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THE EXISTENCE OF CIVIC EDUCATION AND ARTIFICIAL INTELLIGENCE–BASED LEARNING MEDIA IN SUPPORTING ELEMENTARY STUDENTS' SOCIAL-EMOTIONAL DEVELOPMENT

EKSISTENSI PENDIDIKAN KEWARGANEGARAAN DAN MEDIA PEMBELAJARAN BERBASIS ARTIFICIAL INTELLIGENCE DALAM MENDUKUNG PERKEMBANGAN SOSIAL EMOSIONAL PESERTA DIDIK SEKOLAH DASAR

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Abstract

Elementary education plays a strategic role in shaping students' character, civic attitudes, and social-emotional development. Civic Education is a fundamental subject for instilling democratic values, responsibility, and social awareness from an early age. Meanwhile, the advancement of digital technology, particularly Artificial Intelligence (AI)–based learning media, offers new opportunities to improve the quality of learning in elementary schools. This study aims to analyze the existence of Civic Education and the use of AI-based learning media in supporting students' social-emotional development. This research employed a descriptive qualitative approach and was conducted at SD Negeri 0722 PTPN IV Lubuk Bunut. Data were collected through observation, interviews, and documentation. The findings indicate that Civic Education plays a significant role in fostering students' social attitudes, empathy, and responsibility, while AI-based learning media enhance students' learning motivation and engagement when implemented appropriately and in accordance with developmental stages. The integration of Civic Education, AI-based media, and developmental psychology perspectives contributes positively to students' social-emotional development in elementary education.

Keywords : Civic Education, Artificial Intelligence, social-emotional development, elementary school.

Abstrak

Pendidikan dasar memiliki peran strategis dalam membentuk karakter, sikap kewarganegaraan, serta perkembangan sosial dan emosional peserta didik. Pendidikan Kewarganegaraan (PKn) menjadi salah satu mata pelajaran penting dalam menanamkan nilai-nilai demokrasi, tanggung jawab, dan kesadaran sosial sejak dini. Di sisi lain, perkembangan teknologi digital, khususnya media pembelajaran berbasis Artificial Intelligence (AI), membuka peluang baru dalam meningkatkan kualitas pembelajaran di sekolah dasar. Penelitian ini bertujuan untuk menganalisis eksistensi Pendidikan Kewarganegaraan dan pemanfaatan media pembelajaran berbasis AI dalam mendukung perkembangan sosial emosional

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peserta didik sekolah dasar. Penelitian ini menggunakan pendekatan deskriptif kualitatif dan dilaksanakan di SD Negeri 0722 PTPN IV Lubuk Bunut. Teknik pengumpulan data meliputi observasi, wawancara, dan dokumentasi. Hasil penelitian menunjukkan bahwa Pendidikan Kewarganegaraan berperan penting dalam membentuk sikap sosial, empati, dan tanggung jawab peserta didik, sementara media pembelajaran berbasis AI mampu meningkatkan motivasi belajar dan keterlibatan siswa apabila digunakan secara tepat dan sesuai dengan tahap perkembangan. Integrasi PKn, media berbasis AI, serta pemahaman psikologi perkembangan memberikan kontribusi positif terhadap perkembangan sosial emosional peserta didik sekolah dasar.

Kata Kunci : Pendidikan Kewarganegaraan, Artificial Intelligence, perkembangan sosial emosional, sekolah dasar.

1. INTRODUCTION

Elementary school is a critical period for the formation of civic dispositions and social-emotional competencies (Syahlan et al., 2025). At this stage, students begin to develop fundamental values, attitudes, and behaviors that shape their future roles as members of society. Civic Education (Pendidikan Kewarganegaraan/PKn) plays a central role in this process by cultivating civic knowledge, democratic values, social responsibility, and participatory skills that prepare children for active and responsible citizenship (Cohen, Pope, & Wong, 2021; Evagorou et al., 2023).

Alongside civic formation, rapid technological advancements have significantly influenced teaching and learning practices in elementary education (Rifai et al., 2024). Artificial Intelligence (AI)–based educational tools offer adaptive and interactive learning environments that can personalize instruction, provide immediate feedback, and increase student engagement. When applied ethically and pedagogically, AI-based learning media have the potential to support not only cognitive development but also affective and motivational outcomes among young learners (Tan, 2025; Boulhrir, 2025).

Recent literature highlights three converging considerations that are increasingly relevant for elementary education today. First, there is a continuous need to strengthen civic literacy and democratic dispositions from early grades to ensure long-term civic engagement. Second, the growing use of AI-supported learning environments presents both opportunities and risks for young learners, particularly in relation to developmental appropriateness, equity, and ethical use. Third, social-emotional learning (SEL) has been recognized as both a key educational outcome and a foundational condition for effective schooling (Durlak et al., 2011; Huang, 2023; Carpendale et al., 2025).

Empirical evidence suggests that well-designed SEL interventions can significantly improve students' social behavior, emotional regulation, interpersonal skills, and academic engagement. These competencies are closely linked to students' ability to participate constructively in classroom activities and civic-oriented learning experiences. Therefore, integrating SEL principles into subject learning, including Civic Education and technology-enhanced instruction, is essential for holistic student development.

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Despite the growing attention to Civic Education, AI-based learning media, and social-emotional learning as separate domains, empirical studies that examine how PKn and AI-based media interact to influence social-emotional development in elementary classrooms remain limited. This limitation is particularly evident in the context of Indonesian primary schools, where research on the pedagogical integration of civic education and emerging educational technologies is still developing.

This study addresses this gap by examining: (a) the current status and pedagogical practices of Civic Education at SD Negeri 0722 PTPN IV Lubuk Bunut; (b) the availability and classroom integration of AI-enabled learning media; and (c) the perceived impacts of these practices on students' social-emotional development, as observed and reported by teachers and students. By adopting this integrated perspective, the study aims to contribute empirical evidence to the discourse on character education, educational technology, and social-emotional development in elementary education.

2. RESEARCH METHOD

This study employed a descriptive qualitative research design, which is appropriate for exploring educational practices, learning processes, and students' social-emotional development in natural school settings (Yin, 2018). The qualitative approach was chosen to obtain an in-depth understanding of how Civic Education (PKn) and Artificial Intelligence (AI)–based learning media are implemented in elementary classrooms and how these practices contribute to students' social-emotional development (Nugraha, 2025).

The research was conducted at SD Negeri 0722 PTPN IV Lubuk Bunut, an elementary school that implements Civic Education as part of the national curriculum and has begun integrating digital learning media in classroom instruction. The participants consisted of classroom teachers responsible for Civic Education instruction and elementary school students involved in the learning activities. Teachers were selected as key informants due to their direct involvement in instructional planning, classroom implementation, and student assessment, while students were involved to provide perspectives on learning experiences and social-emotional interactions.

Data were collected using three main techniques. Classroom observations were conducted to examine instructional strategies, student participation, peer interaction, and the use of AI-based learning media during learning activities. Semi-structured interviews were carried out with teachers and selected students to explore their perceptions of Civic Education learning, the use of AI-based media, and its influence on students' social-emotional behaviors such as cooperation, empathy, and self-regulation. In addition, documentation analysis was conducted on lesson plans, learning materials, student work, and school policies related to character education and technology use.

Data analysis followed an interactive model consisting of data reduction, data display, and conclusion drawing. Through data reduction, relevant information related to Civic Education practices, AI-based media use, and social-emotional development was selected and

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organized. Data display involved presenting the data in thematic categories to facilitate interpretation. Finally, conclusions were drawn by identifying patterns and relationships among themes. To ensure the trustworthiness of the findings, triangulation of data sources and data collection techniques was applied, and interpretations were continuously reviewed to maintain consistency, credibility, and confirmability of the results.

3. RESULT AND DISCUSSION

This section presents and discusses the findings of the study based on classroom observations, interviews with teachers and students, and documentation analysis. The discussion integrates empirical findings with relevant theories and previous research on Civic Education, Artificial Intelligence (AI)–based learning media, and social-emotional development in elementary education

a. The Existence and Role of Civic Education in Elementary Schools.

The findings indicate that Civic Education (Pendidikan Kewarganegaraan/PKn) at SD Negeri 0722 PTPN IV Lubuk Bunut plays a significant role in fostering students' civic dispositions and social-emotional competencies. PKn learning activities emphasize values such as responsibility, cooperation, respect for rules, and tolerance. These values are embedded through classroom discussions, group work, and routine school activities, enabling students to practice civic behaviors in real learning contexts.

Teachers reported that PKn lessons contribute to students' ability to interact positively with peers, express opinions respectfully, and demonstrate empathy during collaborative tasks. Classroom observations showed that students were encouraged to listen to others' viewpoints, take turns in discussions, and resolve minor conflicts through dialogue. Such practices help students internalize democratic norms and social skills that are essential for participation in school and community life.

Furthermore, PKn learning at the school integrates cognitive, affective, and behavioral dimensions of civic education. Students are not only introduced to basic civic concepts, such as rules, rights, and obligations, but are also guided to apply these concepts in daily interactions. This integrative approach supports the development of self-awareness, emotional regulation, and social responsibility, which are core components of social-emotional learning.

From a pedagogical perspective, PKn serves as a meaningful context for social-emotional development because it provides authentic situations in which students can reflect on values and social relationships. Teachers emphasized that reflective discussions following PKn activities helped students recognize the emotional consequences of their actions and develop empathy toward others. This finding reinforces the view that value-based subjects can function as effective platforms for social-emotional learning when taught through participatory and reflective methods.

These findings align with previous studies that highlight the importance of Civic Education in developing democratic attitudes, civic engagement, and social responsibility from an early age (Cohen, Pope, & Wong, 2021; Evagorou et al., 2023). Thus, PKn functions not

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only as a knowledge-based subject but also as a pedagogical medium that supports students' social-emotional growth and character formation in elementary education.

b. Implementation of AI-Based Learning Media in Elementary Classrooms

The findings reveal that the implementation of Artificial Intelligence (AI)–based learning media in elementary classrooms at SD Negeri 0722 PTPN IV Lubuk Bunut is still in an early but promising stage. AI-based tools were primarily utilized to support instructional activities through interactive digital platforms, adaptive practice exercises, and automated feedback systems. These tools were designed to adjust learning content according to students' responses, enabling a more personalized learning experience.

Teachers reported that the use of AI-based learning media increased students' motivation and engagement, particularly during learning activities that required repetition and practice. Students appeared more enthusiastic and focused when interacting with digital learning applications that provided immediate feedback and visual reinforcement. This adaptive feedback helped students recognize mistakes and improve performance without experiencing excessive frustration, thereby supporting emotional confidence and persistence in learning.

From an instructional perspective, AI-based media were not used as standalone tools but were integrated into teacher-guided learning processes. Teachers played a crucial role in selecting appropriate AI applications, setting clear learning objectives, and facilitating follow-up discussions after digital activities. This teacher mediation ensured that technology use remained aligned with pedagogical goals and supported meaningful learning rather than passive screen interaction.

However, the implementation also faced several challenges. Teachers highlighted limitations related to infrastructure, such as inconsistent internet access and limited availability of digital devices. In addition, teachers expressed the need for further professional development to enhance their understanding of AI functionalities, ethical considerations, and strategies for integrating AI-based media with character education and social-emotional learning objectives.

In terms of social-emotional development, AI-based learning media contributed positively when combined with collaborative tasks and reflective activities. For example, students were encouraged to work in pairs or small groups while using AI-supported applications, fostering cooperation, communication, and mutual support. Teachers observed that such collaborative use of technology promoted social interaction and emotional awareness, reinforcing the idea that AI-based media can complement, rather than replace, human-centered pedagogy.

These findings are consistent with previous studies suggesting that AI-based learning media can enhance engagement, personalization, and formative feedback in elementary education when implemented responsibly and developmentally appropriately (Tan, 2025; Boulhrir, 2025). Overall, the study indicates that the effective implementation of AI-based learning media in elementary classrooms depends on pedagogical alignment, teacher guidance, and careful consideration of students' developmental and social-emotional needs.

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c. Contribution to Students' Social-Emotional Development

The findings of this study indicate that the integration of Civic Education (PKn) and AI-based learning media contributes positively to students' social-emotional development at the elementary school level. Social-emotional competencies such as empathy, cooperation, emotional regulation, and self-confidence were observed to develop through structured learning activities that combined value-based instruction and technology-supported engagement.

From the perspective of classroom interaction, PKn learning activities provided meaningful opportunities for students to practice social behaviors and reflect on emotional experiences. Through group discussions, role-playing, and collaborative tasks, students learned to listen to others, express opinions respectfully, and manage interpersonal differences. Teachers reported that these activities fostered students' empathy and social awareness, which are key components of social-emotional learning.

AI-based learning media further supported students' emotional development by offering adaptive feedback and individualized learning experiences. When students encountered challenges during digital tasks, the AI system provided immediate guidance and encouragement, helping students regulate emotions such as frustration and anxiety. Teachers observed that students became more confident and persistent in completing tasks, suggesting that AI-based feedback can contribute to the development of positive self-efficacy and emotional resilience.

In addition, the collaborative use of AI-based learning media enhanced students' social interaction skills. Students were often encouraged to work in pairs or small groups while using digital applications, which promoted cooperation, communication, and mutual support. These interactions enabled students to negotiate roles, share strategies, and provide peer assistance, thereby strengthening their social competence and sense of belonging within the classroom.

These findings are consistent with social-emotional learning research indicating that learning environments combining supportive relationships, structured activities, and constructive feedback contribute to improved emotional regulation and social behavior (Durlak et al., 2011; Huang, 2023). The study further suggests that when AI-based learning media are integrated thoughtfully with Civic Education, they can enhance—not hinder—students' social-emotional development.

Overall, the contribution to students' social-emotional development is most evident when instructional practices prioritize human interaction, reflective dialogue, and ethical use of technology. This reinforces the importance of teacher facilitation and pedagogical intentionality in ensuring that both Civic Education and AI-based learning media effectively support the holistic development of elementary school students.

d. Developmental Psychology Perspective

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From a developmental psychology perspective, elementary school students are in a crucial stage of cognitive, social, and emotional growth. At this stage, children gradually develop self-regulation, perspective-taking, moral reasoning, and social competence. Learning experiences must therefore be concrete, contextual, and emotionally supportive to align with students' developmental characteristics.

The findings of this study indicate that both Civic Education (PKn) and AI-based learning media were effective when implemented in ways that matched students' developmental needs. PKn learning activities that involved storytelling, role-playing, and group discussions allowed students to understand abstract civic values through concrete experiences. Such approaches are consistent with developmental theories that emphasize active learning and social interaction as key mechanisms for cognitive and emotional development.

AI-based learning media also supported students' developmental needs when used as a scaffold rather than a substitute for teacher interaction. Adaptive feedback, visual cues, and step-by-step guidance provided by AI tools helped students process information at an appropriate pace and reduced cognitive overload. Teachers reported that these features were particularly helpful for students with varying learning abilities, supporting differentiated instruction in line with developmental psychology principles.

Social interaction remained a central component of learning from a developmental standpoint. The study found that students benefited most when AI-based activities were combined with peer collaboration and teacher-led reflection. Through guided discussions and feedback sessions, students were encouraged to articulate their thoughts, recognize emotions, and understand social consequences of actions. This aligns with sociocultural theories of development, which emphasize the role of social mediation and scaffolding in children's learning processes.

Overall, the developmental psychology perspective highlights that technology integration in elementary education must prioritize age-appropriate design, emotional safety, and meaningful social interaction. The findings reinforce the notion that AI-based learning media are most effective when embedded within human-centered pedagogy that respects students' developmental stages and supports holistic growth. This perspective underscores the importance of teachers' roles in designing learning environments that balance technological innovation with developmental sensitivity.

e. Integration of Civic Education, AI, and Social-Emotional Learning

The integration of Civic Education (PKn), Artificial Intelligence (AI)–based learning media, and Social-Emotional Learning (SEL) emerges as a key finding of this study. The results indicate that when these three components are intentionally aligned, they create a learning environment that supports not only academic understanding but also the holistic development of elementary school students.

Civic Education provides the normative and value-based foundation for social-emotional learning by introducing students to concepts such as responsibility, respect, cooperation, and democratic participation. These civic values become meaningful when

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students are given opportunities to practice them in authentic learning situations. In this context, SEL serves as a bridge that translates civic knowledge into lived social experiences, enabling students to internalize values through emotional awareness, empathy, and interpersonal interaction.

AI-based learning media function as a pedagogical support that enhances engagement and personalization within this integrative framework. Adaptive learning features, immediate feedback, and interactive content offered by AI tools help sustain students' motivation and accommodate individual learning differences. When embedded in PKn lessons and accompanied by reflective discussion, AI-based activities can reinforce SEL competencies such as self-regulation, perseverance, and collaborative problem-solving.

The findings also highlight the central role of teachers in orchestrating this integration. Teachers act as mediators who align civic learning objectives with AI-supported activities and SEL outcomes. Through guided reflection, group discussion, and value clarification, teachers help students connect digital learning experiences with civic values and emotional understanding. This reinforces the notion that technology alone does not generate social-emotional growth; rather, it is the pedagogical design and human interaction surrounding technology that determine its educational impact.

Moreover, the integration of PKn, AI, and SEL supports a balanced approach to 21st-century education in elementary schools. It combines character education, technological innovation, and developmental appropriateness in a coherent instructional model. This integrated approach is particularly relevant in contemporary educational contexts, where schools are expected to prepare students not only for academic success but also for ethical citizenship and social participation in a digital society.

Overall, the study demonstrates that the effective integration of Civic Education, AI-based learning media, and Social-Emotional Learning can enhance the quality of elementary education by fostering students' civic awareness, emotional competence, and adaptive learning skills. This finding contributes to the growing body of literature advocating for holistic and human-centered approaches to educational technology integration in primary education.

4. CONCLUSION

This study concludes that Civic Education (Pendidikan Kewarganegaraan/PKn) and Artificial Intelligence (AI)–based learning media play complementary roles in supporting the social-emotional development of elementary school students when integrated through developmentally appropriate and pedagogically grounded practices. At SD Negeri 0722 PTPN IV Lubuk Bunut, PKn functions as a value-based foundation that fosters civic dispositions, social responsibility, empathy, and democratic attitudes, while AI-based learning media enhance student engagement, motivation, and personalized learning experiences.

The findings demonstrate that the positive contribution of AI-based learning media to social-emotional development is not automatic. Rather, it depends on intentional instructional design, teacher mediation, and alignment with Social-Emotional Learning (SEL) principles.

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When AI tools are used to support collaborative activities, provide adaptive feedback, and are followed by reflective discussions, they can strengthen students' self-regulation, confidence, cooperation, and emotional awareness. This underscores the importance of maintaining human-centered pedagogy in technology-enhanced elementary classrooms.

From a developmental psychology perspective, the study highlights that learning experiences at the elementary level must be concrete, contextual, and emotionally supportive. The effective integration of PKn, AI, and SEL occurs when instructional practices respect students' cognitive and emotional developmental stages and provide adequate scaffolding through social interaction and guided reflection. Teachers therefore play a critical role as facilitators who connect civic values, technological tools, and social-emotional objectives into a coherent learning experience.

Practically, this study suggests that elementary schools should strengthen Civic Education pedagogy, provide professional development for teachers on ethical and pedagogical uses of AI, and intentionally integrate SEL goals into both subject learning and technology use. Such an integrated approach can contribute to holistic student development, preparing learners not only for academic success but also for responsible citizenship and social participation in a digital society.

This study is limited by its qualitative design and focus on a single school context. Future research is recommended to involve multiple schools, employ mixed or quantitative methods, and examine the long-term impact of integrating Civic Education and AI-based learning media on students' social-emotional outcomes. Despite these limitations, the study provides empirical insight into the potential of integrating civic education, educational technology, and social-emotional learning in elementary education.

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