

Designing for Early Civic Agency: A Board Game for Civic Engagement in Kindergarten

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Abstract: Preparing young learners for global and local challenges requires innovative pedagogical tools that foster civic agency from an early age. Cultivating these citizenship skills during early childhood is crucial for developing critical thinking, social responsibility, and democratic participation. In Greece, this need is addressed by the curriculum "Civic Actions" (Δράσεις του Πολίτη), which integrates the United Nations 17 Sustainable Development Goals (SDGs) across all educational levels, including kindergarten. Concurrently, international literature identifies civic engagement—encompassing activism, volunteerism, and social innovation—as vital for community well-being. However, translating these multi-dimensional, abstract concepts for preschool children presents a significant instructional challenge. This work-in-progress paper introduces the theoretical foundation and pedagogical development of an original educational card game. The project bridges global sustainability goals with local civic action, tailored for kindergarten classrooms. The game's architecture synthesizes a dual framework: the 17 SDGs of the 2030 Agenda and the nine dimensions of civic engagement defined by Illinois State University. Adopting a holistic, socio-critical approach, the design focuses on fostering political participation and civic education, ensuring children learn to become informed citizens who understand local government. In this card game, children engage with scenarios concerning real-world community problems, such as public space accessibility and environmental care. Through specialized action and challenge cards, players must actively negotiate, collaborate, allocate virtual resources, and strategically execute community projects. This interactive gameplay allows them to practice democratic problem-solving, gather public support, and ultimately elect the most suitable mayor for their city, making local governance concepts completely tangible for young learners. At this stage, the game is completed and is currently undergoing an expert review phase by active educators to assess its pedagogical suitability. The immediate next phase involves conducting a pilot implementation in kindergarten settings to evaluate its practical capacity to cultivate foundational skills.

Keywords: Civic engagement, Game-based learning, Early childhood education, Board game design, MDA framework, Sustainable development goals

1. Introduction

While board games are traditionally viewed as recreational in daily life, their educational deployment has expanded dramatically in recent years. Research highlights that board games serve as active, highly effective learning tools, providing students with realistic, immersive settings tailored for structured knowledge acquisition (Tsapara & Bratitsis, 2025). In Early Childhood Education (ECE), games facilitate a shift from passive to active learning modalities, allowing children to embody social roles, collaborate, and co-create knowledge.

A compelling contemporary area requiring such active, experiential designs is early civic agency. Modern citizens must navigate complex macro-level socio-environmental crises through localized micro-level actions. Frame-guided initiatives like the Greek "Civic Actions" (Δράσεις του Πολίτη) curriculum seek to embed these civic competencies from ECE (Ministry of Education, Religious Affairs and Sports, 2024). However, translating broad socio-political concepts into developmentally appropriate practices for learners aged 4–6 remains an instructional bottleneck. To address this gap, this paper introduces the design and initial expert review of an original board game titled "Become Mayor" (Γίνε Δήμαρχος), aiming at making local democracy and civic responsibility tangible for children. The game bridges the SDGs' macro-level objectives with the actions' micro-level of civic participation, utilizing GBL principles to make local governance tangible.

2. Theoretical Background

GBL is rooted in constructivist pedagogy, engineered to advance cognitive structures, promote critical problem-solving, and cultivate deep learner engagement. Opposite to Gamification, it leverages the inherent mechanics and narrative content of the game itself to fulfill target learning objectives. Consequently, player motivation is primarily intrinsic, sustained by the inner narrative, situational milestones, and mechanics (Cook and Artino, 2016; Dickey, 2007). This systemic configuration frames learning as a highly enticing and playful pursuit, establishing a low-stakes environment where children can experience failure safely as a functional element of the conceptual learning cycle (Moos and Marroquin, 2010).

Civic engagement represents the mobilization of integrated skills, structural knowledge, attitudes, and values dedicated to improving collective quality of life within a local ecosystem. Illinois State University (n.d.) conceptualizes this domain via nine operational dimensions: activism, civic learning, volunteerism/community service, service-learning, community internships, philanthropy, political engagement, community-engaged research, and social innovation. Simultaneously, the UNs' 17 SDGs anchor global parameters for sustainable development, spanning dimensions from public health to green, inclusive municipal infrastructure (United Nations, n.d.). The Greek "Civic Actions" curriculum fuses these paradigms (Ministry of Education, Religious Affairs and Sports, 2024). By adopting cross-curricular, socio-critical gameplay, educators can prompt preschool learners to identify local municipal blockages, orchestrate simulated grassroots solutions, and practice localized, democratic macro-governance (Tsapara and Bratitsis, 2022).

3. Game Design: "Become Mayor"

The game "Become Mayor" is modeled on the MDA (Mechanics, Dynamics, Aesthetics) design paradigm which visualizes games as dynamic artifacts wherein operational rules (Mechanics) trigger system behaviors during runtime (Dynamics), which generate intentional psychological/emotional player states (Aesthetics). It is optimized for 4 players aged 4–6 y.o.

The *Game Mechanics* (Figure 1) include: a) a *Game Board*: A circular 6-space pathway alternating between "Question Mark" spaces and "Amphitheater" spaces; b) *Pawns/Pioneers*: Token figures representing different community professions; c) *Scenario Cards*: 32 operational cards divided into 16 Citizen cards and 16 Mayor cards; d) *Resource Tokens*: Multi-colored markers in four distinct colors (green, red, yellow, blue); and e) *Auxiliary Tools*: A structural scenario board chart, an hourglass, and a randomized numeric spinner.



Figure 1: Game elements (civilian card, color tokens, game board, mayor card)

Gameplay Loop: Pawns move collectively along the pathway. The role of the active "Mayor" rotates clockwise with each subsequent round.

- *Landing on a Question Mark space*: Players draw a card detailing a realistic community crisis (e.g., public park degradation or accessibility deficits). Each card offers 4 actionable resolution paths, mapping directly to 4 resource token colors through a synthesized civic engagement types taxonomy:
- *Green*: Actions rooted in volunteering, philanthropy, and grassroots activism.
- *Red*: Actions centered around civic learning and community awareness.
- *Yellow*: Actions emphasizing direct political engagement.
- *Blue*: Projects utilizing community-engaged research and social entrepreneurship/innovation.

No single path is designated as "wrong". Rather, the system forces a resource management dynamic where children must vary their choices to maintain an even distribution across all token categories.

- *Landing on an Amphitheater space*: This triggers the "Citizens' Council". Players utilize the spinner and the scenario board matrix to randomly generate a localized conflict (e.g., Location: The Park + Problem: No Equipment + Tool: Requires Financial Capital). The active Mayor activates the hourglass, requiring the entire group to co-construct a cohesive narrative solution before the timer expires. Successful group resolution yields tokens, whereas failure induces a resource penalty.

Endgame/ Election Phase: Once all participants have completed a mayoral term, token reserves are quantified. To become candidate for final office, a player must display strategic balance, having accumulated more than 15 tokens per color. Validated candidates are then subjected to peer vote evaluated against three objective criteria outlined on the scenario board. The highest voted player wins the game.

Dynamics manifest as real-time player behaviors stemming from structural rules (Schell, 2014). In "Become Mayor," the dynamic interplay alternates between individual strategy and collective deliberation. During individual card draws, players learn that being an empowered citizen means operating through diverse civic methodologies. The *Amphitheater spaces* shift the dynamic into a democratic process microcosm where the game refrains from scripting user action; the scenario board provides minimalist, targeted environmental prompts that challenge children to negotiate, assert perspectives, practice active listening, and compromise under a time constraint to secure the common interest.

Aesthetics map emotional landscapes cultivated by the game design (Koster, 2013). "Become Mayor" targets systemic efficacy, equality, and civic empowerment. By evaluating issues of shared public space, environmental upkeep, and disability access, it fosters perspective-taking and inclusion. The final criteria-guided election emphasizes a sense of systemic justice, facilitating the realization that explicit choices and cooperative designs have a measurable, positive footprint on the community.

4. Initial Evaluation and Expert Review

To examine pedagogical soundness, an initial expert review was executed. A convenience sample of active kindergarten practitioners specializing in game-based learning evaluated the prototype. Criteria targeted core concepts, structural mechanics, content design, and developmental suitability.

The foundational concept and learning targets, with the synthesis of localized governance and SDGs were highly appreciated. Aesthetics were similarly validated. Conversely, systemic mechanical elements—primarily the token tracking economy, balanced resource distribution thresholds, and the steps of the multi-tiered endgame voting—tallied "Moderate" results. Minor wording corrections were suggested for the scenario cards.

Thematic coding of open-ended comments corroborated that the game cultivates peer collaboration, democratic negotiation, and social accountability through experiential play. Scenarios focused on inclusivity—e.g., configuring neighborhood infrastructure modifications for a peer utilizing a wheelchair—received immense praise for fostering empathetic citizenship.

However, reviewers identified distinct cognitive overload vectors. Abstract terminology embedded in cards—e.g., "funding models," "city councils," "corporate sponsorships," and "social entrepreneurship"—seem conceptually too dense for children aged 4–6. Managing concurrent multiple tactile modules (pawns, tokens, spinner charts, hourglass) was noted as threatened to fragment children's focal endurance.

Consequently, experts highlighted a strict requirement for sustained teacher scaffolding to maintain fluid play sessions. Iterative design recommendations suggested simplifying scenario text, shifting text descriptions to explicit visual/symbolic indices, and softening the late-game election mechanics to dampen competitive hyper-focus that could undermine the collaborative ethos of the design.

5. Conclusion and Future Work

"Become Mayor" models an active pedagogical design that merges complex macro-level global sustainability notions with micro-level civic engagement into a well-received, play-centric framework for ECE. Fusing GBL mechanics with civic agency theories yields a compelling medium for nurturing democratic values, and collaborative problem-solving.

Expert review verified the educational validity of the game's core goals while isolating vital iterations for future development. Prior to classroom deployment, the design will undergo structural refinement to streamline the resource management loop, replace dense text fields with symbolic imagery, and clarify rule edge-cases. Subsequently, an updated prototype will be tested in active kindergarten environments to evaluate its field efficacy in empowering young children as active, eco-socially aware community members.

Ethics and AI Declaration: Ethical clearance was not required for the study. AI tools were used only for linguistic editing of this paper.

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