platform on English vocabulary mastery of seventh-grade students at SMP Negeri 04 Bengkulu. This research not only measures learning outcome improvements through pre-tests and post-tests, but also looks at how Mondly affects student engagement and learning motivation during the learning process.

The results of this research are expected to contribute to teachers, schools, and researchers in developing learning strategies that are more innovative, interactive, and appropriate to the needs of students in the digital technology era.

MATERIALS AND METHODS

This research uses a quantitative approach with a quasi-experimental method through a Non-Equivalent Control Group Design. Creswell and Creswell (2022) identify three general categories of quantitative research questions. First, groups can be compared based on independent variables to test their effect on dependent variables. Second, one or more predictor variables can be related to one or more criterion variables. Third, responses to variables can be explained, such as frequency. This approach was chosen to determine the effect of using the Artificial Intelligence-based Mondly application in improving students' English vocabulary mastery (Jalal et al., 2022).

The research was conducted at SMP Negeri 04 Bengkulu in the odd semester of the 2025/2026 academic year. The research population was all seventh-grade students with a total of 349 students. The researcher selected samples using purposive sampling technique so that class VII.1 was obtained as the experimental class and VII.2 as the control class with 32 students each (Sugiyono, 2020).

The research instrument was a multiple-choice test containing indicators of word meaning, contextual usage, synonyms, antonyms, and collocations. This test was given before and after treatment to see improvement in students' abilities. Validity and reliability tests were conducted using SPSS version 29, and 44 test items were declared valid. The selection of appropriate research instruments is very important because it affects the
validity and reliability of the collected data (Lasmana et al., 2024).

Treatment was conducted in four meetings using the Mondly application with AI-based vocabulary exercises, pronunciation, and conversation activities. Meanwhile, the control class received learning through conventional methods with teacher explanations and textbook use.

Data was collected through pre-test and post-test administration to both groups. Data analysis techniques used normality tests, homogeneity tests, and t-tests (Independent Sample t-Test) to determine differences in vocabulary ability between experimental and control classes. All data analysis was conducted using SPSS version 29**.**

RESULT

The results of this research present a comparison of pre-test and post-test scores in the experimental class and control class, as well as statistical test results using t-test and ANOVA. This research involved 64 seventh-grade students at SMP Negeri 4 Bengkulu, with 32 students each in the experimental class and 32 students in the control class. The experimental class received treatment using the Mondly application, while the control class used conventional learning methods. The following table shows the differences in average pre-test and post-test scores in the experimental class:

Table 1. Pre-test and Post-test Scores of the Experimental Class

Statistic	Pre-test	Post-test
AVG Total	64,84	86,69
Minimum Score	47	70
Maximum Score	88	97
Students	32	32

The score improvement appears significant, from an average of 64.84 to 86.69, thus showing the effect of using Mondly on students' vocabulary mastery. Meanwhile, the control class also experienced improvement, but lower compared to the experimental class.

Table 2. Pre-test and Post-test Scores of the Control Class

Statistic	Pre-test	Post-test
AVG Total	58,25	79,12
Minimum Score	43	68
Maximum Score	84	93
Students	32	32

The increase in the control class from 58.25 to 79.12 was not as large as the experimental class. This shows that the use of conventional learning methods still contributes, but is not as effective as Mondly application-based learning. The comparison results of the two groups were analyzed using a t-test. A summary of the results is presented in the following table:

Table 3. Independent t-Test (Independent Sample t-Test)

Independent Sample Test											
		Levene,s Test for Equality of Variances		t-test for Equality of Means							
						Significance~				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Post Test Experimen dan Control	Equal variances assumed	.004	.952	4.988	62	.000	.000	8.406	1.685	5.037	11.775
	Equal variances not assumed			4.988	61.915	.000	.000	8.406	1.685	5.037	11.775

Based on the results in Table 3, it is known that the calculated t-value (t-count) in the independent sample test is 4.988, while the t-table value for a degree of freedom (df) of 64 is (64 – 2

= 62). The t-table value for df = 62 is 1.671, indicating that the calculated t-value is greater than the t-table value (4.988 > 1.671). This means that there is a significant difference between the post-test scores of the two classes.

Based on the results in the Group Statistics table, it is found that the mean post-test score of the experimental class is 87.31 with a standard deviation of 6.865, while the control class has a mean score of 78.91 with a standard deviation of 6.616. The mean difference between the two groups is 8.40, which indicates that the experimental class achieved higher learning outcomes after using the Mondly application in the learning process.

This finding suggests that the use of the Mondly application in the learning process has a significant positive effect on students' learning outcomes, as the experimental class showed better improvement compared to the control class. Additionally, the ANOVA (Between Subjects Effect) test results show a Partial Eta Squared value of 0.427, which means approximately 42.7% of the variation in vocabulary ability is explained by the treatment and differences in class types. Thus, the Mondly application has a large contribution to improving vocabulary mastery.

DISCUSSION

The research results show that there is a significant difference in English vocabulary mastery improvement between the experimental class using the Mondly application and the control class learning through conventional methods. Quantitatively, the experimental class's average post-test score increased from 64.84 to 86.69, while the control class only increased from 58.25 to 79.12. This difference in average improvement shows that the Mondly application has a greater effect on students' vocabulary mastery compared to traditional learning.

The improvement in the experimental class occurred because learning through Mondly allows students to obtain learning experiences that are more interactive, engaging, and in accordance with current digital technology developments. Mondly provides various features such as vocabulary exercises, virtual conversations, and Artificial Intelligence (AI) integration that can provide automatic feedback to students. These features not only make learning more enjoyable, but also enrich students' learning experiences through pronunciation practice, vocabulary repetition (spaced repetition), and the use of gamification that psychologically increases students' learning motivation.

This research also supports the view that the use of learning technology can increase student motivation and participation, especially in English subjects that tend to be considered difficult and boring. Some students acknowledged that learning using applications made them more interested and active in participating in learning activities because of the attractive application interface and systematic variety of materials provided. This is consistent with previous research stating that digital application-based learning can increase student acceptance of material and foster learning independence.

Furthermore, the t-test results show a calculated t value of 4.988 greater than the t table 1.671 with a significance level of 0.00 < 0.05, which means there is a very significant difference between the post-test results of the experimental group and control group. This strengthens the research findings that the Mondly application is proven to have a significant effect on improving students' English vocabulary mastery. The effect test results (Partial Eta Squared) of 0.427 also show that the treatment's contribution to improving student learning outcomes is classified as strong, meaning that learning with Mondly can statistically explain about 42.7% of the variation in students' vocabulary ability.

When related to theory, this success can be explained through technology-based learning approaches and digital media that can provide independent and flexible learning environments. Mondly provides opportunities for students to practice according to their respective abilities and pace, so it can accommodate individual ability differences. Additionally, AI involvement creates two-way learning communication that resembles interaction with a tutor, making the learning process more realistic and meaningful.

From a learning psychology perspective, enjoyable and interactive learning experiences can increase students' intrinsic motivation. Through game features (points, badges, and levels), students are encouraged to continue completing material and achieve the highest scores. The impact is not only on vocabulary improvement, but also on confidence and interest in English lessons. This is

evident from student responses who are increasingly enthusiastic about participating in learning after using Mondly.

Furthermore, the research findings show that AI-based learning media has great potential to be developed in English language learning. Amid current technological transformation, the utilization of applications like Mondly becomes an effective learning alternative to improve language skills, especially vocabulary as the most basic aspect in language structure. Thus, Mondly can be recommended as one of the modern learning media that supports improving students' vocabulary abilities and answers the challenges of the independent curriculum that encourages adaptive, contextual, and technology-based learning processes.

The overall results of this research show that the use of Mondly not only improves vocabulary mastery, but is also able to improve the learning process, particularly in terms of motivation, digital interaction, and more engaging learning experiences. Therefore, the use of AI-based media like Mondly deserves consideration as an alternative learning solution, especially in junior high schools that need more effective learning strategies relevant to technological developments.

CONCLUSION

Based on the research results, the use of the AI-based Mondly application is proven to have a significant effect on improving English vocabulary mastery among seventh-grade students at SMP Negeri 04 Bengkulu. Students in the experimental class achieved higher score improvements compared to the control class. Therefore, the Mondly application is worthy of use as supplementary learning media. Teachers are advised to integrate AI-based applications in learning to make the learning process more interactive, while schools can use it as an alternative curriculum innovation to support improving students' English language competencies.

Recommendations Based on the Research Findings :

a. For Teachers

   Teachers are advised to use Mondly as a supporting media because its interactive features help students understand and remember vocabulary more easily. It can be combined with traditional methods for more balanced learning.

b. For Students

   Students are encouraged to use Mondly both in class and independently to enrich vocabulary and practice pronunciation through its chatbot and audio features.

c. For Educational Institutions

   Schools should support technology-based learning by providing adequate facilities such as internet access, projectors, and digital devices to optimize Mondly-based instruction.

d. For Researchers

   Future researchers can expand the focus to other language skills—speaking, listening, grammar, and writing—or conduct long-term studies to examine Mondly's broader impact on English proficiency.

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