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AI-BASED LINGUISTIC LITERACY TO IMPROVE INDONESIAN LANGUAGE PROFICIENCY OF NU JUNIOR HIGH SCHOOL IN SUMATERA

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ABSTRACT

The rapid advancement of Artificial Intelligence (AI)-based digital technology has brought significant changes to educational practices, including Indonesian language learning. However, the integration of AI to improve students' digital linguistic literacy remains limited, particularly at the junior secondary school level. This community service program aimed to improve the Indonesian language competence of students at SMP NU Tebat Jaya, East OKU Regency, South Sumatra, through AI-based digital linguistic literacy assistance. The program involved 30 students from SMP NU Tebat Jaya, East OKU Regency, South Sumatra, as participants.The program was implemented through several stages, including needs assessment, socialization, AI application training, guided digital literacy practice, and evaluation. The training focused on utilizing AI to develop students' listening, speaking, reading, and writing skills while promoting the ethical and responsible use of AI.The results indicated improvements in students' abilities to produce well-structured texts, correct spelling and grammatical errors, critically evaluate digital information, and use AI effectively. In addition, teachers gained practical insights into integrating AI into innovative teaching and learning activities. Overall, the program successfully strengthened students' Indonesian language competence and enhanced their digital readiness to face the challenges of technology-driven education.

Keywords: *Linguistic Literacy, Artificial Intelligence, Indonesian Language Competence, Digital Transformation .*

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INTRODUCTION

Digital transformation has brought significant changes to various aspects of life, including education. Advances in information technology, the internet, and Artificial Intelligence (AI) have driven a shift in the learning paradigm from conventional approaches toward more interactive, adaptive, and technology-based learning. In Indonesian language learning, AI has the potential to help students develop listening, speaking, reading, and writing skills through the provision of information, grammar correction, vocabulary development, and immediate feedback. Luckin (2023) explains that the use of AI in education can support personalized learning, improve learning effectiveness, and develop critical thinking and problem-solving skills. In line with this perspective, Chaer (2023) emphasizes that language proficiency involves not only an understanding of linguistic rules but also the ability to use language communicatively in accordance with social contexts and technological developments. Nevertheless, the use of AI in learning also presents several challenges, such as dependence on automated answers, the spread of inaccurate information, and a lack of awareness regarding the ethical use of technology. Therefore, the utilization of AI needs to be accompanied by the strengthening of digital linguistic literacy so that technology can be used critically, ethically, and responsibly as a learning support tool.

Digital linguistic literacy refers to an individual's ability to understand, evaluate, utilize, and produce information through digital media while considering linguistic aspects, communication, and language-use contexts. Crystal (2023) explains that digital literacy in the linguistic context is not merely related to technological skills but also encompasses the ability to understand and produce information accurately through digital media. This competency is particularly important for junior secondary school students, especially in response to technological developments that increasingly influence the learning process. Retnoningtyas, Widyaningrum, and Widianti (2023) reported that integrating digital media into Indonesian language learning can improve students' digital literacy, comprehension, and engagement in the learning process. Putri and Febrilia (2023) also explain that digital literacy-based Indonesian Language and Literature instruction has a positive impact on students' critical thinking, creativity, and

language skills. Furthermore, Sitepu et al. (2024) suggest that AI can assist students in composing texts, correcting linguistic errors, receiving feedback, and developing literacy skills. Therefore, strengthening digital linguistic literacy should focus not only on technological proficiency but also on the ability to use proper and standard Indonesian, evaluate information credibility, and produce written work independently and responsibly.

Based on preliminary observations conducted at SMP NU Tebat Jaya, East OKU Regency, South Sumatra, the use of digital technology in Indonesian language learning was found to be predominantly limited to accessing the internet as a source of information, while AI-based applications had not been optimally integrated into classroom instruction. Some students were already familiar with AI applications; however, their use tended to focus on obtaining instant answers rather than developing their language skills. This situation was also reflected in students' difficulties in applying correct spelling, constructing effective sentences, selecting contextually appropriate vocabulary, and critically evaluating the accuracy of information obtained from digital media. Another identified problem was the lack of adequate guidance in using AI critically and ethically, potentially leading students to depend on AI-generated outputs without independently verifying or developing the information. These conditions indicate that students need structured assistance to enable them to utilize AI technology to improve their Indonesian language competence rather than merely obtain quick answers.

These problems indicate a gap between the existing conditions and the expected learning outcomes. Under the current conditions, students' use of digital technology has not been fully directed toward developing linguistic skills, critical thinking abilities, and digital ethics. Ideally, students should be able to use AI as a learning medium to support listening, speaking, reading, and writing skills while also evaluating information, correcting linguistic errors, and independently producing texts. In addition, teachers need to strengthen their practical understanding of AI utilization as part of innovative Indonesian language instruction. Sugiyono (2023) explains that mentoring is a form of community empowerment that provides participants with learning experiences through training, hands-on practice, and

continuous evaluation. This perspective is consistent with the findings of Sinaga and Ginting (2025), who demonstrated that AI utilization training can improve digital literacy and participants' ability to use technology productively. Mahardini et al. (2023) and Khoiri et al. (2023) also highlight the importance of digital literacy mentoring in developing critical thinking skills and responsible technology use. Meanwhile, Zakariya et al. (2023) emphasize that digital technology training can support improvements in teachers' competencies in developing technology-based instruction.

Based on these problems, this community service program aimed to improve the Indonesian language proficiency of students at SMP NU Tebat Jaya, East OKU Regency, South Sumatra, through AI-based digital linguistic literacy assistance. The program involved 30 students as participants and was implemented through several stages, namely needs assessment, socialization, AI application training, guided digital literacy practice, and evaluation. The proposed solutions were designed to address the partner school's specific problems. These included AI utilization training to correct spelling and grammatical errors; text composition and vocabulary development activities to improve writing skills; the use of AI in listening, speaking, and reading exercises to strengthen the four language skills; and digital information evaluation assistance to enhance critical thinking abilities and awareness of ethical AI use. The main strength of this program lies in integrating linguistic literacy, language skills, and AI utilization into a structured mentoring program tailored to the needs of junior secondary school students. Through these activities, students are expected to utilize AI productively, critically, independently, and responsibly in Indonesian language learning. Furthermore, the program is expected to provide teachers with practical insights into integrating AI technology to create more innovative, adaptive, and digitally responsive learning environments.

METHOD

The Community Service Program (Pengabdian kepada Masyarakat/PKM) entitled "AI-Based Digital Linguistic Literacy Assistance to Improve Indonesian Language Proficiency of Students at SMP NU Tebat Jaya in the Era of Digital Transformation" was conducted at SMP NU Tebat Jaya. The primary target

participants were students, with Indonesian language teachers serving as collaborative partners in the implementation of the program.The program employed a participatory mentoring approach, which emphasizes the active involvement of participants throughout every stage of the activities. This approach was designed to ensure that the learning process was interactive, collaborative, and sustainable.The implementation of the PKM program began with a preparation phase involving coordination with the school principal and Indonesian language teachers to obtain permission for the program, develop the implementation schedule, determine the participants, and identify the school's needs regarding the integration of Artificial Intelligence (AI) into Indonesian language instruction. During this stage, the PKM team also conducted preliminary observations and interviews with teachers to assess students' levels of digital linguistic literacy, identify challenges encountered in Indonesian language learning, and evaluate the readiness of the school's facilities and infrastructure to support the implementation of AI-based learning activities.Based on the results of this needs assessment, the PKM team developed a comprehensive mentoring module, training materials, evaluation instruments consisting of pre-tests and post-tests, practical worksheets, participant response questionnaires, and AI-based learning media to be utilized throughout the implementation of the program.

The next stage was the implementation of the program, which began with a socialization session highlighting the importance of digital linguistic literacy in the era of digital transformation and introducing Artificial Intelligence (AI) as a technology that can support Indonesian language learning. During this session, participants were provided with an understanding of how AI can enhance the four essential language skills listening, reading, speaking, and writing. They also received guidance on the ethical use of AI, emphasizing the principles of academic integrity, critical thinking, and responsible use of digital technologies.Subsequently, the PKM team conducted hands-on training on the use of various AI-based applications that can assist students in learning Indonesian. The training activities included practical exercises on using AI to generate writing ideas, develop essay outlines, correct spelling in accordance with the General Guidelines for Indonesian Spelling (Pedoman Umum Ejaan Bahasa Indonesia/PUEBI), edit sentences for greater clarity and effectiveness, enrich vocabulary, summarize reading materials, and produce various types of texts aligned with the learning objectives.Throughout the training sessions,

students received direct guidance and continuous assistance from the PKM team to ensure that they were able to use AI as a learning support tool rather than as a substitute for their own thinking, creativity, and language development.

Following the training sessions, the program proceeded to the practical mentoring phase. During this stage, students completed a variety of language-related tasks individually and in groups while utilizing AI as a learning tool. The PKM team, together with the Indonesian language teachers, provided intensive mentoring through discussions, demonstrations, individual consultations, and constructive feedback on students' work. The mentoring activities focused on improving students' writing skills, spelling accuracy, effective sentence construction, paragraph development, and their ability to critically evaluate AI-generated information. This approach enabled students to produce written work that adhered to the rules and conventions of standard Indonesian.Throughout the implementation of the program, the PKM team conducted continuous monitoring and evaluation to assess its effectiveness. Monitoring activities included observing students' participation, documenting the implementation process, and holding discussions with teachers to evaluate students' progress. Program evaluation was carried out by comparing the results of the pre-test and post-test to measure improvements in students' understanding of digital linguistic literacy and the application of Artificial Intelligence (AI). In addition, students' assignments were analyzed, participant satisfaction questionnaires were administered, and interviews were conducted with teachers to obtain feedback on the strengths of the program as well as the challenges encountered during its implementation. The final stage of the program involved reflection and follow-up planning. The PKM team and the school collaboratively reviewed the outcomes of the program, identified supporting factors and implementation challenges, and formulated recommendations to ensure the sustainability of future activities. As part of the program's sustainability strategy, the team provided the school with an AI-based Digital Linguistic Literacy Mentoring Module to serve as a supplementary instructional resource. Teachers were also encouraged to integrate AI into Indonesian language instruction on a continuous basis to support students' language development.Finally, all program activities were systematically documented and compiled into a comprehensive PKM final report as

a form of academic accountability and as an evaluation resource for the improvement and future development of similar community service programs.

RESULTS AND DISCUSSION

The Community Service Program (Pengabdian kepada Masyarakat/PKM) entitled "AI-Based Digital Linguistic Literacy Assistance to Improve Indonesian Language Proficiency of Students at SMP NU Tebat Jaya East OKU Regency, South Sumatra in the Era of Digital Transformation" was implemented in accordance with the planned stages, including preparation, socialization, training, practical mentoring, monitoring, and evaluation.The program began with an initial observation and needs assessment, which revealed that although most students were familiar with digital technologies and several AI-based applications, their use was largely limited to searching for information rather than supporting the development of Indonesian language proficiency. In addition, several challenges were identified, including spelling errors, inappropriate word choice, ineffective sentence construction, and limited ability to critically evaluate information obtained from digital media.During the socialization stage, students were introduced to the importance of digital linguistic literacy as one of the essential competencies required in the era of digital transformation. The materials presented covered the fundamental concepts of digital literacy, the development of Artificial Intelligence (AI), the potential benefits of AI for Indonesian language learning, and the ethical principles governing the responsible use of AI technologies.The results of this stage demonstrated that the students showed a high level of enthusiasm for the program. This was reflected in their active participation in discussions, their willingness to ask questions, and their engagement in sharing personal experiences regarding the use of various AI-based applications to support their learning process.

The training phase focused on the utilization of Artificial Intelligence (AI) as a supportive tool for Indonesian language learning. Students were guided in using AI-based applications to generate writing ideas, develop essay outlines, correct spelling in accordance with the General Guidelines for Indonesian Spelling (Pedoman Umum Ejaan Bahasa Indonesia/PUEBI), edit sentences to improve clarity and effectiveness, enrich their vocabulary, and compose various types of texts. Throughout the training,

students were able to follow each practical activity successfully and gradually developed an understanding that AI is not a substitute for human thinking, but rather a technological tool that can enhance the quality of learning when used appropriately. The participating teachers also gained valuable experience in integrating AI into classroom instruction, enabling them to adopt more innovative teaching strategies in their Indonesian language classes.During the practical mentoring phase, students were assigned to compose a text with the assistance of AI and subsequently revise and edit it independently in accordance with the rules and conventions of standard Indonesian. The results of the mentoring activities indicated a noticeable improvement in the quality of students' writing compared with their performance prior to the program. Their paragraphs became more coherent and logically organized, spelling and punctuation were used more accurately, vocabulary choices became more varied and appropriate, and sentence structures were clearer, more effective, and easier to understand.Furthermore, students began to demonstrate the ability to verify AI-generated information by comparing it with textbooks, dictionaries, and other reliable learning resources. These findings indicate that the mentoring program not only enhanced students' writing skills but also fostered their critical thinking abilities and information literacy, enabling them to use AI more responsibly and effectively as a learning resource.

The evaluation results indicate that the mentoring program had a positive impact on improving students' Indonesian language proficiency. Based on the comparison of the pre-test and post-test results, there was a significant improvement in students' understanding of digital linguistic literacy, the application of Artificial Intelligence (AI) in learning, and the implementation of standard Indonesian language conventions in writing activities. Observations conducted throughout the program also revealed increased student participation in the learning process, greater confidence in expressing ideas and opinions, and enhanced collaboration in completing group assignments. Responses collected through participant questionnaires further indicated that the majority of students found the program engaging, easy to understand, and helpful in facilitating their learning of the Indonesian language through a more modern and interactive instructional approach.From the teachers' perspective, the program provided valuable professional development by expanding their knowledge of integrating Artificial

Intelligence (AI) into Indonesian language instruction. Teachers gained practical insights into strategies for utilizing AI as an instructional tool, designing digital literacy-based learning activities, and providing appropriate guidance to ensure that students use AI ethically and responsibly. AI was viewed as a supportive educational technology capable of enhancing learning effectiveness when implemented purposefully while continuing to promote students' critical thinking, creativity, and academic integrity.Overall, the results of the Community Service Program (PKM) demonstrate that AI-based digital linguistic literacy mentoring effectively enhanced the Indonesian language competence of students at SMP NU Tebat Jaya East OKU Regency, South Sumatra across the domains of knowledge, skills, and attitudes. Furthermore, the program contributed to the development of Indonesian language instruction that is more innovative, adaptive, and responsive to the educational demands of the digital transformation era. Therefore, similar initiatives should be implemented on a continuous basis with the active involvement of teachers, schools, and other educational stakeholders to ensure that the integration of AI into learning continues to evolve in an optimal, ethical, and sustainable manner, thereby contributing more broadly to the improvement of educational quality.

CONCLUSION

The Community Service Program (Pengabdian kepada Masyarakat/PKM) through AI-Based Digital Linguistic Literacy Assistance to Improve Indonesian Language Proficiency of Students at SMP NU Tebat Jaya East OKU Regency, South Sumatra in the Era of Digital Transformation was successfully implemented and produced a positive impact on enhancing students' Indonesian language competence. Through a series of activities, including socialization, training, hands-on practice, and continuous mentoring, students developed a better understanding of the concept of digital linguistic literacy and learned to utilize Artificial Intelligence (AI) effectively as a supportive tool for Indonesian language learning.The mentoring program not only improved students' ability to compose texts, apply correct spelling and grammar, and develop their reading and writing skills, but also fostered their critical thinking abilities in evaluating AI-generated information. Moreover, it enhanced their awareness of the importance of ethical principles in the use of digital technologies.

These outcomes demonstrate that AI, when used under appropriate guidance, can serve as an effective educational tool that complements rather than replaces students' cognitive and linguistic development.In addition to benefiting students, the program also broadened teachers' understanding of strategies for integrating AI into classroom instruction in ways that are more innovative, interactive, and responsive to the demands of the digital transformation era. Teachers acquired practical knowledge of how AI can be incorporated into Indonesian language teaching to enrich learning experiences while maintaining academic integrity and promoting students' independent thinking.Overall, the AI-based digital linguistic literacy mentoring program represents an effective instructional model for strengthening students' Indonesian language proficiency while simultaneously preparing them to utilize digital technologies intelligently, creatively, responsibly, and ethically. Consequently, this program has the potential to serve as a sustainable model for supporting the integration of Artificial Intelligence into language education and equipping students with the competencies required to meet the challenges of future educational and technological developments.

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