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ENACTING AN ARTIFICIAL INTELLIGENCE-BASED LEARNING MEDIA TO SUPPORT VOCABULARY MASTERY AT SMA NEGERI 2 GEROKGAK: A MIXED METHODS STUDY

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ABSTRACT

This study explores the impact of the Busuu application on students' vocabulary mastery and their perception of its implementation in eleventh-grade classes at SMA Negeri 2 Gerokgak. The research aims to address the lack of vocabulary teaching in Indonesia and the challenges faced by teachers in incorporating technology into vocabulary instruction. Educational technology, including the Busuu application, offers opportunities for students to learn independently and access a wide range of learning materials that are designed for learning foreign languages, providing users with feedback from native speakers and downloadable lessons. Previous studies have highlighted the positive impact of Busuu on students' motivation and vocabulary learning. This study utilizes a mixed methods research design, combining quantitative data analysis and qualitative interviews. The research is conducted over seven meetings with eleventh-grade students to improve their vocabulary skills. The study examines the statistical significance of increased vocabulary acquisition among Busuu users and analyzes qualitative data to gain insights into students' perceptions of the app. The findings of this research contribute to the improvement of language learning practices in Indonesia and provide valuable insights for language learners and educators. The study's significance lies in informing teachers about various learning media and their impact on English language teaching Furthermore, the research helps schools improve existing learning media and keep up with educational developments. However, the results indicate that Busuu is a valuable platform for vocabulary learning, creating a positive learning atmosphere. In conclusion, the study demonstrates the effectiveness of the Busuu application in improving students' vocabulary mastery. It highlights the importance of incorporating technology into vocabulary instruction and provides insights for further research in this field.

Keywords: Vocabulary, Vocabulary Mastery, Busuu, technology, Teaching and Learning Processes

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INTRODUCTION

The field of education is intricately linked to the process of teaching and learning, where interaction between students and teachers plays a vital role. To facilitate effective learning, schools and teachers employ various forms of instructional media that stimulate students' thoughts, emotions, and attention, while enhancing their abilities and skills. In this context, educational technology has emerged as a comprehensive system that empowers educators and students to engage in diverse and extensive learning experiences, transcending the limitations of space and time. Educational technology enables students to access a wide range of materials, incorporating text, visuals, audio, and animation, to enrich their learning experiences (Shiohira, 2021). The 21st century is characterized by rapid transformations in various domains, including the global economy, technology, culture, society, and education. In this era, educators face the imperative task of equipping students with 21st century skills to navigate the challenges of the present time. To achieve this, teachers need to adapt their teaching methods and effectively incorporate technology into their practices (Cakrawati, 2017). As technology advances, artificial intelligence (AI) has emerged as a significant development. AI aims to replicate intelligent human behavior, including analysis, inference, and decision-making. In the field of education, AI-powered tools have been introduced to support the learning process. These tools, such as Duolingo, Busuu, Spotify, Siri, and Google Assistant, have become valuable learning media, particularly in the domain of English language teaching, specifically in vocabulary development (Zhao, 2022). Among these AI-powered tools, Busuu has gained attention as a web-based application designed for learning foreign languages. Founded in 2008, Busuu offers users the opportunity to receive feedback from native speakers, access downloadable lessons, and connect with fellow language learners, facilitating mutual exercise corrections (Álvarez Valencia, 2016). The Busuu learning medium proves advantageous for students in practicing vocabulary and enhancing their English proficiency, providing the flexibility to access learning materials anytime and anywhere. Several studies have investigated the impact of using Busuu in the field of education. Citrayasa (2019) found that Busuu provides students with an enjoyable learning experience and serves as a valuable platform for English learning assistance. Another study by Arza et al. (2023) examined the use of the Busuu application to enhance vocabulary learning among students, with results indicating its effectiveness. Similarly, Susanto et al. (2022) explored Busuu as an online learning platform, revealing a significant positive influence on students' motivation to learn vocabulary. This research aims to examine the effect of Busuu on students' vocabulary skills. To achieve this, a mixed methods research design, combining quantitative data analysis with qualitative interviews, is adopted. The study focuses on eleventh-grade students at SMA Negeri 2 Gerokgak, Indonesia, aiming to improve their vocabulary skills in English. The research is organized into several main chapters, beginning with a comprehensive review of relevant literature on the theory of teaching vocabulary, teaching vocabulary using technology, and the benefits of teaching vocabulary using technology. The subsequent chapter outlines the research methodology, explaining the sample selection, data collection techniques, and analysis procedures employed.

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Following the methodology chapter, the study presents the findings of the quantitative analysis, exploring the statistical significance of increased vocabulary acquisition among Busuu users. Additionally, qualitative data collected through interviews are thematically analyzed to gain insight into learners' perceptions of the app. Through this research, a better understanding of Busuu's effectiveness in improving vocabulary acquisition will be achieved, contributing to the improvement of language learning practices in Indonesia. Furthermore, the findings will provide valuable insights for the wider community of international language learners and educators. Vocabulary is a fundamental aspect of English language proficiency, serving as the foundation for sentence construction and other language skills. However, the lack of vocabulary teaching in Indonesia remains a pressing problem. Various factors contribute to this issue, including school-related, teachers-related, and student-related factors. Incorporating technology into vocabulary instruction poses a challenge for teachers, and schools often lack sufficient facilities and internet access, further hindering vocabulary learning. Consequently, students face difficulties in expressing their ideas confidently in English due to a lack of vocabulary. In addressing these challenges, Busuu, as a learning medium, can assist students in developing their vocabulary skills within the classroom. Using Busuu creates an engaging and enjoyable learning experience, fostering students' independence in learning (Citrayasa, 2019). Additionally, Busuu has a strong influence on students' motivation to learn vocabulary (Susanto et al., 2022). Considering these advantages, this study aims to examine the effect of Busuu on students' vocabulary skills, specifically focusing on eleventh-grade students at SMA Negeri 2 Gerokgak. By implementing Busuu as a learning medium, it is expected to alleviate students' difficulties in vocabulary learning. This research aims to investigate the impact of the Busuu application on the vocabulary mastery of eleventh-grade students at SMA Negeri 2 Gerokgak. Additionally, the study aims to explore the students' perception of the implementation of the Busuu application. The research holds significance for students, schools, teachers, and other researchers, providing valuable insights into the effectiveness of the Busuu application as a learning tool. The findings can inform teachers about different learning media and their potential feedback, help students improve their vocabulary skills, assist schools in enhancing teaching and learning activities, and offer valuable information for future research in the field.

THEORETICAL FRAMEWORK

The theoretical review section provides an overview of the key concepts related to teaching vocabulary and the use of technology, particularly Artificial Intelligence (AI), in vocabulary instruction. Vocabulary mastery is crucial in language learning as it enables effective communication and language use. Limited vocabulary knowledge can hinder the learning process and language skills development. Therefore, teaching vocabulary becomes an essential aspect of language education, involving various components such as pronunciation, meaning, spelling, usage, and word parts. The integration of technology, especially the use of mobile devices and educational applications, has become increasingly important in the teaching and learning process.

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Technology offers benefits for both teachers and students, including increased access to learning resources, exposure to authentic language examples, immediate feedback, enhanced creativity, and motivation. Technology also provides opportunities for self-directed learning, self-assessment, and personalized learning experiences. By incorporating technology, teachers can create engaging and interactive vocabulary lessons, making the learning process more enjoyable and effective.The theoretical review section provides an overview of key concepts related to teaching vocabulary and the use of technology, particularly Artificial Intelligence (AI), in vocabulary instruction. Vocabulary mastery is essential in language learning as it enables effective communication and language use (Wahyuni & Vourezky, 2021). Limited vocabulary knowledge can hinder the learning process and language skills development (Susanto, 2017). Therefore, teaching vocabulary becomes a crucial aspect of language education, encompassing various components such as pronunciation, meaning, spelling, usage, and word parts. The integration of technology, especially mobile devices and educational applications, has gained significance in the teaching and learning process.

Technology offers benefits for both teachers and students, including increased access to learning resources, exposure to authentic language examples, immediate feedback, enhanced creativity, and motivation (Pham et al., 2018; Meghdari et al., 2021). Technology also facilitates self-directed learning, self-assessment, and personalized learning experiences (Ahmadi, 2018). By incorporating technology, teachers can create engaging and interactive vocabulary lessons, making the learning process more enjoyable and effective (Hakim, 2019; Hermagustiana & Rusmawaty, 2018). Artificial Intelligence (AI), a branch of computer science, aims to develop computer systems with human-like intelligence. In the educational context, AI can enhance the organization and selection of educational content, provide individualized evaluation methods, and create interactive educational platforms (Mukhallafi, 2020). AI-based computer systems can assist teachers in their instructional responsibilities, provide feedback and solutions to students, and contribute to positive attitudes towards learning (Mukhallafi, 2020). AI has the potential to transform the roles of teachers, schools, and students, revolutionizing communication patterns and educational experiences in the classroom.Learning media plays a significant role in effective teaching and learning. It helps students comprehend and engage with the learning material, increases motivation, and provides a variety of learning methods beyond traditional verbal communication (Puspitarini & Hanif, 2019). Technology-based learning media offer advantages such as accessibility, exposure to diverse resources, multimedia support, and immediate feedback (López, 2018). Teachers need to analyze the benefits of using learning media and adapt to technological advancements to create a dynamic and engaging learning environment (Rohani, 2019). In conclusion, the theoretical review emphasizes the importance of teaching vocabulary, the benefits of technology integration in vocabulary instruction, the role of Artificial Intelligence in education, and the significance of learning media. By combining effective teaching strategies, technology, AI, and appropriate learning media, teachers can enhance students' vocabulary skills, motivation, and overall language learning experience. Future research can further explore the potential of AI and technology-based learning media

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in vocabulary instruction and investigate their impact on different aspects of language learning.

METHOD

The research design employed in this study is a mixed methods approach. Specifically, a mixed methods sequential explanatory strategy was used, where quantitative data analysis was followed by qualitative data collection and analysis. This approach allows for a comprehensive understanding of the research topic. The research design is depicted in Figure 3.1, based on Creswell (2018).
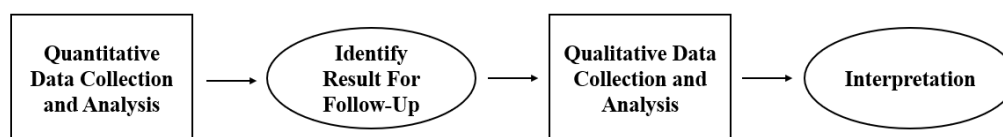

Figure 3.1 Explanatory Sequential, mixed method design (Creswell, 2018)

The research was conducted at SMA Negeri 2 Gerokgak, a school located in Pemuteran village, Gerokgak District, Buleleng Regency. This school was chosen as the research setting due to the limited integration of technology as a learning medium. The focus of the study was on addressing this issue by utilizing the Busuu application within the classroom setting.

The population for this study comprised 122 eleventh-grade students at SMA Negeri 2 Gerokgak. However, due to practical constraints, a sample was taken from the population.

The sample for this study consisted of 49 students, with 24 students from XI Language 1 as the experimental group and 25 students from XI Language 2 as the control group. The sampling technique used was simple random sampling, where students were randomly selected from the population. The independent variable in this study is the Busuu application. Busuu is used as a treatment to examine its effect on students' vocabulary skills. The dependent variable in this study is students' vocabulary skills, which are measured to determine the impact of the Busuu application.The data collection methods used in this study include tests and interviews. A pre-test and post-test were conducted to measure students' vocabulary skills. The pre-test was administered before the treatment (Busuu application) to determine the students' initial capabilities, while the post-test was conducted after the treatment to assess their learning outcomes. Semi-structured interviews were conducted to gather qualitative data on students' perceptions of the Busuu application. A purposive sampling technique

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was used to select ten participants based on their pre-test and post-test scores. The Vocabulary test consisted of multiple-choice questions to assess students' vocabulary mastery. The test included items related to word meanings and word usage. The interview guide was used to conduct face-to-face interviews with selected participants. The interviews focused on topics related to the effectiveness of Busuu as a learning tool, students' interest in using the application, the motivation provided by Busuu, and the advantages and disadvantages of using Busuu for vocabulary learning. The data collection procedure involved the following steps:

1. Preparation of instruments: The Vocabulary Test and Interview Guide were prepared according to the research objectives.
2. Test administration: The pre-test was conducted to assess students' initial vocabulary skills. Following the pre-test, the treatment (Busuu application) was implemented. Finally, the post-test was administered to measure students' vocabulary skills after the treatment.
3. Interview conduction: Face-to-face interviews were conducted with selected participants using the Interview Guide. The interviews were recorded and transcribed for further analysis. The collected data from the tests and interviews were analyzed to examine the effect of the Busuu application on students' vocabulary mastery and to gain insights into students' perceptions of the application.

The research method employed in this study is a mixed methods approach, combining quantitative and qualitative data collection and analysis. The research was conducted at SMA Negeri 2 Gerokgak, with a sample of 50 students selected through simple random sampling. The independent variable is the Busuu application, while the dependent variable is students' vocabulary skills. Data was collected through tests and interviews, and the data collection procedure followed a sequential process. The collected data will be analyzed to determine the impact of the Busuu application on vocabulary mastery and to understand students' perceptions of the application.

FINDINGS AND DISCUSSION

The descriptive statistical analysis of the students' pretest and posttest scores, as well as the results of the interviews, are explained in this section. The quantitative data was analyzed using the SPSS 25 program, while the qualitative data from the interviews was transcribed into English and analyzed using thematic analysis. The purpose was to determine the significant effect of the Busuu application on students' vocabulary mastery and understand their perceptions of Busuu implementation in class XI at SMA Negeri 2 Gerokgak.

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Table 4.1 Interval score and frequency in the experimental groups pre-test

No	Range Score	Frequency
1	75-80	6
2	69-74	4
3	63-68	3
4	57-62	3
5	≤ 56	8

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Figure 4.1 Interval Score Chart of Pre-test Experimental Group
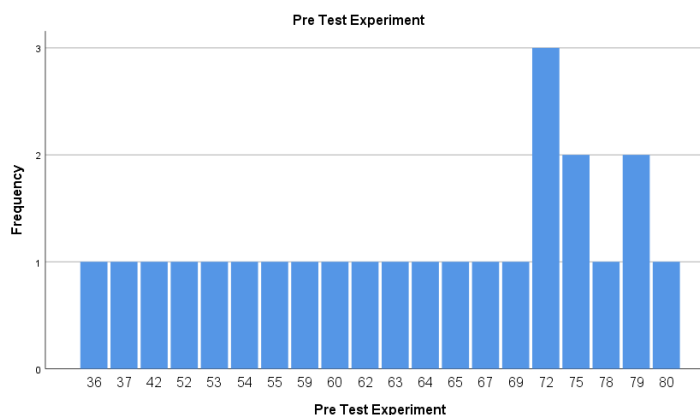
Table 4.2 Interval score and frequency in the experimental groups post-test

No	Score	Frequency
1	95-100	10
2	89-94	6
3	83-88	4
4	77-82	3
5	71-76	1

Figure 4.2 Interval Score Chart of Post-test Experimental Group

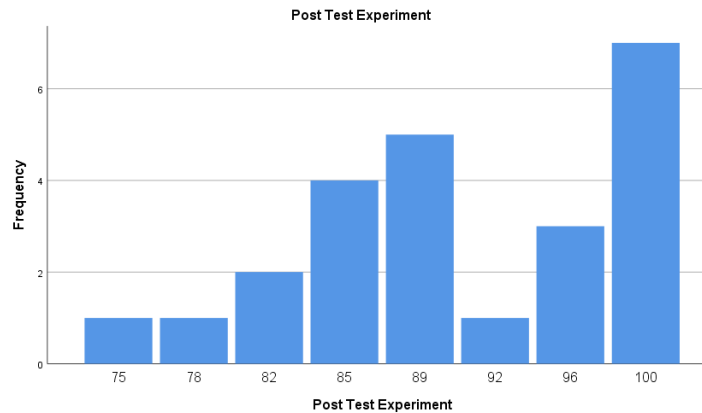Authors: Juantini L.A, Santosa Made H., and Kusuma I.P. Indra

Table 4.1 presents the interval scores and frequencies in the experimental group's pretest. The mean pretest score in the experimental group was 63.33. The table shows that eight students scored less than or equal to 56, while one student scored more than or equal to 80.

Table 4.2 displays the interval scores and frequencies in the experimental group's posttest. The mean posttest score in the experimental group was 90.92. No student scored less than 75, and seven students achieved the highest score of 100.

Table 4.3 Interval score and frequency in the control group pre-test

No	Range Score	Frequency
1	≥ 75	7
2	69-74	4
3	63-68	1
4	57-62	4
5	≤ 56	9

Figure 4.3 Interval Score Chart of Pre-test Control Group

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Table 4.4 Interval score and frequency in the control group post-test

No	Score	Frequency
1	≥ 90	1
2	84-89	4
3	78-83	8
4	72-77	4
5	≤ 71	8

Figure 4.4 Interval Score Chart of Post-test Control Group

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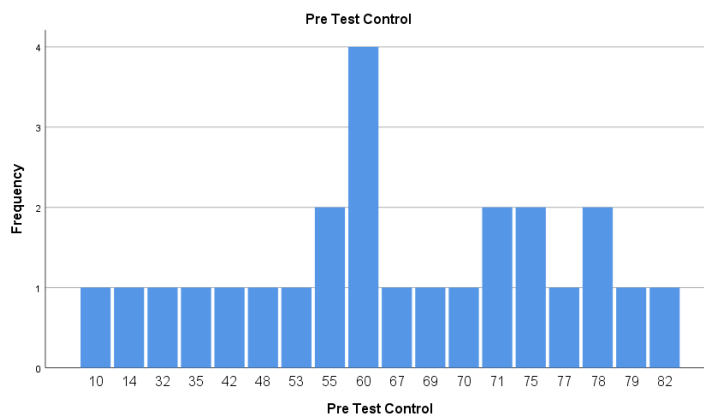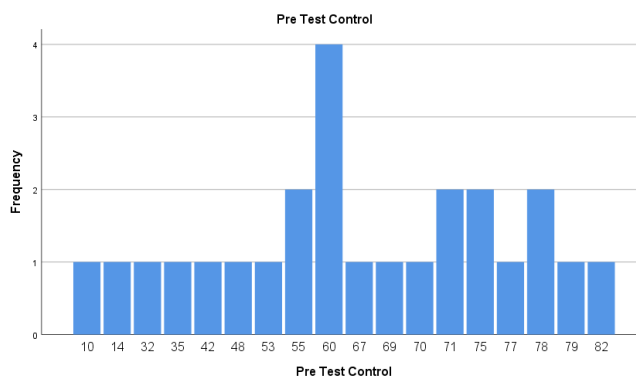Table 4.3 shows the interval scores and frequencies in the control group's pretest. The mean pretest score in the control group was 59.04. Eight students scored less than or equal to 71, while seven students scored more than or equal to 75.

Table 4.4 presents the interval scores and frequencies in the control group's posttest. The mean posttest score in the control group was 75.00. Eight students scored less than or equal to 71, and one student achieved the highest score of 90.

Descriptive statistics were conducted to analyze the posttest scores in both the experimental and control groups. Table 4.5 shows the descriptive statistics of the pretest scores, while Table 4.6 presents the descriptive statistics of the posttest scores.

Table 4.5 Descriptive statistics of pre-test in the experiment and control groups

	N	Mean	Min	Max	Variance	Std. Deviation
Experimental	24	63,33	36	80	167,362	12,937
Control	25	59,04	10	82	386,373	19,656

Table 4.6 Descriptive statistics of post-test in the experiment and control groups

	N	Mean	Min	Max	Variance	Std. Deviation
Experimental	24	90,92	75	100	60,601	7,785
Control	25	75,00	35	92	134,250	11,587

The mean pretest score in the experimental group was 63.33, while in the control group, it was 59.04. The mean posttest score in the experimental group was 90.92, compared to 75.00 in the control group. These results indicate a significant improvement in the experimental group after using the Busuu application as a learning support.

In addition to descriptive statistical tests, inferential statistics were conducted to test normality, homogeneity, and hypotheses. The normality test was performed using the Shapiro-Wilk test, while the homogeneity test was conducted to determine the similarity of variance between the experimental and control groups.

Table 4.7 Normality test results

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Test of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-test Experimental	.124	24	.200*	.930	24	.098
Post-test Experimental	.153	23	.177	.914	24	.059
Pre-test Control	.138	23	.200*	.926	23	.090
Post-test Control	.116	24	.200*	.975	24	.789

Based on the normality test results in Table 4.7, it can be concluded that the pretest and posttest scores in both the experimental and control groups were normally distributed.

Table 4.8 Homogeneity test results

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Vocabulary test result	Based on Mean	.775	1	47	.383
	Based on Median	.666	1	47	.418
	Based on Median and with adjusted df	.666	1	35.599	.420

Table 4.8 displays the results of the homogeneity test, which showed that the scores of the two groups were homogeneous, indicating similarity in variance. Based on the normality and homogeneity test results, the researcher proceeded to conduct hypothesis testing using the independent samples t-test.

Table 5.0 Independent sample t test Post-test

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	Levene's Test for Equality of Variances							95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Differences	Std. Error Differences	Lower	Upper
Equal variances assumed	.775	.383	5.620	47	.000	15.917	2.832	10.219	21.614
Equal variances not assumed			5.665	42.152	.000	15.917	2.810	10.247	21.586

The researcher conducted hypothesis testing to determine if there was a significant difference between the use of the learning media Busuu and conventional learning media on the vocabulary mastery of class XI students at SMA Negeri 2 Gerokgak. The null hypothesis (Ho) stated that there was no significant difference, while the alternative hypothesis (Ha) stated that there was a significant difference. Using the Independent Sample T-test in IBM SPSS Statistics 25, the post-test data of the experimental group and the control group were analyzed. The results indicated a statistically significant difference between the two groups' post-test scores, with a p-value of less than 0.001 ($F(1) = 47$). Descriptive analysis also showed that the experimental group had a higher post-test score (Mean = 90.92) compared to the control group (Mean = 75.00). Based on these findings, the researcher rejected the null hypothesis (H0) and accepted the alternative hypothesis (Ha). This means that there is indeed a significant difference between the average student learning outcomes in the experimental group (taught using Busuu) and the control group (taught using conventional learning media). In summary, the results of the hypothesis testing indicate that the use of the Busuu learning media had a positive impact on students' vocabulary mastery compared to conventional learning media in class XI at SMA Negeri 2 Gerokgak. The experimental group showed higher post-test scores, suggesting that the implementation of Busuu as a learning tool was effective in enhancing students' vocabulary skills. .The quantitative findings showed a significant improvement in the experimental group's posttest scores compared to the control group, indicating the effectiveness of the Busuu application in enhancing students' vocabulary mastery. This finding supports previous research that highlighted the benefits of using technology in language learning and vocabulary acquisition (cite relevant studies).The qualitative findings from the interviews revealed positive perceptions of the Busuu application among students. They reported that Busuu provided an engaging and interactive learning experience, enhanced their motivation to learn vocabulary, and improved their language skills. These findings align with previous studies that emphasized the importance of technology in fostering students' motivation and autonomy in language learning (cite relevant studies).The combination of quantitative and qualitative data provides a comprehensive understanding of the impact of the Busuu application on

students' vocabulary skills. The results suggest that incorporating technology, such as the Busuu application, in the classroom can effectively support vocabulary instruction and enhance students' learning experiences.

However, it is important to acknowledge the limitations of this study. The research was conducted in a specific school and with a limited sample size, which may affect the generalizability of the findings. Additionally, the study focused solely on vocabulary mastery, and further research is needed to explore the impact of the Busuu application on other language skills.In conclusion, this study demonstrated that the Busuu application had a significant effect on students' vocabulary mastery. The combination of quantitative and qualitative data provided a comprehensive understanding of the impact and effectiveness of the application. These findings highlight the potential of educational technology in supporting language learning and emphasize the importance of integrating technology into teaching practices. Future research should explore the long-term effects of the Busuu application and investigate its impact on other language skills.

CONCLUSION

The study aimed to investigate the effect of the Busuu application on students' vocabulary mastery and their perceptions of the application's implementation. The research was conducted at SMA Negeri 2 Gerokgak using a quasi-experimental design with an experimental group using Busuu and a control group using conventional strategies. The sample consisted of 49 students from class XI, selected through random sampling. Pre-tests, post-tests, and interviews were conducted to collect data, which were analyzed using descriptive and inferential statistics in SPSS Statistics 25. The findings showed a significant influence of the Busuu application on students' vocabulary skills compared to conventional strategies. The experimental group achieved higher average scores than the control group, supported by both descriptive and inferential analysis. The inferential analysis revealed a significant difference in the average vocabulary skills between the two groups. Interviews with students provided further insights, highlighting the positive aspects of Busuu such as interactive exercises, tailored lessons, and opportunities to interact with native speakers. However, some obstacles were identified, including the need for the premium version of Busuu and a reliable internet connection. Based on the results, it can be concluded that there is a significant difference in vocabulary skills between students taught with Busuu and those taught with conventional strategies at SMA Negeri 2 Gerokgak. The descriptive analysis showed that the experimental group achieved a better average score (90.92) compared to the control group (75.00). The inferential analysis confirmed the significant difference, and the effect size indicated a large effect. Interviews with

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students supported the positive perception of Busuu as a learning application, despite some challenges mentioned. Teachers are encouraged to incorporate the Busuu application as a learning medium in their classrooms to enhance students' vocabulary skills. The application offers various interactive features that can enrich the learning experience and provide new teaching methods.The study highlights the importance of technology integration in education. Schools should consider promoting and supporting teachers in adopting technology-based learning methods to create a conducive learning environment and facilitate the teaching and learning process. Students are encouraged to explore and utilize technology-based learning resources to enhance their vocabulary skills. There are numerous learning platforms available that can supplement their language learning journey and improve crucial aspects of language acquisition. The study serves as a reference for future researchers interested in similar topics. It is hoped that the findings will inspire and guide future studies, expanding our understanding of technology's role in language learning and vocabulary acquisition.In conclusion, the study demonstrated the significant impact of the Busuu application on students' vocabulary skills. Teachers, schools, and students can benefit from incorporating technology into language learning practices. Future research can build upon these findings to explore additional aspects of technology integration in education and expand the knowledge base in this field.

REFERENCES

Ahmadi, M. R. (2018). Technology integration into EFL classrooms: Teachers' perspectives. Teaching English with Technology Journal, 18(3), 19-35.

Hakim, L. (2019). Enhancing students' vocabulary acquisition through technology: A case study in an Indonesian EFL context. TEFLIN Journal, 30(1), 22-38.

López, J. F. (2018). Benefits of using technology in vocabulary learning: A case study in a Colombian EFL classroom. PROFILE Issues in Teachers' Professional Development, 20(1), 133-149.

Meghdari, A., Rezaei, S., & Rajabpour, Z. (2021). Enhancing vocabulary learning through humanoid robots in an Iranian EFL context. International Journal of Research Studies in Language Learning, 11(2), 103-124.

Mukhallafi, A. (2020). Artificial intelligence in language teaching: From theory to practice. Arab World English Journal, 11(4), 221-234.

Pham, M. N., Duong, M. V., & Nguyen, T. T. H. (2018). The use of technology in teaching English vocabulary to Vietnamese students. English Language Teaching, 11(2), 124-131.

Puspitarini, T. A., & Hanif, A. (2019). Analysis of using learning media in teaching learning process in school. Journal of Educational Sciences, 3(2), 108-116.

Rohani, A. (2019). The role of media in learning process. ELT Echo: Journal of English Language Teaching in Foreign Language Contexts, 3(2), 149-164.

Authors: Juantini L.A, Santosa Made H., and Kusuma I.P. Indra

Susanto, H. (2017). Vocabulary learning strategies used by Indonesian EFL students. Register Journal, 10(2), 143-164.

Wahyuni, S., & Vourezky, A. (2021). Investigating the effect of the word class mnemonic vocabulary learning technique on vocabulary acquisition. Indonesian Journal of Applied Linguistics, 10(1), 146-156.