

Teachers' Perspectives On Artificial Intelligence In Literary Education: Opportunities And Challenges In The Digital Age

Farida Nugrahani¹, Veronika Unun Pratiwi², Ali Imron A.M³

¹⁻²Universitas Veteran Bangun Nusantara (UNIVET), Sukoharjo, Central Java, Indonesia

³Universitas Muhammadiyah Surakarta

Corresponding Author: Farida Nugrahani. E-mail: farida.nugrahani1@gmail.com



Abstract— The aim of this study is to examine how Artificial Intelligence (AI) is applied in literature learning in the digital age, as well as the opportunities and challenges it presents for teachers and students. A descriptive qualitative method was employed, with data drawn from 953 teachers who graduated from the In-Service Teacher Education Program (PPG) in 2024. Initial data were collected through a questionnaire, followed by purposive sampling to select five key informants for in-depth interviews. The data were analyzed using interactive techniques, and their validity was ensured through source and method triangulation. The findings indicate that the application of AI in literature education offers significant opportunities to transform teaching and learning practices, enabling students to achieve better academic performance. Notably, 4.3% of teachers reported that AI facilitates students' access to learning materials. Regarding the challenges, 54.1% of teachers emphasized the need to anticipate issues related to privacy and algorithmic bias, as not all students have equal access to or ability to use AI. Additionally, 48.6% of teachers highlighted the risk of increasing student dependence on technology. However, the integration of AI in learning demonstrates a positive trajectory for the future.

Keywords— artificial intelligence, literary learning, digital age, opportunities, challenges

I. INTRODUCTION

Character education and literacy are two essential foundations of Indonesia's educational system. In the context of Artificial Intelligence (AI) is a field of computer science that develops devices and algorithms capable of performing tasks that typically require human intelligence, including learning and understanding language, identifying patterns, and making decisions [1], [2]. Initially designed to mimic human cognitive abilities, AI has evolved into transportation, healthcare, customer service, and, recently, education, where it provides significant benefits. This involves performing routine tasks, analyzing massive datasets to uncover hidden trends, and enabling customized experiences for users [3], [4]. In the context of education, AI increases students' learning experiences, enhances teaching effectiveness, and promotes institutional management [5].

Literary education, as an essential part of the curriculum, plays a crucial role in developing students' sensitivity to moral and cultural principles, while simultaneously nurturing creativity, empathy, and development of character [6], [7]. Integrating AI into this domain opens up promising opportunities: from tailoring instructions to individual learning needs and styles [2] to expanding access to diverse resources thru online platforms and recommendation systems [8], [9]. Previous studies have highlighted how AI tools like Voyant and natural language processing (NLP) applications enable students to identify themes, textual patterns, and cultural references in literature [10], [11]. Similarly, writing enhancement tools like Grammarly, Quillbot, and Sudowrite provide instant feedback that supports creativity, development of vocabulary, and analytical depth [12]. This finding suggests that AI can significantly enrich the analytical and creative dimensions of literary education.

Nonetheless, studies additionally discovered challenges. Arora et al. [13] and Luckin et al. [14] highlight the risks of unequal access, issues with privacy, and algorithmic bias, while Liu et al. [15] contend that AI cannot fully replicate human interpretive abilities, especially when dealing with literary features like irony, metaphor, and psychological nuance. These findings are echoed in Alam [16], who argue that AI ought to support rather than substitute the humanistic and pedagogical aspects of education. Thus, the literature offers both enthusiasm for AI's pedagogical potential and warnings about its drawbacks.

Following the conclusion of this discussion, the present study provides empirical evidence from 953 teachers who graduated from the In-Service Teacher Education Program (PPG) in 2024. Unlike previous research, which largely focused on theoretical applications or small-scale experiments, this study gathered large-scale perspectives from actively teaching teachers regarding the role of AI in changing literary education. These findings indicate that AI enhances access to learning materials and boosts student engagement with writing and analysis, aligning with prior studies on personalization and creativity [10], [12]. At the same time, the teachers in this study expressed concerns about equity, dependence, and ethical issues, which reinforced previous criticisms [13], [15]. By combining these viewpoints, this research emphasizes that AI in literary learning has transformative potential when employed as an additional tool under the direction of teachers, balancing innovation with critical oversight.

This study is significant not only for confirming and extending previous findings, but also for providing large-scale, practice-based insights into the integration of AI in literature education. Its benefits are twofold: it highlights how AI can enhance personalization, creativity, and intercultural awareness in literary learning, while also emphasizing the ethical and pedagogical protections needed to ensure equitable and meaningful adoption.

II. REVIEW OF RELATED LITERATURE

2.1. Literature Education in the Digital Age

The progress of science and technology has made significant contributions to the effectiveness and efficiency of human life, enabling people to overcome obstacles of distance, space, and time. However, these positive contributions are not without accompanying impacts. Technological advances have introduced new ways of life that have, in turn, shifted cultural values rooted in national traditions. The rapid exchange of information, communication, and cultural references across various media channels illustrates the clash and interplay of cultures, which ultimately drive cultural transformation and the emergence of a global cultural landscape [17].

In this context, many experts argue that literature plays a crucial role in instilling noble values in students, a claim supported by numerous research findings. Nevertheless, there are still those who view the study of literature as less important than the mastery of technology or other material pursuits. This perspective assumes that proficiency in the exact sciences outweighs the relevance of the social sciences and humanities, which are deeply embedded in the study of literature [18]. As a result of such misconceptions, literature education is often marginalized.

To ensure that literary education fulfills its vital function as a foundation of character formation, teachers bear the responsibility of cultivating students' interest in literature. Literature, as a mirror of a nation's socio-cultural conditions, must be preserved and passed on to younger generations because of its potential to foster societal change, including the shaping of individual character [6]. As both a reflective and interactive form of language, literature has the power to inspire social change and even contribute to national revitalization. It can strengthen love for the homeland while serving as a source of inspiration and moral motivation for cultural and social transformation.

For literature to fulfill its vital role in schools, ideal learning conditions must be created [19]. Such conditions exist when students are motivated, enthusiastic, active, and creative, while learning in a joyful and supportive environment. The use of engaging materials and media can foster these conditions, thereby strengthening the practical urgency of improving the quality of literature education as a means of developing students' character values. One widely adopted strategy to achieve this is the integration of digital technology into literature education.

The digital age is characterized by the pervasive use of digital technology, the internet, and electronic devices across nearly all aspects of human life [20]. This era has brought about profound transformations in culture and lifestyle, particularly in how

people communicate, work, learn, and access information. These changes accelerated in the late 20th century with the emergence of technological innovations such as computers, smartphones, social media, and the internet [21].

Digital technology, replacing many analog systems, has made it easier to store, process, and transmit data with speed, accuracy, and efficiency [22]. Consequently, it has transformed various sectors, including education, business, healthcare, and government. The internet, in particular, has enabled cross-border interactions, effectively turning the world into a “global village” and promoting the globalization of information and communication [23].

A defining feature of the digital era is the capacity to store and analyze massive amounts of data (big data), which supports predictive analysis, decision-making, and the advancement of Artificial Intelligence (AI). Another hallmark is the rise of AI as an automation technology that not only streamlines manual processes but also increases efficiency and opens new opportunities [24]. However, AI’s growing presence has also reshaped social behaviors. In education, AI-based learning integrates digital technology to create more dynamic, interactive, and accessible experiences [25]. These advancements have fundamentally altered the ways in which students acquire knowledge, interact with educators, and access learning resources.

2.2 The Use of AI in Literary Education in the Digital Age

The rapid development of AI technology has had a profound impact across various sectors, including education and literary studies. In the context of literary learning, AI offers students opportunities to analyze and create literary works more efficiently and interactively. For instance, applications such as IBM Watson and Google Cloud Natural Language API enable students to examine key elements of literary texts, including themes, narrative structures, language styles, and characterization [26]. Similarly, Natural Language Processing (NLP) tools allow learners to extract essential information, generate summaries, and interpret themes, thereby facilitating a deeper understanding of texts within their cultural and historical contexts [27].

AI also supports students in navigating cultural references that may otherwise be challenging, such as those found in classical works by Shakespeare or Dante. In addition, writing platforms like Grammarly and Quillbot provide real-time feedback on grammar, vocabulary, and style, enabling students to refine their writing skills through immediate revision and improvement [28], [29].

One of the most recent innovations applicable to literary education is the use of advanced generative models such as GPT-3, exemplified in interactive platforms like AI Dungeon [30]. These tools allow students to co-create literary works by suggesting plots, dialogues, and character developments. In this role, AI functions as a collaborative partner, offering creative input and generating new story ideas based on students’ preferences and writing patterns. Through algorithmic analysis of narrative elements, such systems can also provide feedback on plot coherence, character depth, and dialogue quality, ultimately supporting students in producing more cohesive and engaging literary works.

AI-based applications such as Socratic by Google can assist students in finding explanations and answers related to the literary texts they are studying. This makes learning more interactive, as students engage directly with literary materials and receive feedback tailored to their needs [31]. Likewise, AI-powered chatbots in literature classes can facilitate discussions on themes and provide additional insights that may not be available through textbooks or other traditional sources.

The implementation of Story Visualization Tools further enhances literary learning by offering multimodal experiences [8]. Through algorithms, students can visualize narrative elements such as characters, settings, and plots, thereby gaining a clearer and more comprehensive understanding of narrative structures [32].

In today’s digitally connected global era, intercultural understanding is a crucial competence for participation in the international arena. Consequently, literary learning should not be confined to local works alone; students should also be introduced to world literature in order to broaden their knowledge of global culture. Tools such as Google Translate and DeepL provide access to literary works in different languages [33]. Although machine translation still has limitations, these technologies greatly expand students’ access to texts that would otherwise remain inaccessible [34].

While AI brings many benefits to literary education, ranging from interactivity and multimodality to cross-cultural accessibility, it also presents challenges. Teachers must anticipate and address these challenges to ensure that AI contributes positively to the overall goals of literary education.

III. METHODS

This study employed a descriptive qualitative approach in the form of a case study [35]. The case under investigation concerned the use of AI in literature learning in the digital age, examined in terms of its benefits, challenges, and impact on students. The research subjects consisted of 953 language teachers from elementary and secondary schools who graduated from the 2024 In-Service Teacher Education Program organized by the Directorate General of Teachers and Educational Personnel of the Indonesian Ministry of Education.

Data from all respondents were collected through a Google Forms questionnaire. From this group, five key informants were selected using purposive sampling for in-depth interviews, which provided more detailed, accurate, and comprehensive insights. To ensure data validity, source and method triangulation techniques were applied [36], [37]. The collected data were then analyzed using inductive analysis techniques within an interactive model framework [35], [38].

IV. FINDINGS AND DISCUSSION

4.1. The Use of AI in Literature Education in the Digital Age

Based on data collected through questionnaires, 44.3% of teachers reported that the use of AI facilitates students' access to learning materials and supports the analysis of literary works. Meanwhile, 33.4% indicated that AI applications help create an interactive learning environment, enabling students to discuss themes, characters, and interpretations, as well as provide real-time feedback on the works being analyzed. In addition, 22.4% of teachers believed that AI allows students to conduct deeper analyses of literary texts. These findings suggest that the integration of AI in learning can provide significant benefits when applied thoughtfully and appropriately.

Overall, AI has transformed various aspects of life, including literary education. Its use in literature classrooms offers innovative approaches to enhancing students' understanding and appreciation of literary works. The following section presents teachers' perspectives on the application of AI in learning.

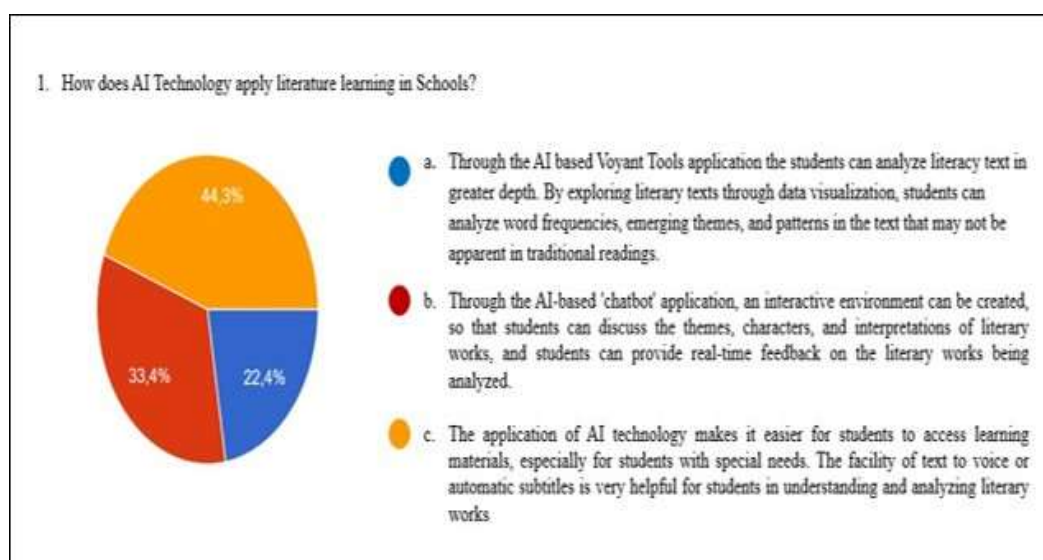


Figure 1. Application of AI Technology in Literature Learning

4.2 Challenges in Utilizing AI for Literature Learning in the Digital Age

The use of AI in literature learning offers numerous opportunities for both teachers and students. However, several challenges also emerge. Of the 953 teachers surveyed, 54.1% reported that not all students have equal access to AI tools and the internet, creating an educational gap between those with adequate resources and those without. Furthermore, 28.7% emphasized that AI systems cannot replace the social and emotional interactions that take place between teachers, students, and peers in a learning environment. Meanwhile, 17.2% noted that AI-generated learning content is not always of high quality, raising concerns about students' exposure to inaccurate, misleading, or even harmful material.

The following are images of teachers' opinions on the challenges of utilizing AI in literature learning.

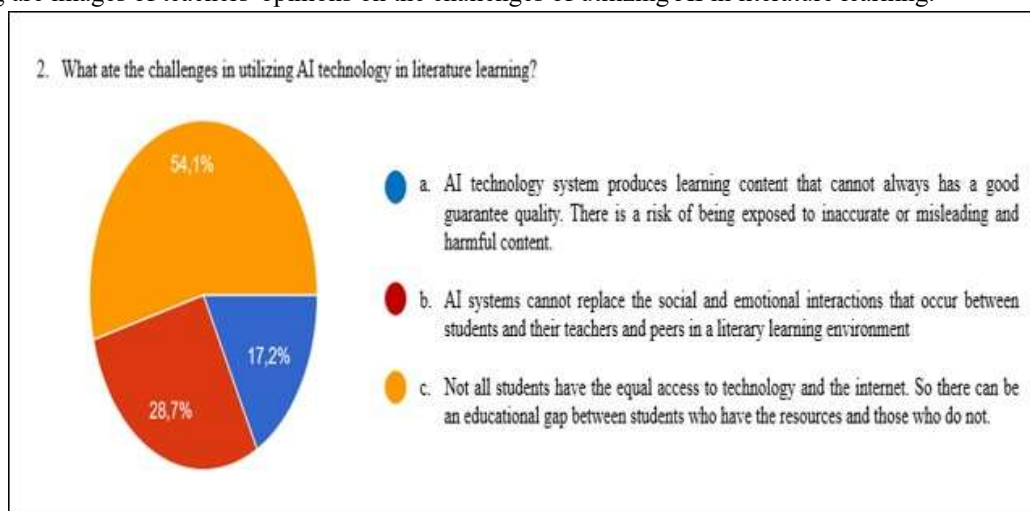


Figure 2. The challenges of Using AI technology

4.3 The Impact of AI Utilization in Literary Learning in the Digital Age

Although AI provides many benefits in literary learning, several potential challenges must be carefully anticipated. Of the 953 teachers surveyed, 48.6% expressed concern that the use of AI in learning could lead to student dependence on technology, thereby diminishing their capacity for independent learning and critical thinking. In addition, 33.2% believed that AI has limitations in interpreting the subtleties of literary works, particularly the emotional depth, metaphors, and irony embedded in texts—elements that remain difficult for current technologies to grasp. Meanwhile, 18.2% indicated that the use of AI may reduce students' critical abilities in analyzing and interpreting literary texts. The figure below illustrates teachers' perspectives on the impact of AI use in literary education.

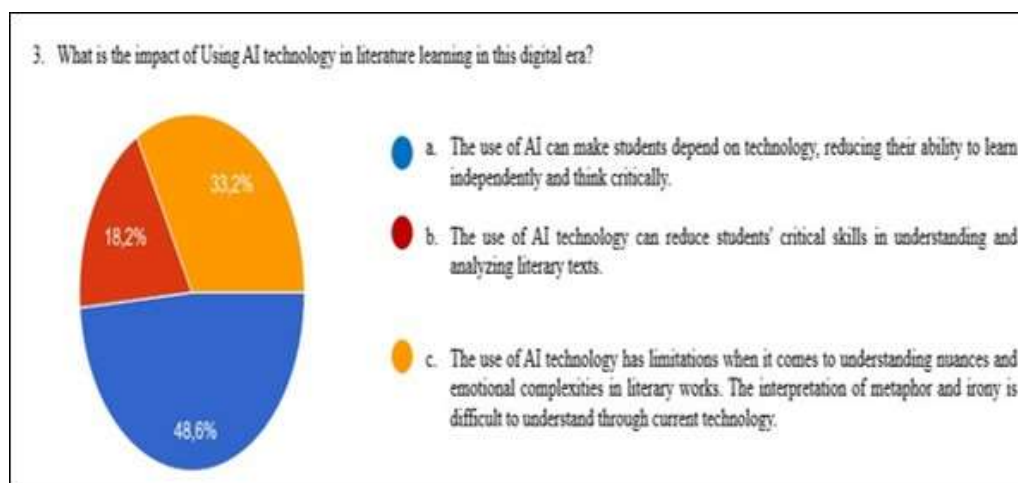


Figure 3. The Impact of Using AI Technology in Literature Learning

V. DISCUSSION

The literature study explored in this study discusses various genres—poetry, prose, and drama, as well as the analysis of key elements such as themes, characters, and writing styles. Its primary objective is to develop students' critical, analytical, and creative skills. In the digital age, Artificial Intelligence (AI) offers new opportunities to make literature learning more effective, efficient, and engaging.

One of the main benefits of applying AI to literary learning is the enhancement of students' analytical skills. AI-based applications such as Voyant Tools enable students to explore literary texts through data visualization, allowing them to examine word frequency, recurring themes, and textual patterns that may not be easily detected through traditional reading methods. Similarly, Natural Language Processing (NLP) applications can automatically analyze literary works, including their themes, narrative structures, and stylistic features. Tools such as IBM Watson and Google Cloud Natural Language API, for example, can perform sentiment and theme analysis, helping students grasp the meaning and context of texts more readily.

AI also facilitates students' understanding of cultural references that may be challenging in classical works, such as those of Shakespeare or Dante. By providing relevant explanations and interpretations, AI makes the study of such texts more accessible and engaging. Beyond textual analysis, AI also supports creative writing and literary criticism. Applications like Sudowrite provide students with suggestions for developing characters, plots, and writing styles, thereby helping them refine their ideas and strengthen their creative writing abilities.

AI-based applications such as Grammarly and Quillbot provide real-time feedback on grammar, vocabulary, and writing style, enabling students to improve the quality of their writing more efficiently than through conventional methods. In addition, AI can automatically assess creative works by identifying narrative elements and offering constructive feedback on plot, character development, and dialogue. More advanced tools, such as AI Dungeon or OpenAI's GPT-3, allow students and teachers to collaborate with AI in producing entirely new stories. In this role, AI functions as a co-author, suggesting plots, dialogues, and characters while fostering creativity and adaptability in literary learning.

AI also enhances interactivity and personalization. Applications such as Google's Socratic provide tailored explanations and answers to questions related to literary texts, enabling students to engage directly with materials and receive immediate feedback. Similarly, AI-based chatbot applications can facilitate critical discussions of themes, characters, and interpretations, encouraging students to analyze texts from multiple perspectives. By simulating debate and discussion forums, chatbots help students strengthen their critical thinking while receiving real-time responses.

Beyond textual analysis, AI supports students in accessing and selecting literary works. Through recommendation algorithms, platforms such as Goodreads suggest books that match individual interests, reading levels, and preferences, while also creating opportunities for discussion and deeper engagement with themes. Furthermore, AI-powered translation tools such as Google Translate and DeepL expand students' access to world literature by making works from diverse cultures and languages more accessible. Despite their limitations, these tools provide valuable opportunities for students to explore global literary traditions that would otherwise be difficult to access. Thus, the integration of AI into literary education creates more interactive, adaptive, and personalized learning experiences. It not only enriches students' understanding of literature but also motivates them to develop creativity, critical thinking, and intercultural awareness.

AI offers various applications that can enrich literary education. Interactive storytelling tools such as StoryJumper or Quillionz help students develop folk tales by guiding plot, characters, and conflict, while reading aids like Google Read Along provide immediate feedback on pronunciation and simplify complex words in stories such as *Si Kancil Mencuri Timun*. Visualization apps like LitCharts or Plotagon make stories like *Timun Mas* more accessible through images and animations, and writing support tools such as Grammarly assist students in refining grammar, vocabulary, and style when producing poems or short stories. In addition, AI-powered translation tools such as Google Translate open access to regional and foreign folk tales, while chatbots like Google's Socratic foster interactive discussions, encouraging students to analyze moral values and themes in works like *Laskar Pelangi*. Collectively, these tools make literary learning more interactive, personalized, and globally connected.

This study highlights the potential of Artificial Intelligence (AI) to transform literary education, both in enhancing students' analytical and creative capacities and in creating more interactive, personalized learning environments. Data drawn from 953 teachers who graduated from the In-Service Teacher Education Program (PPG) in 2024 provide strong evidence of AI's emerging role in reshaping teaching practices. The findings indicate that AI contributes to improved academic performance, with 4.3% of teachers noting its role in facilitating access to learning materials. These results align with prior studies suggesting that AI-powered tools such as Voyant and NLP applications support students in exploring themes, textual patterns, and cultural references [10], [11]. Similarly, applications like Grammarly, Quillbot, and Sudowrite enhance writing by offering real-time feedback on grammar, vocabulary, and creative development [12], echoing teachers' observations in this study that AI enriches student engagement with writing and critical analysis.

Beyond access and efficiency, the data show teachers' cautious perspectives on challenges associated with AI in literary learning. Notably, 54.1% of teachers raised concerns about unequal access to technology and the need to address privacy and algorithmic bias—issues that reflect broader debates in the literature regarding AI's ethical and equity implications [13]. Likewise, 48.6% of teachers emphasized the risk of students becoming overly dependent on technology, potentially weakening their independent critical thinking, a finding consistent with Liu et al., [15], who argues that AI cannot fully replicate the interpretive depth required for understanding metaphor, irony, and emotional nuance in literature. Furthermore, the reliance on AI-generated outputs carries the risk of inaccuracies and bias, as highlighted both by 17.2% of teachers in this study and by recent research pointing to limitations in quality and reliability [14].

Despite these challenges, the convergence of this study's findings with prior research suggests that the trajectory of AI integration in literary education remains largely positive. Teachers' perspectives indicate a recognition of AI as a complementary tool that fosters interactive learning, creativity, and intercultural awareness, particularly when combined with teacher guidance and critical oversight. This echoes arguments by Bauer et al. [39] and Alam [16], who emphasize that AI should augment rather than replace the pedagogical and human dimensions of education. Thus, while concerns of equity, dependency, and ethics must be carefully anticipated, both the empirical data and the literature point toward the transformative potential of AI in cultivating critical, analytical, and creative engagement with literature.

Future research should focus on evaluating the long-term effects of AI on students' creativity, critical thinking, and literary interpretation through longitudinal and mixed-method studies; addressing issues of equity by examining how unequal access to technology impacts learning outcomes; exploring cross-cultural applications of AI to enrich global literary perspectives; and investigating ethical concerns such as data privacy, algorithmic bias, and reliability. Additionally, research should prioritize the

development of teacher-training frameworks that emphasize AI-human collaboration, ensuring that AI enhances rather than replaces the social, emotional, and pedagogical dimensions of literary education.

VI. CONCLUSION

This study demonstrates that Artificial Intelligence has significant potential to enrich literary education by enhancing text analysis, fostering creativity, and providing personalized and interactive learning experiences. Applications such as NLP tools, chatbots, and AI-based writing assistants enable students to explore texts more deeply, improve their writing skills, and engage in critical discussions. Nevertheless, the study also highlights critical challenges that must be addressed. Teachers' concerns about students' overreliance on technology, the inability of AI to fully interpret emotional depth, and issues of equity and bias align with existing scholarship that stresses the importance of critical AI literacy and ethical use. These limitations underscore that AI should not be seen as a substitute for human interpretation or teacher guidance, but rather as a complementary tool that requires careful integration into pedagogical practice. Thus, AI offers transformative opportunities for literature learning, but its effectiveness depends on balanced use, teacher mediation, and institutional support to ensure accessibility, inclusivity, and critical engagement. Future research should focus on developing frameworks that integrate AI with human-centered approaches, ensuring that technology not only enhances efficiency but also cultivates independent thinking, creativity, and intercultural understanding.

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