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# The Effectiveness of Using Beelinguapp Toward Students' Reading Comprehension

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## ABSTRACT
*This research was conducted with the aim of knowing the process and the effect of using Beelinguapp on the reading comprehension ability of 41 students of SMK PGRI Ploso. The research method used was a pre-experimental design with the type of one-group pretest-posttest design and a quantitative research approach. The test instrument is in the form of multiple-choice questions and an essay of pre-test and post-test descriptions to measure reading comprehension from the results of the total pre-test scores obtained in 1910, while the results of the total post-test scores are 3235, and the data analysis technique used is hypothesis testing. But before testing the hypothesis, the data obtained was first tested for normality. Based on the results of the data normality test with Shapiro-Wilk, the pretest results have a significance value of 0.189, and the posttest results have a significance value of 0.191. The normality test is normal. Based on the calculation of the paired sample t-test, it shows that the t value of 0.000 with a significance of 0.000. The significance value shows 0.000 < the error rate of 0.05, so it can be concluded that Ha is accepted. Acceptance of Ha means that there is a positive effect on The Effectiveness of using Beelinguapp on Reading Comprehension of X Grade students at SMK PGRI Ploso.*

***Keywords**: Beelinguapp; Reading comprehension; Vocational School*

## INTRODUCTION

In the digital era, the education sector has witnessed a significant transformation through the integration of Artificial Intelligence (AI). With its potential to revolutionize various sectors, AI has emerged as a promising tool in enhancing the teaching and learning experience (Abimanto & Mahendro, 2023). English language teaching, in particular, faces many challenges in meeting the needs of diverse learners. Therefore, the effectiveness of AI in English language teaching becomes very important to reveal new opportunities in English education. Reading ability is one of the basic skills in language learning, especially in English learning (Rizal, 2018). A good understanding of the text helps students not only in absorbing information but also in developing critical and analytical thinking skills (Yurko & Protsenko, 2022). Beelinguapp is an AI-based application that combines the ability to read and listen to text simultaneously, so as to improve students' reading comprehension more effectively (Fajriyani et al., 2022).

However, based on an interview with English teachers at SMK PGRI Ploso, students continue to struggle with reading comprehension on material narrative texts. The results of daily assessments indicate a lack of achievement, as the majority of students are scoring under 75. This issue is partially a result of the ongoing reliance on traditional teaching techniques, which are rigid and do not encourage active engagement from students. To tackle this problem, it is essential to incorporate engaging and contemporary learning tools. Beelinguapp, which offers bilingual texts accompanied by audio features, provides a promising approach to enhance student motivation and comprehension. Although numerous studies have investigated the use of media in language education, there is a scarcity of research specifically targeting the effectiveness of Beelinguapp at the vocational high school level.

This research intends to explore the efficacy of Beelinguapp in boosting reading comprehension among tenth-grade students at SMK PGRI Ploso, particularly concerning narrative text content. The results are anticipated to aid in the development of digital-centric teaching methods and provide practical recommendations for educators and curriculum designers in improving reading comprehension through AI-powered applications.

## METHOD

This research used a quantitative method with pre pre-experimental design. The experiment is conducted to determine the most effective and efficient ways of teaching and learning activities to achieve teaching objectives (H. Abdullah Ishak, 2012). This can happen because there are no control variables and the sample was not chosen randomly (Prof. Dr. Sugiyono, 2022).

This research is an experimental study conducted in November 2024. The independent variable is AI media, is Beelinguapp, while the dependent variable is reading comprehension. This study involved X DKV class students at SMK PGRI as the research population. In total, there are 4 classes with different majors, in this school with the ability of students in each class has different levels. Therefore, the saturated sample technique was used in the sample determination process. As a result, class X DKV was selected as the sample for this study. The total number of students in class X DKV is 40. This study involved only one class, namely class X DKV, positioned as a pre-experimental class. Class X DKV obtained narrative text learning through reading comprehension using Beelinguapp media, because it used AI media, namely Beelinguapp, to find out how the effectiveness of using Beelinguapp on students' reading comprehension. Qualifying experimental design provides treatment with data collection. As well as testing in the test, the instruments used for data collection include the pre-test pro test pre-test topic, and this post-test contains questions about a narrative text related to the text that the Beelinguapp application, where students are given a series of questions for reading comprehension. Readers lacking comprehension skills face challenges in everyday life, from understanding a medicine's package insert to dealing with online information and acquiring new knowledge (Bruggink et al., 2022)**.** This treatment for the pre-experimental class uses the Beeinguapp application, which focuses on the main idea text, factual/detailed information, reference, inference, on reading comprehension.

Descriptive analysis was conducted to present the data, while the paired sample T test tested the effectiveness by comparing the data before and after treatment. Ho: There is no difference between the learning outcomes of reading comprehension on the narrative text of grade X students of SMK PGRI Ploso before and after using Beelinguapp. H1: There is a difference between the learning outcomes of reading comprehension on the narrative text of grade X students of SMK PGRI Ploso before and after using Beelinguapp. A normality test using the Shapiro-Wilk test. Data is used to check whether a set of data is normally distributed. The normality test is a critical step in data analysis, especially when using parametric statistical methods such as the t-test, ANOVA, or linear regression, which require the assumption of data normality (Marwinda & Danardono, 2022).

## RESULT AND DISCUSSION

### Result

The research findings were obtained with a research instrument in the form of an English test. The following are the results of the pre-test and post-test scores. The results of the study were obtained with an instrument in the form of a test. Pre-test and post-test were given to the pre-experimental class, and the results are as follows: the above scores are explained to determine the effectiveness of the data using the paired sample test. Before doing the paired sample t-test, a normality test is carried out.

**Table 1.** Result score pre-test and post-test

| Name | Pre test | Post test |
|---|---|---|
| A F | 45 | 75 |
| A M F Y | 35 | 70 |
| A T | 55 | 85 |
| AY | 35 | 65 |
| AR | 60 | 80 |
| A K P | 65 | 95 |
| AP WR | 25 | 60 |
| ANA | 55 | 95 |
| D M | 40 | 80 |
| DA | 50 | 80 |
| D R S | 45 | 85 |
| FM | 55 | 75 |
| FA P S | 55 | 85 |
| FA P | 50 | 70 |
| H F | 50 | 80 |
| HACW | 55 | 75 |
| IM | 40 | 80 |
| J LK | 40 | 70 |
| JS | 50 | 80 |
| KAP | 55 | 85 |
| KDCK | 35 | 75 |
| KH | 40 | 70 |
| LNI | 50 | 75 |
| M. I | 55 | 75 |
| MA P | 50 | 80 |
| MAH | 45 | 70 |
| NCN | 30 | 80 |
| N A RA | 65 | 90 |
| P FL | 45 | 75 |
| PAS H | 30 | 75 |
| RSW | 30 | 85 |
| R A | 40 | 80 |
| SAK | 50 | 80 |
| SS | 45 | 85 |
| SF | 40 | 80 |
| TDA | 50 | 70 |
| TRS | 45 | 75 |
| VA E | 50 | 85 |
| Z N C | 55 | 85 |
| ZEQ | 50 | 90 |
| R A | 50 | 85 |
| Score | ∑=1910 | ∑=3235 |

The range of student scores pre-test, starting from a minimum of 50 and peaking at a maximum of 65. Furthermore, the cumulative score for the pre-test amounts to 1910. The findings from this analysis indicate that students' scores on the pre-test averaged below 50 marks, suggesting that the majority are in the low understanding category. The post results in the class show average scores. The majority of students scored above 70. However, there were still some students who scored low, such as 60 and 65. Overall, these results show that the applied learning method is effective in improving students' reading ability.

The scores above were analyzed to obtain data on effectiveness using the paired sample T-test. Before conducting the paired sample T-test, a normality test was carried out. The results are as follows:

**Table 2**. The Above Gives The Reading Test Scores.

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Pretest | 41 | 25,00 | 65,00 | 46,5854 | 9,38343 |
| Post | 41 | 60,00 | 95,00 | 78,9024 | 7,54256 |
| Valid N (listwise) | 41 | | | | |

The findings from the data analysis in this research include the assessment of descriptive statistics, which aids in understanding the distribution and features of pre-test and post-test scores within the class. The pretest scores revealed a range of 25 to 65, with an average score of 46.58 and a standard deviation of 9.38. This analysis clearly shows an enhancement in reading comprehension when comparing the outcomes of the pre-test and pos test.

**Table 3.** Tests of Normality

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | Df | Sig. | Statistic | df | Sig. |
| Pretest | ,119 | 41 | ,149 | ,962 | 41 | ,189 |
| postest | ,141 | 41 | ,039 | ,962 | 41 | ,191 |

The results of the Shapiro-Wilk normality test show that the significance value of the pre-test is 0.165, and the significance result obtained by the post-test is 0.191 for the pre-experimental class. The normality test can be concluded that both data tests have a significance value on Shapiro-Wilk more than 0.05, so that the data is normally distributed.

**Table 4.** Paired Samples Test

| | | Paired Differences | | | | | T | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | pretest-posttest | -32,31707 | 8,22326 | 1,28426 | -34,91265 | -29,72149 | -25,164 | 40 | ,000 |

The data are shown to be normally distributed. They can then be tested using a paired sample t-test. Based on the test results obtained, the significant value is 0.000 from the paired t-test results. The significant value of 0.00 <0.05. Then we can conclude that there is a real difference between the results of reading comprehension on Beelinguapp media on pre-test and post-test data, so it can be concluded that Ho is rejected. Rejection of Ho results in acceptance of Ha. Thus, the positive impact means that there is an effect of using Beelinguapp on students' reading comprehension of narrative text material.

## Discussion

This section presents a discussion based on the research findings. Analysis of pre-test and post-test scores indicates that students in the pre-experimental class taught using the BeelinguApp application experienced effectiveness in reading comprehension. The average pre-test and post-test scores ranged from 50 to 95. Based on the result of t paired sample the t-test. According to the t-test, the paired t-test results show a significant value of 0.000. The significant value. Therefore, we may conclude that Ho is rejected because there is a significant difference between the pre-test and post-test reading comprehension outcomes on Beelinguapp media. Acceptance of Ha follows rejection of Ho. Therefore, the positive impact indicates that students' reading comprehension of narrative text content is impacted by the use of Beelinguapp. These findings corroborate earlier theories, as noted by (Karimah Inayatul, 2022) dan (Juliani, 2020), which assert that technology-based resources can enhance the efficacy of language learning, particularly in reading skills. Through Beelinguapp, students can engage with narrative texts using auditory support, translations, and captivating visual elements that aid in improving comprehension. Moreover, the application fosters a more interactive and enjoyable learning experience, which in turn boosts students' motivation and engagement with reading activities. More generally, the outcomes of this

study demonstrate that:

- Technology serves as an effective educational tool: Utilizing technology-based learning applications like Beelinguapp can enrich students' educational experiences and enhance academic performance.
- Increased enthusiasm for reading: The interactive features within Beelinguapp motivate students to participate in reading more actively, thus elevating both the frequency and quality of their reading efforts.
- Alignment with English language learning: The narrative texts available in the application correspond with the teaching materials stipulated in the curriculum, thereby aiding in the achievement of educational goals.

In my conclusion, it is important to recognize that the effective utilization of this application also relies on other elements, including the teacher's role in guiding the use of the app, access to adequate devices, and the presence of a conducive learning environment. Considering the results obtained, it can be concluded that incorporating technology through the Beelinguapp in English language instruction, especially for improving the ability to read narrative texts, is highly effective and can serve as a viable alternative teaching method in Vocational High School.

## CONCLUSION

The results of the analysis showed a significant improvement in students' reading comprehension in the experimental group after using the Beelinguapp app. This improvement was seen in the five main aspects of reading comprehension: the main idea, factual/detailed information, reference, and inference.

Statistically, the Independent Samples T-Test results showed a significant difference between the post-test scores of the two groups, with a significance value of 0.0000 <0.05. This indicates that the null hypothesis (H0) is rejected and the alternative hypothesis (H1) is accepted, which concludes that the use of Beelinguapp has a significant positive impact on improving reading comprehension.

Beelinguapp provides interactive features such as displaying text and AI-based evaluation, which provides immediate feedback to students. This allows students to correct their mistakes independently, improving the reading comprehension learning process. Beelinguapp is a language learning application. This application works by displaying text to users in two languages in a cooperative manner, enabling users to use their own language as a reference. This app may also be used as an audiobook, where users can take notes while listening to a karaoke performance that is recorded in both languages. This application offers a variety of text types in 12 languages, along with further languages that are still being developed. One tool for language learning that can help with reading comprehension, especially in a second language, is Beelinguapp (Satria et al., 2024).

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