



Pros and Cons of AI-Based Systems in Indonesian Language Learning

Wahyu Ramadhan^{1*}, Heny Sulistyowati²

¹Informatika Universitas PGRI Jombang, Indonesia

²Program Magister Universitas PGRI Jombang, Indonesia

Email: wahyuromadhon717@gmail.com; heny.sulistyowati@gmail.com

Abstract. *The development of Artificial Intelligence (AI) technology has brought significant changes across various fields, including education. This article discusses the use of AI-based systems in Indonesian language learning, focusing on the pros and cons of its implementation. The research method used is a literature review from various reliable sources related to AI in education. The study shows that AI can enhance learning effectiveness through adaptive learning, automated assessment, personalized materials, and student performance prediction. However, AI implementation also faces challenges such as reduced human interaction, technology dependence, privacy and ethical issues, and the risk of digital divide. Therefore, the application of AI in Indonesian language learning needs to be approached wisely so that technology can complement and support teachers and students without diminishing educational values. This article provides a comprehensive overview of the benefits and challenges of using AI, while recommending the need for appropriate regulations and policies for the integration of this technology in education.*

Keywords *Artificial Intelligence, Learning, AI Challenges*

INTRODUCTION

The development of digital technology in the last decade has brought major changes to various aspects of human life, including education. One form of technological innovation that is increasingly prominent is the use of artificial intelligence in the learning process. AI has the ability to provide personalized learning, provide real-time feedback, and support teachers in designing more effective teaching strategies. According to a UNESCO report (2023), around 40% of educational institutions in Southeast Asia have adopted or explored the use of AI in learning to improve access and efficiency in education (UNESCO, 2023).

In Indonesia, the integration of AI technology in education has begun to show improvement, although its application is still limited. Based on data from the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek), in 2024, around 18% of secondary schools in major cities such as Jakarta, Bandung, and Surabaya have used AI-based technology to support classroom learning, including in Indonesian language lessons. Applications such as ChatGPT, QuillBot, and Grammarly are used by students to compose sentences, correct grammar, and evaluate writing

Received: January 6, 2026; Accepted: January 15, 2026; Published: February 1, 2026

*Corresponding author: wahyuromadhon717@gmail.com

(Kemendikbudristek, 2024). This shows that AI technology is becoming part of the modern learning ecosystem.

However, behind this potential, the use of AI also raises a number of challenges and concerns. AI is considered capable of disrupting the role of teachers as facilitators and educators because human interaction becomes limited. In addition, there are issues of student dependence on technology, as well as issues of plagiarism, data privacy, and a decline in students' critical thinking skills due to over-reliance on instant answers from machines. This is relevant to

Selwyn's (2016) thinking, which emphasizes that the use of technology in education must be accompanied by critical awareness of its social and pedagogical impacts.

LITERATURE REVIEW

Various previous studies have also highlighted the positive and negative sides of using AI in Indonesian language learning. Fitrianto (2024) in his study "The Use of Artificial Intelligence in Indonesian Language Learning" states that although AI helps improve learning efficiency, it is not yet able to capture the local cultural context inherent in the use of Indonesian. Faiz and Kurniawaty (2024) in their article Challenges of Using ChatGPT in Education from an Ethical Perspective explain that the use of AI is prone to plagiarism and a decrease in the originality of students' thinking. Meanwhile, Kurniawan et al. (2024) in their study Analysis of the Use of Artificial Intelligence Using ChatGPT on Student Academic Quality mentions that although AI facilitates understanding of the material, it also triggers student dependence, which reduces creativity. Furthermore, Wulandari (2024) highlights that AI is not yet capable of replacing teachers' assessments in evaluating writing based on the social context and cultural values unique to the Indonesian language.

Based on these various facts, data, and scientific studies, it is very important to conduct a more comprehensive assessment of the advantages and disadvantages of using AI-based systems in Indonesian language learning in schools. A balanced understanding of the potential and challenges of AI is expected to help teachers, policymakers, and other

stakeholders in making the right decisions regarding the integration of this technology in education.

METHODS

To investigate the pros and cons of AI-based systems in Indonesian language learning, the research method used was a literature review. A literature review is an effective approach to investigating complex topics such as this, as it allows researchers to collect and analyze information from various reliable sources. The following are the steps of the research method used:

1. Identification of Literature Sources
 - a. The researcher will conduct a literature search through academic databases, scientific journals, books, research reports, and other online sources relevant to the topic.
 - b. The keywords used include "AI in Indonesian language learning," "AI-based systems," "artificial intelligence," "pros and cons of AI in Indonesian language learning," and other variations.
2. Selection of Literature Sources
 - a. The selected literature sources must be relevant to the research topic and of good quality.
 - b. Inclusion criteria will be used to select appropriate literature, such as year of publication, diversity of perspectives, and research methods used.
3. Data Collection
 - a. The data collected includes information about the pros and cons of using AI-based systems in Indonesian language learning, case studies on the implementation of AI in educational institutions, and related research results.
 - b. The data will also include the opinions of experts, education practitioners, and other stakeholders on this issue.
4. Data Analysis
 - a. The collected data will be systematically analyzed to identify key themes, trends, and differences between the pros and cons of using AI in Indonesian language learning.

- b. The analysis will involve synthesizing information from various literature sources to present a comprehensive overview of this topic.
5. Interpretation and Writing
- a. The results of the analysis will be interpreted to evaluate the positive and negative impacts of using AI-based systems in Indonesian language learning.
 - b. The information collected will be used to write an informative and persuasive scientific article about the pros and cons of AI in Indonesian language learning.

RESULTS

The use of *Artificial Intelligence* (AI) in education, particularly in Indonesian language learning, has become an increasingly relevant innovation in the *digital* age. AI-based systems offer great potential to revolutionize the way students learn and teachers teach, with various advantages that directly impact the effectiveness and efficiency of the learning process. The benefits of AI in Indonesian language learning are as follows:

Table 1. AI-based systems in Indonesian language learning

No	Pros	Explanation
1	Enhancing the Learning Experience	One of the main advantages of AI systems is their ability to provide a more engaging and interactive learning experience. AI can tailor learning materials based on students' ability levels, learning speeds, and individual interests. With features such as <i>adaptive learning</i> , students can access Indonesian language learning content that is more relevant and easier to understand, both inside and outside the classroom. This certainly accelerates understanding and mastery of Indonesian language skills.

2	Improving Learning Efficiency	AI also plays a role in accelerating and simplifying educational administration processes, such as automatic assessment, grammar error detection, and real-time feedback. This allows teachers to focus more on pedagogical aspects such as guiding students, facilitating discussions, and developing more in-depth language skills. This efficiency supports the effectiveness of teaching and the development of a curriculum based on the actual needs of students.
3	Improving Accessibility and Inclusivity	AI-based systems allow Indonesian language learning to be accessed from anywhere and at any time, including by students with special needs. Features such as automatic text readers, voice translators, and visual/audio aids provide broader and fairer opportunities to access language learning. This is in line with the principle of inclusive education, which guarantees every student the right to equal learning opportunities.
4	Encouraging Innovation In Learning Methods	AI paves the way for the development of more creative, data-driven, and student-centered Indonesian language learning methods. Big data analysis can be used to identify patterns of student difficulties, measure the effectiveness of learning methods, and design new approaches that are more suited to the needs of the digital generation. This is a great opportunity to build adaptive and <i>evidence-based</i> learning

DISCUSSION

Despite offering various advantages, the implementation of AI-based systems in Indonesian language learning is not without challenges and concerns. These challenges

must be seriously considered so that the use of AI does not have a negative impact on fundamental aspects of education. The following are some of the cons of implementing AI systems in Indonesian language learning:

Table 2. Cons of AI-based systems in Indonesian language learning

No	Cons	Explanation
1	Lack of Human Interaction	The use of AI in learning risks reducing the quality of interaction between teachers and students. In fact, in Indonesian language learning, verbal interaction, emotional expression, group discussion, and a communicative approach are crucial for language skill development. AI is not yet fully capable of replicating the depth of empathy, intuition, and warmth that human teachers offer in creating a supportive learning environment.
2	Over-Reliance on Technology	Reliance on AI systems can create unpreparedness in the event of technical disruptions, such as device malfunctions, poor internet connections, or system failures. In the context of Indonesian language learning, which requires consistency, this dependence can be a serious obstacle. In addition, students and teachers may lose their initiative to think critically because they are too dependent on technological assistance.
3	Privacy and Ethical Issues	AI works by collecting and analyzing students' personal data, such as learning habits, evaluation results, and communication records. Without strict regulations, this data can be misused or violate individual privacy. The

4	Lack of Sensitivity to Student Diversity	Although designed for personalization, AI is still not fully capable of capturing the diversity of cultures, regional languages, learning styles, and complex student backgrounds. Learning Indonesian, which is rich in cultural values, social context, and personal expression, often requires a more human and contextual approach, which is difficult to achieve through automated systems alone.
5	Widening the Digital Divide	The use of AI in education risks widening the gap between students who have access to the latest technology and those who do not. In regions or schools with limited infrastructure, the implementation of AI can be an additional burden and create learning inequalities. This contradicts the spirit of equal access to education in Indonesia.

CONCLUSION

The conclusion of this article is that this artificial intelligence (AI)-based system for learning Indonesian brings significant benefits. AI can enhance the learning experience of students through adaptive learning tailored to individual needs, making the process of language acquisition more effective and engaging. In addition, AI also helps improve learning efficiency with features such as automatic assessment that reduces the burden on teachers, as well as providing greater accessibility for all students, including those with special needs. Data-driven innovations generated by AI enable the development of more targeted teaching methods, thereby improving the overall quality of Indonesian language learning. However, the use of AI in Indonesian language learning also poses a number of challenges that require serious attention. Reduced human

interaction can diminish the empathy and emotional support that are crucial in the language learning process, while dependence on technology risks causing disruption if the system fails. In addition, privacy and ethical issues related to student data management and the potential for an increased digital divide between students who have access to technology and those who do not are important concerns. Therefore, the application of AI in Indonesian language learning must be carried out wisely, taking into account social, ethical, and pedagogical aspects so that technology can contribute positively without sacrificing educational values.

REFERENCES

- Faiz, M., & Kurniawaty, D. (2024). Challenges of using ChatGPT in education from an ethical perspective. *Jurnal Edukatif*, 6(2), 1123–1132. <https://jurnal.iicet.org/index.php/edukatif/article/view/4779>
- Fitrianto, I. (2024). The use of artificial intelligence in Indonesian language learning. *Journal of Language Education*, 12(1). <https://online-journal.unja.ac.id/dikbastra/article/view/33262>
- Ministry of Education, Culture, Research, and Technology. (2024). Annual report on digital transformation in Indonesian education. Jakarta: Ministry of Education, Culture, Research, and Technology. <https://pusdatin.kemdikbud.go.id>
- Kurniawan, A., Nurhaliza, R., & Handoko, S. (2024). Analysis of the use of artificial intelligence using ChatGPT on the academic quality of students. *Indonesian Journal of Accounting and Management*, 14(1), 75–84. <https://journal.akb.ac.id/index.php/jami/article/view/285>
- Selwyn, N. (2016). *Education and technology: Key issues and debates*. Bloomsbury Publishing.
- UNESCO. (2023). Technology in education: A tool on the rise in Southeast Asia. <https://www.unesco.org/en/articles/technology-education-southeast-asia>
- Wulandari, S. (2024). The influence of artificial intelligence on learning evaluation. *Journal Nakula*, 5(1), 33–42. <https://journal.aripi.or.id/index.php/Nakula/article/view/1766>
- Kuswanto, Nadya Annisatul Faradise & Firman Ferial. (2025). "Pros and Cons of AI-Based Systems in Indonesian Language Learning." *JUPENSAL: Universal Education Journal*, Vol. 2 No.1. <https://journalwbl.com/index.php/jupensal/article/view/448>
- Anita Candra Dewi. (2025). "AI-Based Indonesian Language Learning Strategies in Improving Student Digital Literacy." *Journal of Education and Learning*, Vol. 5 No.1. <https://journal.almeeraeducation.id/jpdp/article/view/517?utm>

- Alliya Fajriati, Wisroni Wisroni & Ciptro Handrianto. "The Use of Artificial Intelligence (AI) Technology in Student-Centered Learning in the Digital Age." *Wahana Pedagogika: Scientific Journal of Education and Learning*. <https://ejurnal.unisda.ac.id/index.php/wahana/article/view/7890?utm>
- Diva Aprilia, Ken Sely Azzahra & Ichsan Fauzi Rachman. (2025). "Implications of Using AI in Developing Indonesian Language Speaking Skills in Junior High Schools." *Indonesian Journal of Educational Research (JPPI)*, Vol. 2 No.4. <https://jurnalistiгомah.org/index.php/jppi/article/view/4650?utm>
- Ria Agustina, M. Zaim, Harris Effendi Thahar & Megi Afroka. "The Use of Artificial Intelligence (AI) Technology in Language Learning at Madrasah: A Systematic Literature Review." *Al-Thariqah Journal*, Vol. 9 No.1. <https://journal.uir.ac.id/index.php/althariqah/article/view/16741?utm>
- Muhammad Ryzki Trisianto, Aditya Syahban Nugraha, Adhika Ramdani & Adezian Santiago Nababan. "The Influence of Artificial Intelligence (AI) in Evaluating Indonesian Language Learning Among University Students." *Nakula Journal*, Vol. 3 No.3. <https://journal.aripi.or.id/index.php/Nakula/article/view/1766>
- Nani Nirwani & Priyanto Priyanto. "Integration of Artificial Intelligence in Language Learning in Junior High Schools." *DIKBASTRA: Journal of Language and Literature Education*, Vol. 7 No.1. <https://online-journal.unja.ac.id/dikbastra/article/view/36858>
- Nurul Fhatiha Hermaul, M. Agus & Aco. "Analysis of the Use of Artificial Intelligence (AI) by Teachers in Indonesian Language Learning at MTs Negeri 1 Jeneponto." *Pendas: Journal of Basic Education*, Vol. 10 No.3. <https://journal.unpas.ac.id/index.php/pendas/article/view/32524>
- Dini Apriliani. "The Use of Artificial Intelligence in Indonesian Language Learning." *DIKBASTRA: Journal of Language and Literature Education*, Vol. 7 No.1. <https://online-journal.unja.ac.id/dikbastra/article/view/33262>
- Hindra Kurniawan, Adiguna Sasama W.U. & Rika Wahyuni Tambunan. (2024). "The Potential of AI in Enhancing Creativity and Literacy in Indonesian Language Learning." *JAMI: Indonesian Young Experts Journal*, Vol. 5 No.1. <https://journal.akb.ac.id/index.php/jami/article/view/285>
- Immanuel Setyo Budi, I.B. Putrayasa, NMR Wisudariani & I.N. Sudiana. (2024). "The Role and Challenges of Using Artificial Intelligence in Innovation for Developing the Future Indonesian Language Learning Curriculum." *LEARNING: Journal of Educational Research and Learning Innovation*, Vol. 4 No.4. <https://jurnalp4i.com/index.php/learning/article/view/3767>
- Irma Arifah, Dwi Kuncorowati, Suprpti & Narimo. "Integration of Artificial Intelligence Technology in Indonesian Language Teaching: Innovative Solutions in the Digital Era." *Journal of Practice Learning and Educational Development (JPLED)*. <https://digitalpress.gaes-edu.com/index.php/jpled/article/view/405>

- M. Afiv Toni Suhendra Saragih & Mandra Saragih. (2025) "Analysis of the Effectiveness of Using Artificial Intelligence in Language Learning." Proceedings of the International Seminar (INSIS 2025).
<https://jurnal.umsu.ac.id/index.php/insis/article/view/22942>
- Sukini, Sri Budiyo, Wisnu Nugroho Aji & Danang Suseno. (2025). "Digital media and artificial intelligence in teaching Bahasa Indonesia: Realities, Potentials, and Challenges." Journal of Educational Management and Instruction (JEMIN), Vol. 5 No.2. Ejournal UIN Raden Mas Said
- Wahyudi Badri, Solehan & Muhammad Parli (2024). Studies outside of Indonesian language but relevant to the context of AI + foreign language learning) — for example: "Artificial Intelligence In English Language Learning: Advantages And Challenges." by. Teaching English and Language Learning Journal, Vol. 4 No.3.
<https://jurnal.umb.ac.id/index.php/telle/article/view/7538>
- M. Afiv Toni Suhendra Saragih (2025). Comprehensive Study of Education Globalization in the Digital Age. Medan: UMSU Press.
- Jin Ha Woo & Heeyoul Choi (2021). Global review article: "Systematic Review for AI-based Language Learning Tools.". Although not specific to Indonesian, it is suitable for the theoretical framework of AI-based language learning.
<https://arxiv.org/abs/2111.04455>
- Lixiang Yan, Lele Sha et al. (2023). Global conceptual article on ethics and challenges of AI in education: "Practical and Ethical Challenges of Large Language Models in Education: A Systematic Scoping Review.". Although international, it is relevant to the counterarguments in the use of AI. <https://arxiv.org/abs/2303.13379>