

The Use of Digital Educational Games to Strengthen Civic Literacy and Pancasila Values among Students

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Abstract

This study analyzes the use of digital educational games to strengthen students' civic literacy and Pancasila values in the learning process. Civic education in Indonesia is frequently perceived as monotonous and text-heavy, which limits students' ability to translate normative knowledge into practiced civic behavior. Using a qualitative descriptive approach grounded in a systematic literature review, this study synthesizes and critically evaluates existing evidence on digital game-based civic learning. The findings indicate that digital educational games can increase students' motivation, critical thinking, and collaboration, and can support their understanding of civic concepts and Pancasila values; however, the literature also shows that these effects are not uniform and depend on instructional design quality, teacher readiness, and implementation context. The discussion contrasts these findings against relevant learning theories to identify both the pedagogical potential and the boundary conditions of digital game-based civic learning. The study concludes that digital educational games can serve as a valuable but conditional pedagogical bridge for strengthening civic literacy and character education based on Pancasila values, provided they are embedded within a deliberate briefing gameplay reflection framework supported by adequate infrastructure and teacher capacity.

Keywords: digital educational games; civic literacy; Pancasila values.

Introduction

Civic literacy and character education based on Pancasila values are fundamental pillars in preparing Indonesian students to become responsible, tolerant, and participative citizens. Civic education, delivered mainly through the Pendidikan Pancasila subject, is expected not only to transmit knowledge about the state ideology but also to internalize values such as tolerance, responsibility, cooperation, and nationalism into students' daily behavior. In practice, however, civic education is frequently perceived as monotonous, text-heavy, and teacher-centered, so that students tend to memorize normative concepts without genuinely experiencing or applying them (Rahman et al., 2024).

This pedagogical gap matters for a specific and practical reason: the formal curriculum stresses moral character, national identity, and adherence to the constitutional framework, yet the dominant transmission method rote recall of textual clauses and historical facts does not, by itself, build the reflective judgment students need to apply those principles under real conditions. Because Indonesian classrooms are increasingly saturated with digital misinformation, social polarization, and rapid cultural change, students who can recite Pancasila's five principles but cannot reason through a contested civic situation are poorly prepared for the actual demands of citizenship. This is the practical justification for the present study: if civic education is to do more than transmit definitions, its instructional media must be

redesigned to give students repeated, low-risk opportunities to practice civic reasoning and values-based decision making, not merely to consume normative content.

At the same time, today's students, often referred to as digital natives, spend a considerable part of their daily lives interacting with technology-based media, including digital games. This generational shift opens an opportunity to redesign civic learning through digital educational games, which combine game mechanics such as points, levels, challenges, and immediate feedback with structured educational content (Deterding et al., 2011). Game-based approaches have been shown to increase learners' intrinsic motivation, engagement, and higher-order thinking across various subjects (Plass, Homer, & Kinzer, 2015), and similar potential is increasingly explored in global civic and citizenship education (Dishon & Kafai, 2022). It should be noted, however, that this potential is not unconditional: a broad meta-review of empirical gamification studies found that reported outcomes are considerably mixed, with a substantial share of studies reporting negligible or context-dependent effects rather than uniform benefits (Hamari, Koivisto, & Sarsa, 2014). This tension between optimistic theoretical claims and heterogeneous empirical results is itself part of the problem this study addresses.

Despite this potential and despite the caution raised by mixed empirical results the systematic use of digital educational games specifically to strengthen civic literacy and Pancasila values among Indonesian students remains underexplored in a precise sense: existing domestic studies tend to examine only one side of the problem at a time. Some focus on generic gamification and general learning motivation without addressing Pancasila-specific content (e.g., Koebanu, 2024); others examine Pancasila education through conventional, non-digital methods without reference to game-design theory (e.g., Hidayah et al., 2025). What is missing is a study that jointly considers established game-design and motivation theory, the substantive content of Pancasila values and civic literacy, and the structural realities of Indonesian classrooms, including teacher ideology and readiness (Knowles, 2018) and infrastructure inequality. This three-way gap rather than a general lack

of attention to the topic is what the present study aims to address. Accordingly, this study systematically analyzes how digital educational games can be strategically used to strengthen students' civic literacy and their understanding and practice of Pancasila values, based on a review of relevant literature and reported implementations of game-based civic learning, while critically weighing this evidence against the theoretical and contextual conditions under which it does or does not hold.

Literature Review

Civic Literacy and Pancasila Values in Education

Civic literacy refers to the core knowledge, critical skills, and ethical dispositions that enable individuals to participate actively, effectively, and responsibly in the political, social, and cultural life of their community and nation (Raphael et al., 2010, as cited in Dishon & Kafai, 2022). It involves a structural understanding of government systems, constitutional rights, and legal obligations, as well as the critical evaluation of information, the capacity for respectful public discourse, and a commitment to the common good.

In the Indonesian educational context, civic literacy is tied to the internalization of Pancasila values, namely: belief in God, civilized humanity, national unity, democracy through deliberative consultation, and social justice. These principles are translated into everyday behavioral values such as tolerance, civic responsibility, mutual cooperation (*gotong royong*), and nationalism (Koebanu, 2024). Strengthening these values through formal education is considered essential to counter the erosion of national character amid globalization and digital saturation (Hidayah et al., 2025). Whether formal instruction actually achieves this internalization, however, depends heavily on how teachers themselves understand civic education's purpose. Knowles (2018) argues that teachers' civic education ideology whether they view good citizenship primarily as compliance with rules and authority or as participatory, deliberative engagement directly shapes which

instructional strategies they select and how they use them. This theoretical point becomes important later in this study's discussion of implementation challenges: a digital game is not ideologically neutral in the classroom, since its impact depends on the civic ideology of the teacher who frames its use.

Digital Educational Games and Game-Based Learning

Digital educational games are highly interactive digital media that embed rigorous learning objectives directly within an intentional game structure, allowing learners to freely explore complex concepts, make meaningful strategic decisions, and receive instant, non-punitive feedback within an enjoyable, high-fidelity environment (Khaldi, Bouzidi, & Nader, 2023). Empirical reviews across various educational levels consistently report that gamified and game-based learning approaches drastically improve student motivation, psychological engagement, and long-term learning outcomes compared with conventional didactic instruction (Dahalan, Alias, & Shaharom, 2024; Ratinho & Martins, 2023).

In civic education specifically, digital games have been uniquely utilized to simulate intricate democratic processes, complex ethical dilemmas, and realistic community decision-making scenarios. By doing so, they help students connect abstract, legalistic civic concepts with concrete, highly experiential human contexts (Dishon & Kafai, 2022). The pedagogical strength lies in the creation of a "safe failure space," where students can experiment with different civic roles and observe the outcomes of their policy decisions without real-world liabilities.

Within the Indonesian national setting, several recent empirical studies have successfully applied simple gamification tools, such as Kahoot!, to Pancasila-related learning. For instance, Komaruddin, Achadi, and Setiawan (2026) found that Kahoot-based gamification created a far more interactive, lively, and collaborative classroom atmosphere, substantially increased students' intrinsic motivation, and reinforced their internalization of core Pancasila values. This was achieved through application-based, real-

lifeconnected quiz questions that forced immediate evaluation of ethical choices. Furthermore, the gamified environment actively fostered positive digital civic behaviors, such as academic honesty, mutual respect, and strict rule adherence during intensive gameplay. These foundational findings strongly support the theoretical assumption that digital educational games can serve as an effective pedagogical bridge between theoretical civic knowledge and the active practice of vital civic values.

Method

Research Design

This study employs a qualitative descriptive approach using a systematic literature review method. This approach was chosen because the objective is to describe, synthesize, and critically interpret existing knowledge on the deployment of digital educational games in strengthening civic literacy and Pancasila values, rather than to test a statistical hypothesis through primary numerical data.

Data Collection

Data were gathered through a comprehensive, systematic search of scholarly sources, including peerreviewed journal articles, high-impact conference proceedings, and relevant institutional reports published mainly within the last ten years (2016–2026). The digital search was thoroughly executed using major international and national academic databases, including Google Scholar, Scopus, and SINTA. The primary keyword strings used included combinations of: "digital educational games," "game-based learning," "gamification," "civic literacy," "civic education," and "Pancasila values." Sources were rigorously included if they explicitly evaluated the use of digital games or gamification platforms within civic, citizenship, or character education settings, and were strictly excluded if they were structurally unrelated to formal education or lacked comprehensive methodological transparency.

Data Analysis

Data were gathered through a systematic search of scholarly sources, including peer-reviewed journal articles, conference proceedings, and institutional reports published mainly within the last ten years (2016–2026), using Google Scholar, Scopus, and SINTA. The primary keyword strings used included combinations of: "digital educational games," "game-based learning," "gamification," "civic literacy," "civic education," and "Pancasila values." Sources were included if they explicitly evaluated the use of digital games or gamification platforms within civic, citizenship, or character education settings, and were excluded if they were unrelated to formal education or lacked methodological transparency.

Result and Discussion

The collected literature was analyzed using thematic analysis. Findings were categorized into recurring themes: the impact of digital educational games on student motivation and engagement, their contribution to critical thinking and peer collaboration; an, their role in strengthening the understanding and practice of civic and Pancasila values. Each theme was then examined against relevant learning and civic-education theory to identify points of convergence and contradiction in the literature, rather than being synthesized descriptively alone.

Table 1. Contribution of Digital Educational Games to Civic Literacy and Pancasila Values

Learning Contribution	Description	Related Pancasila Value
Motivation & Engagement	Points, badges, and narrative challenges transform static civic material into an attractive, immersive, and highly enjoyable	Nationalism (sense of pride and joy in national learning)

	learning journey	
Critical Thinking	Scenario-based pathways and multi-variable decision tasks force students to critically analyze complex civic problems before taking definitive action.	Responsibility (accountability for choice)
Collaboration	Multiplayer mechanics, shared quests, and team-based game modes necessitate deep communication and coordination to achieve shared structural goals.	Cooperation (Gotong Royong / Unity)
Value Internalization	Contextual, application-based inquiries link abstract legalistic concepts directly with real-world ethical situations and socio-cultural choices.	Cooperation (Gotong Royong / Unity)

Mechanisms of Pedagogical Impact

First, regarding motivation and engagement, digital educational games can transform civic material that is often perceived as dry and text-heavy into an interactive experience. Game elements such as progression scoring and instant feedback loops

are consistent with Self-Determination Theory's emphasis on competence and autonomy as drivers of intrinsic motivation, which is the theoretical basis Deterding et al. (2011) draw on in defining gamification. This is broadly consistent with prior findings that gamified instruction raises motivation (Ratinho & Martins, 2023; Komaruddin et al., 2026). However, Hamari et al.'s (2014) review complicates this picture: motivational gains linked to points and badges are frequently strongest when the game is novel and tend to weaken with repeated exposure, and voluntary use produces different effects than compulsory classroom use. This means the motivational benefit reported for Pancasila-related games such as Kahoot! cannot be assumed to be stable over a full semester or across repeated deployments; it is a contingent finding, not a general law of gamified learning.

Second, digital games are argued to encourage critical thinking by placing students in scenario- or decision-based environments that require identifying civic problems, weighing alternatives, and predicting consequences, mirroring processes used in global civic simulation games (Dishon & Kafai, 2022). Applied to Pancasila education, this could in principle move students beyond memorization of the five principles toward reasoning about how each principle applies to concrete situations. This claim, however, rests on an important and largely untested assumption in the reviewed literature: that in-game decision-making transfers to civic reasoning outside the game. None of the reviewed Indonesian studies, including Komaruddin et al. (2026), measured transfer beyond the immediate classroom activity. The theoretical plausibility of the critical-thinking mechanism is therefore stronger than its empirical demonstration in the Pancasila-education literature specifically.

Third, peer collaboration is reported to be fostered through multiplayer features and

team-based competition, which is presented as operationalizing gotong royong, a practical expression of Pancasila's principle of national unity. Group-based gamification is reported to reduce performance anxiety and strengthen peer support (Dahalan, Alias, & Shaharom, 2024). Read against Knowles' (2018) theory of teacher civic ideology, this mechanism is not automatic either: whether a teacher structures multiplayer gameplay to genuinely require deliberation and shared decision-making, or simply as competitive point-scoring between teams, depends on the teacher's underlying beliefs about what civic participation means. A teacher with a compliance-oriented civic ideology may implement the same game in a way that produces competition rather than cooperation, undermining the intended value alignment with gotong royong.

Fourth, and most directly connected to character education, digital educational games are argued to support the internalization of Pancasila values through application-based content that links constitutional concepts to everyday ethical dilemmas within the game — fair play, respecting divergent opinions among teammates, and rule adherence (Komaruddin, Achadi, & Setiyawan, 2026). Taken together with the first three mechanisms, this literature converges on a genuinely useful but conditional claim: digital games can function as a low-risk practice space for civic values, but the size and durability of this effect depends on instructional design quality, the novelty-versus-sustained-use distinction raised by Hamari et al. (2014), and the civic ideology teachers bring to game facilitation (Knowles, 2018). The reviewed literature, in other words, supports digital games as a promising pedagogical bridge, but not as a self-sufficient one the bridge requires deliberate design and teacher mediation to hold.

Implementation Challenges in the Indonesian Context

These cumulative findings suggest that digital educational games are not merely motivational gimmicks, but the reviewed literature also points to structural implementation challenges relevant to the Indonesian educational landscape:

- **Infrastructure and the Digital Divide:** Unequal access to devices and stable internet across urban, rural, and remote (3T) regions poses an equity risk. While urban schools may deploy multiplayer simulations, underfunded schools in remote areas may struggle to load basic web-based platforms.
- **Teacher Technological Pedagogical Content Knowledge (TPACK) and Civic Ideology:** Digital literacy and technological confidence vary widely among educators. Consistent with Knowles' (2018) argument, teachers who are fluent in content delivery but hold a compliance-oriented civic ideology may use digital games superficially, missing the deliberative and reflective potential the games are theoretically capable of supporting
- **Instructional Design Quality:** A need exists for instructional designs where scoring, graphics, and competition do not overshadow reflection and value-debriefing. Without an intentional reflection phase, and consistent with Hamari et al.'s (2014) findings on the fragility of gamification effects, games risk becoming novelty entertainment rather than durable educational experiences.

Strategic Integration Framework for Indonesian Schools

To help digital games bridge the gap between knowledge and action, schools should adopt a three-tiered integration strategy: (1) the Briefing Phase, in which teachers

introduce the core Pancasila principle and establish moral guidelines and historical context; (2) the Active Gameplay Phase, in which students interact with the digital game individually or in cooperative teams, making choices and analyzing systemic feedback; and (3) the Reflection/Debriefing Phase, in which the teacher facilitates a guided discussion connecting game choices explicitly to real-world national issues, tolerance, and civic duties. Given the concerns raised above about novelty effects and teacher ideology, the Reflection/Debriefing Phase is arguably the most theoretically load-bearing of the three: it is the stage most directly responsible for converting a game's transient motivational appeal into durable value internalization, and its quality depends heavily on teacher capacity rather than on the game itself.

Conclusion

This study concludes that digital educational games can serve as a valuable, but conditional, alternative learning medium for strengthening students' civic literacy and their understanding and practice of Pancasila values. The reviewed literature converges on real benefits for motivation, critical thinking, and collaboration, and provides contextual, low-risk opportunities to practice tolerance, responsibility, cooperation, and nationalism. At the same time, this study's critical synthesis shows that these benefits are not unconditional: empirical evidence on gamification is mixed rather than uniform (Hamari et al., 2014), evidence of transfer from in-game reasoning to real-world civic reasoning is largely untested in the Pancasila-education literature, and outcomes depend substantially on teachers' civic ideology and instructional choices (Knowles, 2018).

For these benefits to be realized equitably, integration of digital educational games into the national civic curriculum needs to be supported by values-aligned instructional

design, adequate digital infrastructure, and professional development that addresses not only teachers' technical skills but also their underlying civic-education beliefs. As a literature-based study, this research is limited by its reliance on secondary sources and largely self-reported motivation data; it cannot itself establish causal transfer to real-world civic behavior. Future research particularly longitudinal classroom-based experiments and qualitative case studies across diverse Indonesian schools, including in under-resourced regions is recommended to test whether the mechanisms identified here hold beyond the novelty period and across differing teacher ideologies, and to verify, optimize, and extend the findings of this study.

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