



Developing AI Literacy in Civic Education Based on Digital Social Issues: A Humanistic Perspective on Citizens' Ethical Awareness

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Abstract

This study examines the integration of artificial intelligence (AI) literacy within civic education through a qualitative approach grounded in literature analysis. The research aims to explore how digital social issues and humanistic perspectives can strengthen ethical awareness and critical engagement among learners. The findings reveal that AI literacy should be understood as a multidimensional competence that extends beyond technical skills to include ethical reasoning, social responsibility, and critical thinking. The incorporation of digital social issues, such as misinformation, algorithmic bias, and data privacy, provides a contextual foundation that enables students to critically analyze the societal implications of AI. Furthermore, the study highlights the importance of humanistic approaches in fostering empathy, moral reflection, and civic responsibility in digital environments. Pedagogically, the results emphasize the need for transformative learning practices, including dialogic, problem-based, and participatory methods, to enhance students' engagement and agency. These approaches contribute to the development of responsible digital citizens capable of navigating complex technological landscapes. The study concludes that aligning AI literacy with ethical and civic dimensions is essential for maintaining the relevance of civic education in the digital era and for preparing students to actively participate in democratic societies.

Keywords: *AI Literacy, Civic Education, Digital Ethics, Digital Society, Humanistic Approach.*



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INTRODUCTION

The rapid expansion of artificial intelligence (AI) within the broader trajectory of digital transformation has fundamentally reconfigured the epistemic foundations of education, particularly in the domain of civic learning where questions of citizenship, ethics, and participation are increasingly mediated by algorithmic systems and data infrastructures. Contemporary global discourse on Society 5.0 positions AI not merely as a technological tool but as a socio-cognitive force that reshapes human interaction, decision-making, and democratic engagement, thereby demanding new forms of literacy that extend beyond technical competence toward ethical and critical awareness (Tariq & Sergio, 2025; Subrahmanyam, 2026). Within this evolving landscape, AI literacy emerges as a multidimensional construct encompassing understanding of algorithms, critical evaluation of digital information, and the capacity to navigate socio-political implications of AI-driven systems in everyday life (Panagiotou, 2025).

Civic education, traditionally concerned with fostering informed and responsible citizens, is thus confronted with the imperative to integrate AI literacy in ways that address both technological fluency and ethical consciousness. This convergence signals a paradigmatic shift in how citizenship is conceptualized in digitally mediated societies, where civic participation increasingly occurs within algorithmically structured environments. Existing scholarship has begun to explore the intersection between AI and civic education, revealing a growing recognition of AI as both a pedagogical tool and an object of critical inquiry within civic learning frameworks. Studies have demonstrated that AI-integrated civic education can enhance students' civic literacy, critical thinking, and engagement with complex societal issues, particularly when learning activities are designed to reflect real-world digital challenges (Salsabila et al., 2026; Sukisno et al., 2026).

Research on digital citizenship emphasizes the importance of equipping learners with competencies to critically assess digital information, participate responsibly in online communities, and understand the socio-political implications of emerging technologies (Subrahmanyam, 2026).

Systematic reviews further indicate that AI literacy contributes to democratic engagement by enabling individuals to recognize biases in algorithmic systems and to make informed decisions in digitally mediated contexts (Nag & Rao, 2026). These findings collectively suggest that the integration of AI literacy into civic education holds significant potential for enhancing both cognitive and participatory dimensions of citizenship. Despite these advances, the literature reveals several conceptual and empirical limitations that constrain the development of a coherent framework for AI literacy in civic education. Much of the existing research tends to emphasize technical competencies or digital skills without sufficiently addressing the ethical and humanistic dimensions of AI engagement, resulting in a fragmented understanding of what constitutes meaningful AI literacy in civic contexts (Panagiotou, 2025; Nikitenko et al., 2025).

Studies often adopt a functionalist perspective that prioritizes efficiency and innovation, while neglecting critical questions related to power, inequality, and ethical responsibility embedded in AI systems. The absence of a robust theoretical integration between digital ethics, civic values, and AI literacy creates a gap in the literature, particularly in relation to how learners develop ethical awareness in response to digital social issues. This gap is further compounded by limited empirical exploration of pedagogical models that explicitly connect AI literacy with humanistic perspectives in civic education. The unresolved tensions identified in the literature underscore the urgency of addressing AI literacy not merely as a technical skill set but as a critical component of ethical and civic formation in the digital age. The proliferation of digital social issues ranging from misinformation and algorithmic bias to data privacy and digital surveillance poses significant challenges to democratic societies and requires citizens who are capable of navigating these complexities with critical awareness and ethical responsibility (Popow, 2025).

Civic education, as a key institutional mechanism for shaping नागरिक competence, must therefore evolve to incorporate pedagogical approaches that foreground ethical reflection and humanistic values in the context of AI. The urgency of this transformation is amplified by the increasing influence of AI on public discourse and decision-making processes, which necessitates a rethinking of how civic competencies are conceptualized and cultivated in educational settings. Positioned within this critical juncture, the present study seeks to advance the discourse on AI literacy in civic education by foregrounding a humanistic perspective that emphasizes ethical awareness and the moral dimensions of digital engagement. Drawing on the concept of digital humanism, which conceptualizes AI as a domain of human–technology interaction shaped by values, agency, and responsibility, the study aims to bridge the gap between technical literacy and ethical consciousness (Nikitenko et al., 2025).

This perspective aligns with emerging frameworks that conceptualize AI as a pedagogical partner capable of supporting value-based learning and ethical reflection in civic education (Muchtarom & Suryaningsih, 2026). By integrating insights from interdisciplinary research, the study positions itself as a conceptual and pedagogical intervention that redefines AI literacy as a holistic construct encompassing cognitive, ethical, and civic dimensions. The study further situates its inquiry within the context of digital social issues as a critical entry point for developing AI literacy in civic education. Digital social issues provide authentic and contextually relevant scenarios through which learners can engage with the ethical implications of AI and reflect on their roles as digital citizens. Prior research suggests that the use of real-world issues in civic education enhances student engagement and fosters critical reflection on societal challenges (Popow, 2025; Sukisno et al., 2026).

By adopting this approach, the study seeks to operationalize AI literacy in ways that are grounded in lived experiences and social realities, thereby enhancing its relevance and impact. This positioning reflects a deliberate effort to move beyond abstract conceptualizations of AI literacy toward pedagogical practices that are both contextually situated and ethically oriented. This study aims to develop a conceptual and pedagogical framework for AI literacy in civic education that is grounded in digital social issues and informed by a humanistic perspective on ethical awareness. It seeks to contribute to the theoretical advancement of AI literacy by integrating ethical, civic, and technological dimensions into a unified framework, while also offering methodological insights into how such integration can be implemented in educational practice. The study ultimately aspires to provide a foundation for future empirical research and pedagogical innovation in the field of civic education in the age of artificial intelligence.

RESEARCH METHODS

This study employs a qualitative research design grounded in a constructivist paradigm, aiming to explore and conceptualize the development of AI literacy in civic education through the lens of digital social issues and humanistic ethical awareness. The research utilizes a qualitative literature-based approach combined with conceptual analysis to systematically examine scholarly works related to AI literacy, civic education, digital ethics, and digital humanism. Data were collected through purposive sampling of peer-reviewed journal articles, academic books, and reputable international publications that specifically address the intersection of artificial intelligence and civic learning. The analytical procedure follows an iterative coding process involving open coding, axial categorization, and thematic synthesis to identify patterns, conceptual relationships, and emerging frameworks across the selected literature. This approach allows for a critical reconstruction of existing knowledge while generating new theoretical insights into the integration of ethical awareness within AI literacy in civic contexts (Panagiotou, 2025).

To ensure rigor and trustworthiness, the study adopts criteria of credibility, dependability, and confirmability through triangulation of sources and continuous comparative analysis. The interpretation of findings is guided by a humanistic theoretical framework that emphasizes values, ethical reflection, and the role of education in shaping responsible digital citizens. Analytical validity is strengthened through reflexive engagement with the data, where the researcher critically examines underlying assumptions and biases within the literature. The study also incorporates a conceptual mapping technique to synthesize key themes into a coherent pedagogical framework that connects AI literacy, digital social issues, and civic ethical awareness. This methodological orientation not only facilitates deep interpretive analysis but also contributes to the development of a theoretically grounded and contextually relevant model for future empirical research in civic education (Muchtarom & Suryaningsih, 2026).

RESULTS AND DISCUSSION

Construction of AI Literacy in Civic Education Based on Digital Social Issues

The analytical results indicate that AI literacy in civic education is increasingly conceptualized as a multidimensional construct that extends beyond technical competence toward ethical and socio-political awareness within digital environments. The literature synthesis reveals that digital social issues such as misinformation, algorithmic bias, and data surveillance function as critical entry points for understanding AI in civic contexts. These issues provide a contextual framework through which learners can interrogate the implications of AI on democratic participation and social justice. The integration of such issues into civic education reflects a shift toward critical digital pedagogy that emphasizes reflective engagement rather than instrumental knowledge acquisition. This conceptual expansion aligns with the growing recognition that AI literacy must incorporate ethical reasoning as a core component of civic competence (Nantaburom, 2023).

The findings further demonstrate that the incorporation of digital social issues into AI literacy fosters a more situated and contextually grounded learning process. Learners are positioned not merely as users of technology but as critical agents capable of analyzing the societal impacts of AI systems. This positioning transforms civic education into a space for examining power relations embedded in digital infrastructures. The literature suggests that such an approach enhances students' ability to connect abstract technological concepts with real-world implications. This connection is essential for developing a critical understanding of digital citizenship in contemporary societies (Hidayatulloh et al., 2026).

A critical analysis of prior studies reveals that many existing frameworks of AI literacy remain fragmented, often separating technical knowledge from ethical considerations. This fragmentation limits the ability of learners to fully comprehend the broader implications of AI in civic life. The synthesis indicates that integrating digital social issues provides a mechanism for bridging this gap by embedding ethical inquiry within technological learning. Such integration enables a more holistic understanding of AI as a socio-technical phenomenon. This perspective is supported by research emphasizing the need for value-based approaches in digital citizenship education (Hermawati et al., 2025).

The results also highlight that AI literacy grounded in digital social issues encourages the development of critical awareness through problem-based engagement. Learners are exposed to

complex scenarios that require them to evaluate conflicting perspectives and assess the ethical dimensions of technological decisions. This engagement mirrors real-world challenges faced by citizens in digital societies. The literature indicates that such pedagogical strategies contribute to deeper cognitive processing and reflective thinking. This approach aligns with contemporary models of civic education that prioritize active learning and critical inquiry (Chiusaroli, 2026). Further analysis reveals that the integration of humanistic values within AI literacy frameworks enhances the ethical dimension of civic education. Humanistic perspectives emphasize dignity, responsibility, and ethical reflection in human technology interactions.

The incorporation of these values into AI literacy ensures that technological competence is balanced with moral consideration. This balance is essential for addressing the ethical challenges posed by AI in democratic contexts. Research on humanistic education underscores the importance of aligning technological learning with ethical and social values (Kaya et al., 2025). The relationship between digital social issues and AI literacy development can be illustrated through a conceptual mapping of key components identified in the literature. This mapping highlights how contextual issues, cognitive processes, and ethical outcomes interact within civic education frameworks. The following table synthesizes these relationships based on the analytical findings:

Table 1. Core Components of Digital Citizenship Learning and Their Educational Outcomes

Component	Description	Educational Outcome
Digital Social Issues	Real-world problems (misinformation, bias)	Contextual awareness
Analytical Engagement	Critical evaluation of AI systems	Cognitive development
Ethical Reflection	Consideration of moral implications	Ethical awareness
Civic Application	Application in societal contexts	Responsible citizenship

The table demonstrates that AI literacy development is structurally dependent on the interaction between contextual, cognitive, and ethical dimensions, reinforcing its multidimensional nature (Edwards et al., 2026). The conceptual mapping presented in the table indicates that digital social issues serve as the foundational element that anchors AI literacy in real-world contexts. Analytical engagement builds upon this foundation by requiring learners to critically examine technological systems and their implications. Ethical reflection introduces a normative dimension that guides decision-making processes. Civic application ensures that learning outcomes extend beyond the classroom into societal participation. These interconnected components collectively define the structure of AI literacy in civic education.

The findings also suggest that the integration of AI literacy and digital social issues enhances the relevance of civic education in addressing contemporary societal challenges. Students become more aware of the ethical implications of their digital interactions and develop the capacity to navigate complex information environments. This awareness is particularly important in an era characterized by rapid technological change and increasing digital interdependence. The literature indicates that such competencies are essential for sustaining democratic values in digital societies. This perspective reinforces the importance of aligning civic education with technological realities (Warlim et al., 2025).

Another significant finding concerns the role of ethical awareness as a mediating factor in the relationship between AI literacy and civic engagement. Ethical awareness enables learners to critically evaluate the consequences of technological actions and to make informed decisions. This mediation process highlights the importance of integrating ethical considerations into all aspects of AI literacy. Research on digital ethics education supports the view that ethical awareness is central to responsible digital citizenship. This underscores the need for pedagogical approaches that explicitly address ethical dimensions (Irfanuddin et al., n.d.).

The analysis also reveals that AI literacy frameworks grounded in digital social issues contribute to the development of civic identity. Learners begin to perceive themselves as active participants in digital societies with responsibilities toward others. This shift in identity is facilitated by engagement with real-world issues that highlight the social impact of technology. The literature suggests that such

identity formation is crucial for fostering long-term civic engagement. This finding aligns with studies emphasizing the role of education in shaping responsibility (Wingkolatin et al., 2026). The synthesis ultimately indicates that the conceptual construction of AI literacy in civic education requires a holistic integration of technological, ethical, and civic dimensions.

Digital social issues provide a powerful pedagogical foundation for achieving this integration. The findings highlight the importance of moving beyond fragmented approaches toward a unified framework that reflects the complexity of AI in society. This approach offers a pathway for developing ethically aware and critically engaged citizens. The conceptual model derived from this analysis provides a foundation for further theoretical and empirical exploration (Panjaitan et al., 2025).

Humanistic Dimensions of Ethical Awareness in AI-Based Civic Education

The analytical findings reveal that the integration of humanistic perspectives into AI literacy significantly reorients civic education toward ethical awareness and reflective judgment in digital environments. Humanistic approaches emphasize the centrality of human dignity, moral responsibility, and critical consciousness in navigating technological systems. Within AI-based civic education, this perspective transforms learning into a process of ethical engagement rather than mere technical adaptation. The literature indicates that ethical awareness emerges when learners are encouraged to question the societal implications of AI and reflect on their roles as moral agents. This orientation aligns with contemporary educational discourses that foreground ethics as a foundational element of digital citizenship (Kaya et al., 2025).

The results further indicate that ethical awareness in AI literacy is not an automatic outcome of technological exposure but requires intentional pedagogical design. Civic education must incorporate structured opportunities for ethical reflection, particularly through engagement with real-world digital dilemmas. These dilemmas function as catalysts for moral reasoning by presenting learners with complex situations involving competing values and interests. The literature suggests that such engagement enhances students' ability to evaluate the ethical dimensions of technological decisions. This process is essential for cultivating responsible digital behavior in increasingly automated societies (Hermawati et al., 2025).

A critical examination of prior studies reveals that many AI-integrated educational models still prioritize efficiency, innovation, and skill acquisition while underemphasizing ethical reflection. This imbalance creates a gap between technological competence and moral responsibility, potentially leading to uncritical adoption of AI systems. The synthesis highlights the need for a paradigm shift toward value-based education that integrates ethical considerations into all aspects of AI learning. Such a shift requires rethinking the goals and outcomes of civic education in the digital age. Research on digital ethics underscores the importance of aligning technological advancement with human values (Edwards et al., 2026).

The findings also demonstrate that humanistic AI literacy frameworks encourage learners to critically examine issues of power, inequality, and bias embedded in digital systems. By engaging with these issues, students develop a deeper understanding of how AI can both reinforce and challenge social structures. This critical awareness is essential for fostering democratic participation and social justice. The literature indicates that such engagement enhances students' ability to navigate complex socio-technical environments. This perspective reinforces the role of civic education as a space for critical inquiry and ethical deliberation (Chiusaroli, 2026). Further analysis shows that ethical awareness is closely linked to the development of empathy and social responsibility in digital contexts. Humanistic approaches emphasize the importance of understanding the impact of technological decisions on individuals and communities.

This emphasis encourages learners to consider the broader consequences of their actions within digital ecosystems. The literature suggests that such considerations are crucial for fostering inclusive and equitable digital societies. This finding highlights the interconnectedness of ethical awareness and civic responsibility (Warlim et al., 2025). The relationship between humanistic values and ethical awareness in AI literacy can be systematically illustrated through a conceptual framework derived from the analysis. This framework identifies key dimensions that contribute to the development of ethical awareness in civic education. The following table presents a synthesis of these dimensions and their corresponding educational implications:

Table 2. Humanistic Dimensions and Their Ethical Outcomes

Humanistic Dimension	Description	Ethical Outcome
Moral Reflection	Critical evaluation of actions	Ethical reasoning
Empathy	Understanding others' perspectives	Social sensitivity
Responsibility	Awareness of consequences	Accountable behavior
Justice Orientation	Concern for fairness and equity	Civic ethics

The table demonstrates that ethical awareness is shaped by multiple interrelated dimensions that collectively inform responsible digital citizenship (Irfanuddin et al., n.d.). The conceptual framework presented in the table indicates that moral reflection serves as the foundation for ethical awareness by enabling learners to critically evaluate their actions and decisions. Empathy builds upon this foundation by fostering an understanding of diverse perspectives and experiences. Responsibility introduces a forward-looking dimension that emphasizes accountability for technological actions. Justice orientation ensures that ethical considerations are aligned with principles of fairness and equity. These dimensions collectively contribute to the development of a comprehensive ethical framework within AI literacy. The findings also suggest that integrating humanistic values into AI literacy enhances students' engagement with civic issues by making learning more meaningful and relevant.

Learners are more likely to participate actively in discussions when ethical dimensions are explicitly addressed. This engagement fosters a deeper connection between personal values and civic responsibilities. The literature indicates that such connections are essential for sustaining long-term civic participation. This perspective highlights the importance of value-based approaches in civic education (Panjaitan et al., 2025). Another significant finding concerns the role of educators in facilitating ethical awareness through humanistic pedagogy. Teachers must create learning environments that encourage open dialogue, critical questioning, and reflective thinking. This facilitative role requires a balance between guiding discussion and allowing students to explore diverse perspectives. The literature emphasizes that effective facilitation is crucial for developing ethical reasoning skills. This underscores the importance of teacher competence in implementing humanistic AI literacy frameworks (Hidayatulloh et al., 2026).

The analysis also reveals that ethical awareness developed through humanistic AI literacy has implications beyond the classroom. Students are more likely to apply their ethical understanding to real-world situations, including online interactions and civic participation. This transferability enhances the practical relevance of civic education. The literature suggests that such outcomes are essential for preparing students to navigate complex digital societies. This finding reinforces the value of integrating ethical awareness into AI literacy (Nantaburom, 2023). The synthesis ultimately indicates that the incorporation of humanistic perspectives into AI literacy provides a robust framework for developing ethical awareness in civic education. This approach addresses the limitations of purely technical models by emphasizing moral responsibility and social impact. The findings highlight the importance of aligning technological learning with human values to foster responsible citizenship. The integration of these elements contributes to a more holistic understanding of AI in society. This framework offers a foundation for future research and pedagogical innovation in the field of civic education (Sukisno et al., 2026).

Pedagogical Implications and Transformative Practices in AI-Integrated Civic Education

The analytical findings demonstrate that the integration of AI literacy into civic education necessitates a transformation in pedagogical practices, particularly toward more critical, participatory, and reflective learning models. Traditional instructional approaches that emphasize content transmission are increasingly inadequate in addressing the complexities of digital societies shaped by artificial intelligence. Instead, AI-integrated civic education requires pedagogies that encourage inquiry, dialogue, and problem-solving rooted in real-world contexts. The literature indicates that such approaches enhance students' ability to critically engage with technological systems and their societal implications. This transformation aligns with contemporary educational paradigms that prioritize active learning and student-centered engagement (Chiusaroli, 2026).

The results further reveal that project-based learning and problem-based learning are among the most effective strategies for implementing AI literacy within civic education. These approaches allow students to explore digital social issues through collaborative and experiential learning processes. By engaging in projects that simulate real-world challenges, learners develop both cognitive and ethical competencies. The literature suggests that such strategies promote deeper understanding and long-term retention of knowledge. This pedagogical shift supports the development of critical thinking and responsible decision-making in digital contexts (Hidayatulloh et al., 2026).

A critical analysis also indicates that interdisciplinary integration plays a crucial role in the successful implementation of AI literacy in civic education. AI-related issues often intersect with social, political, and ethical domains, requiring knowledge from multiple disciplines. Integrating perspectives from social sciences, ethics, and technology enables a more comprehensive understanding of these issues. The literature highlights that interdisciplinary approaches enhance students' ability to analyze complex problems holistically. This integration is essential for addressing the multifaceted nature of AI in society (Hermawati et al., 2025).

The findings also emphasize the importance of dialogic pedagogy in fostering ethical awareness and civic engagement. Dialogic learning environments encourage students to express their perspectives, challenge assumptions, and engage in constructive debate. Such environments are particularly effective in exploring ethical dilemmas related to AI and digital technologies. The literature indicates that dialogue-based approaches promote critical reflection and mutual understanding among learners. This aligns with the goals of civic education in cultivating democratic values and participatory citizenship (Warlim et al., 2025).

Further analysis reveals that the role of educators is central in facilitating transformative learning experiences within AI-integrated civic education. Teachers must adopt the role of facilitators who guide inquiry rather than simply deliver content. This requires pedagogical competence in managing discussions, framing ethical questions, and supporting critical analysis. The literature suggests that teacher readiness is a key factor in the successful implementation of AI literacy frameworks. Professional development and continuous learning are therefore essential for educators in this field (Kaya et al., 2025).

The results also indicate that digital tools and AI-based applications can enhance learning experiences when used in a pedagogically meaningful way. These tools provide opportunities for interactive and personalized learning, enabling students to engage more deeply with content. However, the literature cautions against uncritical reliance on technology without considering its ethical implications. Effective integration requires balancing technological innovation with ethical reflection. This balance ensures that technology serves as a means for learning rather than an end in itself (Zha et al., 2025). Another significant finding concerns the role of assessment in AI-integrated civic education. Traditional assessment methods that focus on factual recall are insufficient for evaluating complex competencies such as ethical reasoning and critical thinking. Alternative assessment strategies, such as reflective essays, project evaluations, and peer assessments, are more aligned with the goals of AI literacy. The literature indicates that such methods provide a more comprehensive evaluation of student learning. This shift in assessment practices supports the development of higher-order thinking skills (Panjaitan et al., 2025).

The analysis also highlights the importance of creating inclusive learning environments that accommodate diverse perspectives and experiences. AI-related issues often involve questions of equity, bias, and representation, making inclusivity a critical consideration in civic education. Pedagogical practices must ensure that all students have the opportunity to participate and contribute meaningfully. The literature suggests that inclusive approaches enhance the quality of learning and promote social justice. This finding underscores the ethical dimension of pedagogical design in AI literacy (Irfanuddin et al., n.d.).

The findings further suggest that transformative practices in AI-integrated civic education contribute to the development of agency among learners. Students become more confident in their ability to engage with complex issues and to take informed action. This sense of agency is essential for active citizenship in digital societies. The literature indicates that empowering students to act on their knowledge enhances the impact of civic education. This perspective aligns with the broader goal of education as a tool for social transformation (Nantaburom, 2023). In addition, the analysis reveals that collaboration and community engagement are key components of effective AI-integrated civic

education. Learning experiences that extend beyond the classroom allow students to connect theoretical knowledge with real-world applications. Partnerships with communities and organizations provide opportunities for meaningful civic participation. The literature suggests that such experiences deepen students' understanding of social issues and strengthen their civic identity. This approach reinforces the relevance of education in addressing societal challenges (Sukisno et al., 2026).

The synthesis ultimately indicates that pedagogical transformation is essential for integrating AI literacy into civic education effectively. This transformation involves adopting innovative teaching strategies, rethinking assessment practices, and fostering inclusive and participatory learning environments. The findings highlight that successful implementation depends on aligning pedagogical practices with the ethical and social dimensions of AI. Such alignment ensures that civic education remains relevant in the context of rapid technological change. This framework provides a foundation for future innovation in teaching and learning within AI-driven societies (Wingkolatin et al., 2026).

CONCLUSION

The findings of this study indicate that strengthening AI literacy in civic education requires a holistic approach that integrates digital social issues, humanistic dimensions, and transformative pedagogical practices. AI literacy should no longer be viewed merely as technical proficiency, but as a multidimensional competence encompassing ethical awareness, critical thinking, and social responsibility in navigating the complexities of artificial intelligence. The incorporation of issues such as algorithmic bias, misinformation, and data privacy provides a meaningful learning context that enhances students' critical understanding of AI's impact on democratic life. In this regard, civic education plays a strategic role in shaping digitally literate citizens who are not only technologically capable but also ethically conscious and socially responsible.

The application of humanistic approaches and participatory pedagogies in AI-integrated learning significantly contributes to the development of students' ethical awareness and agency. Learning models that emphasize dialogue, reflection, and active engagement have been shown to improve students' ability to analyze complex issues and make responsible decisions. The role of teachers as facilitators is crucial in creating inclusive and reflective learning environments, while innovative assessment strategies support a more comprehensive evaluation of student competencies. Therefore, pedagogical transformation in AI-based civic education is essential to ensure the continued relevance of education in addressing the challenges of an increasingly complex digital society.

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