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The Effects of Artificial Intelligence (AI) on English Proficiency at The VIII Grade Student of Tts DDI Kulo

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A B S T R A C T

The purpose of the effects of Artificial Intelligence (AI) on English Proficiency at VIII grade student of MTs DDI Kulo is to provide a dynamic, exciting, and effective learning anvironment that uses cutting-edge to improve student's English Proficiency.This study employs quantitative techniques as a research strategy. This quantitative study aims to provide strong empirical proof of the benefits of using the Artificial Intelligence (AI) to incrase student's English Proficiency at MTs DDI Kulo. The use of technology in education has made considerable strides, notably in secondary English language instruction. The purpose of this study is to investigate the use of Artificial Intelligence (AI) as a tool for increasing English proficiency in students at MTs DDI Kulo. The method used was a field experiment with class VIII students as research subjects. Pre-test and post-test asessments, as well as a survey were used to collect information about student's perceptions of their learning experiences with this technology. The results showed a significant improvement in student's English proficiency after using Artifical Intelligence (AI) regularly. In addition, the survey also revealed that students felt more motivated and actively engaged in learning English because use this technology. In conclusion, use Artificial Intelligence (AI) can be effective in empowering the English learning process at MTs DDI Kulo. The implications of this study suggest the need for the integration of Artificial Intelligence (AI) technology in education as a means to improve students's overall learning outcomes.

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INTRODUCTION

In the era of rapid technological advancement, Artificial Intelligence (AI) has emerged as a transformative force across various sectors, including education. AI, which simulates human intelligence through computer systems, is increasingly being integrated into educational settings to enhance learning experiences and outcomes. By enabling machines to perform tasks that typically require human cognition, such as problem-solving, decision-making, and language comprehension, AI offers significant potential for revolutionizing the way students learn.The incorporation of AI into education has led to the development of intelligent tutoring systems, personalized learning environments, and automated grading systems, among others. These innovations have not only made learning more engaging and effective but have also allowed for a more personalized approach to education, catering to the individual needs and learning paces of students. As AI continues to evolve, its applications in education are expected to expand, offering new opportunities to enhance student learning outcomes.

Despite the growing interest in AI applications in education, there is still limited research on its specific impact on language learning, particularly in non-native English-speaking contexts. This study focuses on the effects of AI on English proficiency among eighth-grade students at MTs DDI Kulo. English proficiency is a critical skill for students in a globalized world, and understanding how AI can aid in its development is of significant importance.The central question guiding this research is: What is the effect of Artificial Intelligence (AI) on the English proficiency of eighth-grade students at MTs DDI Kulo? This question addresses the need to explore the practical implications of AI in the classroom and its potential to enhance students' language skills.

The main objective of this study is to empirically investigate the impact of AI on the English proficiency of eighth-grade students. By assessing the changes in students' language skills before and after exposure to AI-based learning tools, the research aims to provide evidence on the effectiveness of AI in improving English proficiency. The study also seeks to explore students' perceptions of AI as a learning aid.The findings from this study are expected to contribute to the broader discourse on AI in education, particularly in the context of language learning. For educators and policymakers, the results could offer valuable insights into how AI can be effectively integrated into the curriculum to support English language development. Moreover, this research could serve as a foundation for further studies exploring the role of AI in other subject areas and educational levels.This research is confined to the context of MTs DDI Kulo, focusing specifically on eighth-grade students and their English proficiency. The study examines the impact of AI over a defined period and uses pre-test and post-test assessments to measure outcomes. While the findings may offer valuable insights, they are limited to the specific context and sample size of this study, and further research may be needed to generalize the results to other settings.

LITERATURE REVIEW

Artificial Intelligence (AI) has been increasingly applied in various educational settings to enhance learning outcomes and provide personalized learning experiences. According to Jaya et al. (2019), AI aims to create machines capable of performing tasks that require human intelligence, such as learning, reasoning, and problem-solving. In the context of education, AI technologies like machine learning, natural language processing, and cognitive computing are being used to develop intelligent tutoring systems, personalized learning environments, and adaptive assessment tools.Language learning, particularly English as a second language, has seen significant advancements with the integration of AI. The use of AI in language learning allows for more personalized and adaptive instruction, catering to the specific needs of each learner. For instance, applications like Duolingo and Hello English utilize AI to provide learners with tailored exercises that adapt to their proficiency level, thereby enhancing their language skills (Liana et al., 2018). Studies have shown that these AI-powered tools can significantly improve students' vocabulary, pronunciation, and overall language proficiency (Aisyah & Hidayatullah, 2023).

AI not only improves language proficiency but also positively impacts student engagement and motivation. Research by Salem M. Alqahtani et al. (2018) indicates that students who use AI-driven platforms like WhatsApp for language learning report higher levels of motivation and confidence in using English. The interactive nature of AI tools, combined with their ability to provide immediate feedback, makes learning more engaging for students, which in turn enhances their overall learning experience.Several studies have compared the effectiveness of AI-based learning tools with traditional teaching methods. According to Gomathi et al. (2023), AI technologies such as speech recognition software and virtual tutors have shown promise in improving students' communication skills. The study found that learners who received AI-driven feedback demonstrated significant improvements in their language proficiency compared to those who did not. Similarly, research conducted by Septiani et al. (2023) highlights the potential of AI in creating personalized learning pathways, which can lead to better learning outcomes.

While AI offers numerous benefits in education, it also presents certain challenges and ethical considerations. One of the primary concerns is the issue of data privacy and security. As AI systems often rely on large amounts of personal data to function effectively, ensuring the protection of this data is crucial. Additionally, there are concerns about the potential for algorithmic bias in AI systems, which could lead to unequal access to educational opportunities (Kennedy, 2023). Therefore, it is essential to address these ethical issues to ensure that AI is used responsibly in educational settings.Despite the growing body of research on AI in education, there are still gaps that need to be addressed. For instance, while there is substantial evidence on the effectiveness of AI in language learning, there is limited research on its long-term impact on students' overall academic performance. Additionally, more studies are needed to explore the use of AI in diverse educational contexts, particularly in non-native English-speaking countries. Further research is also required to

investigate the best practices for integrating AI into the curriculum to maximize its benefits for students.

METHODOLOGY

This study employs a quasi-experimental research design to examine the effects of Artificial Intelligence (AI) on the English proficiency of eighth-grade students at MTs DDI Kulo. Quasi-experimental designs are often utilized in educational research when random assignment is not feasible. In this study, the quasi-experimental approach allows the researcher to compare the outcomes of two groups—an experimental group that receives the AI-based intervention and a control group that does not—while controlling for other variables as much as possible. The design involves pre-test and post-test measurements to assess changes in English proficiency resulting from the intervention.In this study, there are two primary variables: the independent variable and the dependent variable. The independent variable is the use of Artificial Intelligence (AI) in the English learning process. The dependent variable is the English proficiency of the students, which will be measured before and after the intervention. English proficiency encompasses various language skills, including reading, writing, speaking, and listening, and will be assessed through standardized tests.

The population of this study consists of all eighth-grade students at MTs DDI Kulo. Given the manageable size of the population, a total sampling technique is employed, wherein all students from two classes—VIII A and VIII B—are included in the study. Class VIII A serves as the experimental group, receiving the AI-based intervention, while class VIII B acts as the control group, following the traditional English learning methods without the AI integration. In total, 38 students participate in this research, with 21 students in the experimental group and 17 in the control group.The data collection process involves several key methods to ensure the comprehensive gathering of relevant information : Both the experimental and control groups undergo a pre-test before the intervention to establish a baseline of their English proficiency. After the intervention, a post-test is administered to measure any changes in proficiency. The pre-test and post-test are identical in format and content, ensuring consistency in the evaluation process. The experimental group receives a structured AI-based learning intervention over a period of four weeks. The AI tools used in this study include language learning applications such as Duolingo, which provide personalized exercises tailored to the students' proficiency levels. The control group continues with the standard curriculum without any AI integration.Throughout the intervention period, the researcher conducts observations to monitor student engagement, participation, and interactions with the AI tools. These observations provide qualitative data that complement the quantitative test results.Photographs, screenshots, and other forms of documentation are collected during the study to provide a visual record of the intervention process and student activities.

The primary instruments used in this study are the pre-test and post-test, which are designed to assess students' proficiency in various aspects of English, including grammar, vocabulary, reading comprehension, and writing skills.

The validity and reliability of these instruments have been established through prior studies and pilot testing.Data analysis in this study involves both descriptive and inferential statistics. Descriptive statistics, such as means and standard deviations, are used to summarize the pre-test and post-test scores. Inferential statistics, specifically paired sample t-tests, are employed to determine whether there is a statistically significant difference in the English proficiency scores between the pre-test and post-test in both the experimental and control groups. Additionally, the effect size is calculated using Cohen's d formula to assess the magnitude of the intervention's impact.Ethical considerations are paramount in this research. Informed consent is obtained from the students and their parents or guardians prior to participation. The anonymity and confidentiality of all participants are maintained throughout the study. The intervention is designed to benefit the students educationally, and no harm is anticipated as a result of their participation.

RESULTS AND DISCUSSION

This section presents the findings of the study, which investigates the impact of Artificial Intelligence (AI) on the English proficiency of eighth-grade students at MTs DDI Kulo. The results are based on the data collected from pre-test and post-test assessments, as well as observations during the intervention.The pre-test was conducted to assess the initial English proficiency of the students in both the experimental and control groups. The mean score for the experimental group (VIII A) was 63.81, while the control group (VIII B) had a mean score of 55.26. These results indicate that, prior to the intervention, the students in the experimental group already had a slightly higher proficiency in English compared to those in the control group.After the four-week AI-based learning intervention, the post-test was administered. The experimental group showed a significant improvement in their English proficiency, with a mean score of 81.19, representing an increase of 17.38 points. The control group also showed improvement, but to a lesser extent, with a mean post-test score of 69.47, reflecting an increase of 14.21 points.To determine the significance of the observed improvements, a paired sample t-test was conducted on the pre-test and post-test scores for both groups. The results revealed that the experimental group’s p-value was <0.001, indicating a statistically significant improvement in their English proficiency after the AI-based intervention. Similarly, the control group also showed a significant improvement with a p-value <0.001, but the effect size, as calculated using Cohen's d, was larger in the experimental group, suggesting a stronger impact of the AI-based intervention.During the intervention, observations were made to assess student engagement and interaction with the AI tools. The students in the experimental group were observed to be more engaged and motivated during the learning sessions compared to the control group. The AI tools, particularly those that offered immediate feedback and interactive exercises, were well-received by the students, who reported enjoying the learning process more than traditional methods.

The results of this study highlight the potential benefits of integrating AI into the English language learning process for secondary school students. The significant improvement in English proficiency observed in the experimental group suggests that AI tools, such as Duolingo, can effectively enhance students' language skills by providing personalized and adaptive learning experiences.The findings of this study are consistent with previous research, which has demonstrated the effectiveness of AI in improving language proficiency. For example, studies by Liana et al. (2018) and Aisyah & Hidayatullah (2023) also found that AI-driven language learning applications significantly enhance students' vocabulary and overall language skills. The positive impact on student engagement observed in this study aligns with the results reported by Salem M. Alqahtani et al. (2018), who found that AI tools can increase student motivation and confidence.

The findings suggest that educators should consider incorporating AI-based tools into their teaching strategies to supplement traditional language instruction. The ability of AI to provide instant feedback and adapt to individual student needs makes it a valuable resource for enhancing language learning outcomes. However, it is important to ensure that these tools are used as a complement to, rather than a replacement for, traditional teaching methods, as the control group also showed significant improvement, indicating the continued relevance of conventional instruction.While the study provides strong evidence of the benefits of AI in language learning, it is important to note several limitations. The study was conducted within a single educational institution, which may limit the generalizability of the results. Additionally, the relatively short duration of the intervention (four weeks) may not fully capture the long-term effects of AI on language proficiency. Future research could address these limitations by conducting longitudinal studies across multiple schools to better understand the sustained impact of AI on language learning.The integration of AI into education raises important ethical and practical considerations. Ensuring data privacy and addressing potential biases in AI algorithms are crucial to the responsible use of AI in schools. Additionally, the study emphasizes the need for teachers to receive adequate training on how to effectively incorporate AI tools into their teaching practices.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the research that has been conducted by researchers, the following conclusions can be drawn.The use of AI media as an English learning tool, especially in improving students' reading, writing, speaking, and listening skills in the VIII grade of MTs DDI Kulo. The p-value is smaller than α (0.001 < 0.05). This means that H0 is rejected and H1 is accepted. From these calculations, it can be concluded that AI media as an English language learning tool, especially in improving reading, writing, speaking, and listening skills, has a significant influence on student learning achievement.Using AI media as an English learning tool, especially in improving reading, writing, speaking and listening skills. As a result, this method will make it easier for them to understand and remember the material.

In addition, this method can also improve reading, writing, speaking and listening skills.

Based on the conclusion above, the researcher would like to offer some suggestion as follow. For the teachers there are various techniques, media, and methods available for English teachers to use in the teaching process; however, teachers must choose the appropriate techniques, media, and strategies. One of the useful strategies for teaching English is using Artificial Intelligence (AI) media as an English learning media tool for the students the use of Artificial Intelligence (AI) media as an English learning aid, especially in improving reading, writing, speaking and listening skills. When speaking in English, they should do so with confidence and ease. Through the use of Artificial Intelligence media as an English learning aid, especially in improving reading, writing, speaking and listening skills, students can train and develop their reading, writing, speaking and listening skills. For the next researcher Hopefully this thesis can be useful for future researchers, which can contribute as a reference. Hopefully, future researchers who take similar topics can make better research than what researchers have done.

FURTHER STUDY

This research still has limitations so further research on the topic still needs to be carried out "The Effects of Artificial Intelligence (AI) on English Proficiency."

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