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Promoting Youth Political Engagement Through Serious Games: A Quasi-Experimental Study on Local Election Boardgame in Thailand

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ABSTRACT

This study examines the effectiveness of serious games in enhancing political engagement among youth through a quasi-experimental design. It compares traditional video-based education with an innovative tool, the "Local Election Boardgame," which simulates local election processes. Conducted in two regions of Thailand, the North (Chiang Mai) and the South (Krabi), the research involved secondary school students aged 13-17, who were divided into control (videobased) and experimental (game-based) groups. Results showed that the board game format significantly increased participants' enthusiasm, cognitive understanding, and political efficacy compared to traditional methods. Qualitative feedback from participants highlighted the game's interactive and collaborative elements as key factors in fostering deeper engagement and practical understanding of democratic processes. These findings underscore the potential of serious games as an effective educational tool for promoting political participation, suggesting their broader applicability across diverse educational contexts.

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Political engagement; serious games; local elections; youth; Thailand; quasi-experimental design

Introduction

Political disengagement among youth has become a growing concern in democratic societies (Banaji 2008; Parvin 2018; Pelevin et al. 2018). Traditional forms of civic education, such as classroom lectures and informational videos, often fail to captivate younger audiences, leading to lower levels of political awareness, participation, and efficacy (LeCompte and Blevins 2013; Szczygiel 2020). This trend is worrisome, as active political participation is essential for the health of democratic systems, enabling the representation of diverse viewpoints and effective governance (Ekman and Amnå 2012; Johnson and Ferguson 2018; Turcotte 2015). In response, educators and policymakers have been exploring innovative approaches to make civic education more engaging. One promising approach is the use of serious games—interactive tools designed not just for entertainment but for education, aiming to convey complex topics in an accessible and engaging manner (Freyermuth 2015; Kustyarini, Utami, and

Koesmijati 2020). Research in recent years has highlighted the effectiveness of serious games in enhancing learning outcomes across various fields, including health, business, and military training (Laamarti, Eid, and El Saddik 2014; Dichev and Dicheva 2017). Unlike traditional methods, serious games utilize elements of play, competition, and interactivity to foster deeper engagement and understanding. In the context of political engagement, games can serve as effective tools to simulate real-world scenarios, encouraging players to make strategic decisions that reflect the complexities of governance (Thiel et al. 2016).

This study evaluates the effectiveness of the "Local Election Boardgame" in enhancing youth political engagement compared to traditional video-based learning, focusing on improvements in enthusiasm, cognitive understanding, and political efficacy. Using a quasi-experimental design, the study compares game-based and video-based learning among secondary school students aged 13–17 in Chiang Mai and Krabi, with participants divided into control and experimental groups and assessed through pre and post-tests.

The significance of this study lies in its potential implications for educational policy and the promotion of civic engagement. By demonstrating the effectiveness of serious games in fostering political awareness and participation, this research advocates for integrating innovative educational tools into mainstream education systems. Additionally, it addresses the challenges of political disengagement among youth, contributing to the development of a more informed and active citizenry, which is vital for the future of democratic societies (Keating and Janmaat 2016). While many studies highlight the general efficacy of games in education, this research specifically examines the "Local Election Boardgame" in the context of youth political engagement in Thailand, a country rarely studied in game-based learning within political science. By focusing on a developing country with unique cultural, geographic, and political dynamics, this research provides valuable insights into how serious games can be tailored for political science education in non-Western contexts, enriching understanding of their applicability and effectiveness in diverse socio-political environments. Through its comparative analysis, this study also offers insights into regional differences in the effectiveness of game-based learning, highlighting how local contexts can influence educational outcomes (Chee, Mehrotra, and Liu 2013; So and Seo 2018).

The article proceeds as follows: after this introduction, the next section reviews the relevant literature, focusing on the theoretical frameworks and prior studies on serious games and political engagement. Following this, the "Local Election Boardgame" is discussed in detail, including its design, gameplay mechanics, and educational objectives. The Methodology section then elaborates on the study's quasi-experimental design, conducted across two diverse regions in Thailand, including the participant demographics, instruments used, and data collection procedures. The Results section presents the findings from both the quantitative and qualitative analyses, highlighting the differences between the experimental and control groups. The Discussion elaborates on these findings, providing interpretations, implications for educational practice, and potential limitations. Finally, the Conclusion summarizes the key insights of the study and suggests directions for future research on the use of serious games in promoting youth political engagement.



Literature review

Political engagement, particularly among youth, is a critical focus in political science and civic education. It encompasses actions and behaviors aimed at influencing political processes and is considered vital for democratic governance (Dalton 2017; Nabatchi and Leighninger 2015). While traditional definitions emphasize visible activities like voting and protesting (Van Deth 2014; Zukin et al. 2006), contemporary studies expand this to include subtle forms of civic participation, such as political awareness, social issue discussions, and community initiatives (Johnson and Ferguson 2018; Levy and Akiva 2019). This broader perspective is essential for fostering civic duty and political efficacy among younger demographics, especially those less engaged in formal political processes (Keating and Janmaat 2016; Theocharis and Van Deth 2017).

Despite its importance, youth participation in conventional political activities has declined globally. Causes include political disillusionment, inadequate political education, and perceptions of system inefficacy (Hendriks, Ercan, and Boswell 2020; Kitanova 2020; Weiss 2020). Traditional educational methods like lectures often fail to engage youth, furthering their disconnect from political institutions. In response, innovative approaches have been explored, with serious games emerging as a promising tool to bridge the engagement gap.

Serious games in education

Serious games are defined as games designed for purposes beyond entertainment, aiming to educate, train, or inform players through interactive and experiential learning (Kong 2021; Laamarti, Eid, and El Saddik 2014; Luo 2022). These games have been successfully used in various educational contexts, ranging from health and military training to corporate training and community engagement (Romero, Usart, and Ott 2015). The interactive and immersive nature of serious games allows players to engage deeply with content, which can lead to better retention and understanding of complex concepts compared to traditional educational approaches (Ravyse et al. 2017). In the context of civic education, serious games can make political concepts more accessible and engaging, which is crucial for fostering long-term political engagement among youth. The application of serious games in civic education has gained traction as researchers recognize their ability to simulate real-world political processes. For instance, Cooper (2019) argues that games designed to simulate political scenarios can help demystify governance by allowing players to actively participate in decision-making. Similarly, Lerner (2014) and Thiel et al. (2016) have demonstrated that games can stimulate players' curiosity and critical thinking, fostering a deeper understanding of democratic principles. By using gamified approaches, educators can tap into the competitive and collaborative instincts of players, encouraging them to engage with political content that they might otherwise find uninteresting or challenging.

Promoting political engagement through serious games

In the context of Thai political engagement, serious games present an opportunity to address the challenges of youth disengagement, particularly in local governance. Studies demonstrate their potential to enhance political efficacy and motivation. For example, Kelley and Johnston (2012) found that participants in political simulation games reported greater efficacy and engagement compared to those receiving traditional education. This aligns with findings that serious games foster learning through hands-on experiences, improving knowledge retention and practical application (Brigham 2015).

Games simulating political scenarios, such as budget allocation or policymaking, teach players governance intricacies, including balancing competing interests. They also allow players to experience the societal impact of their decisions, fostering critical thinking and greater appreciation for real-world governance complexities (Duke 2011; Mayer 2009). By reflecting on their roles as citizens, players may develop greater political efficacy and a stronger inclination to participate in democratic processes (Thiel et al. 2016). Analog games, such as board games, have also shown effectiveness in promoting civic engagement. They provide tangible, interactive experiences, particularly suitable for group learning environments. Unlike digital games reliant on virtual interactions, board games emphasize face-to-face communication, negotiation, and collaboration—skills critical for civic participation (Bayeck 2020). Board games that simulate local elections, for instance, empower players to understand political systems and actively engage in civic processes.

Theoretical frameworks supporting game-based civic education

Understanding the impact of serious games on political engagement requires a comprehensive theoretical framework, which can be categorized into three core models. The first is the Rational Choice Model, which suggests that individuals are more likely to engage in political activities when they perceive the benefits of participation to outweigh the costs. Serious games help to lower these perceived costs by making the learning process enjoyable and less intimidating, thus increasing the likelihood of engagement (Dichev and Dicheva 2017). The second model, the Mobilization Model, posits that people are more inclined to participate in political activities when they are actively encouraged or recruited. Games can act as powerful tools for mobilization by fostering a sense of community among players, who may feel more empowered to engage in real-world politics after participating in simulations that encourage collaboration and competition (Bessant, 2014); Stokes 2020). The third model is the Educational Model, which emphasizes the role of structured and interactive learning environments in fostering long-term political engagement. By creating such environments, serious games can help build foundational knowledge and skills that encourage sustained political involvement (Chee, Mehrotra, and Liu 2013; Hartt, Hosseini, and Mostafapour 2020; So and Seo 2018).

To analyze how the "Local Election Boardgame" fosters political engagement, the framework integrates theories related to gamification, political cognition, and political efficacy. Drawing from literature on how games influence behavior and motivation, this framework aims to explain how the board game serves as an effective tool to encourage political engagement. The framework is structured around three main components: motivation and enthusiasm, cognitive engagement, and political efficacy—each playing a crucial role in driving political participation through serious games.



Motivation and enthusiasm

Motivation and enthusiasm are essential to engaging players in a game-based learning environment. According to Yu-kai Chou (2015), motivation enhances engagement in gamified activities, and serious games sustain this by making learning enjoyable and rewarding. Chou's Octalysis framework highlights core drives like development, accomplishment, social influence, and unpredictability, which trigger players' desire to achieve, compete, and explore. In the context of the "Local Election Boardgame," motivation is cultivated by creating a competitive yet cooperative environment where players navigate political strategies and decision-making processes. The game allows players to take ownership of their actions, empowering them to make decisions that influence outcomes. This sense of ownership, combined with the social dynamics of playing with or against others, fosters enthusiasm and a deeper commitment to understanding the political processes simulated within the game.

Cognitive engagement (political cognition)

Cognitive engagement, or political cognition, involves how individuals process information and develop knowledge through interaction and experiential learning. In this framework, cognition extends beyond acquiring factual knowledge to include deeper processes such as critical thinking, problem-solving, and decision-making. Previous studies (Cherry 2020; Farnham 1990; Schreiber 2007) have shown that games effectively stimulate cognitive engagement by presenting players with scenarios that require strategic thinking and planning. The "Local Election Boardgame" leverages these cognitive processes by simulating real-world political challenges. Players must allocate resources, develop policies, and negotiate with others, mirroring the complexities of local governance. This interaction allows players to experience the intricacies of political systems, including the tradeoffs and compromises that are often required in governance. Through repeated exposure to these scenarios, players build cognitive skills that enhance their understanding of how political systems operate, increasing their political knowledge and awareness. This aligns with experiential learning theories, where understanding is deepened through active participation and real-world applications (Kolb 1984).

Political efficacy

Political efficacy is a critical component of civic engagement, referring to an individual's belief in their ability to understand and influence political affairs. It consists of two types: internal efficacy, which reflects confidence in one's understanding of political systems, and external efficacy, which is the belief that the political system will respond to one's participation (Campbell, Gurin, and Miller 1954; Sarieva 2018). Higher levels of political efficacy are linked to greater political participation, as individuals who feel capable of engaging in political activities are more likely to take action. The analytical framework suggests that the "Local Election Boardgame" enhances both internal and external political efficacy by simulating political processes. By allowing players to assume roles where they can make decisions and see their outcomes, the game provides a safe environment to practice and build confidence. As players engage in decision-making, resource management, and policy negotiation, they learn not only how political processes work but also how their actions can impact outcomes. This experiential learning fosters a sense of empowerment, making players more inclined to participate in real-world political activities because they feel equipped with the knowledge and skills to make a difference.

Understanding how these components interact enables stakeholders to design serious games that effectively promote civic education and participation, particularly among youth who may be disengaged from traditional political processes. The "Local Election Boardgame" serves as a practical example of how this framework can be applied, demonstrating that thoughtfully designed games can be powerful tools for engaging young people, fostering their political awareness, and encouraging active citizenship. To provide a clearer understanding of how the game functions as an educational tool to promote political engagement among youth, the following section outlines its design, gameplay mechanics, and educational objectives before moving on to the methodology.

The Local Election Boardgame

The "Local Election Boardgame" is an educational tool designed to simulate the complexities of local elections and governance. Developed by the King Prajadhipok's Institute in collaboration with the Friedrich Naumann Foundation, the board game aims to enhance civic education by providing players with a hands-on, interactive experience that mirrors real-world political scenarios. It targets youth aged 13–17, encouraging them to learn about local governance structures, election processes, and the responsibilities of citizens and elected officials.

The game is set within a fictional municipality where players take on the roles of candidates running for local office. The primary objective of the game is to win the election by securing the highest number of votes, which requires strategic planning, effective resource management, and engagement with community issues. Players must navigate through various tasks that mirror real-life political activities, such as campaigning, managing budgets, and responding to community needs. This approach allows participants to understand how local governments function, the importance of civic participation, and the impact of political decisions on community development.

The "Local Election Boardgame" is structured around several core gameplay elements:

- Campaign Strategy: Players must develop and implement campaign strategies, deciding how to allocate their resources across various activities, such as advertising, community outreach, and policy promotion. This simulates the strategic decision-making processes candidates face during actual elections.
- Resource Management: Each player is given a set budget to manage throughout
 the game. Players must balance spending on their campaign efforts while addressing unforeseen events and challenges, such as responding to community concerns
 or managing campaign finances.
- 3. Community Engagement: Players earn points by engaging with different segments of the fictional community, attending public forums, and responding to issues raised by the "citizens." This aspect of the game emphasizes the importance of listening to constituents and being responsive to their needs.
- 4. Policy Proposals: During the game, players must propose and promote policies that address local issues. These policy proposals are evaluated by the other



- players, simulating a real-life electoral debate where ideas and platforms are scrutinized.
- 5. Election Simulation: At the end of the game, players participate in an election where votes are cast based on the effectiveness of their campaign strategies and their ability to engage with the community. The player with the most votes wins the game, reflecting a successful campaign.

The "Local Election Boardgame" is designed not only to entertain but also to educate participants on the fundamentals of local governance. By engaging in role-play and strategic decision-making, players can develop a deeper understanding of how local elections work and the factors that contribute to a successful political campaign. The game encourages critical thinking, collaboration, and problem-solving, all of which are essential skills for active citizenship. Through its interactive format, the game also seeks to demystify the electoral process, making it more accessible and relatable for young players. By simulating the responsibilities of candidates and the challenges they face, the game highlights the importance of informed decision-making, ethical behavior, and civic engagement. Furthermore, the game's emphasis on community interaction teaches players that successful governance requires listening to diverse perspectives and addressing the needs of all constituents.

Materials and methods

This study employed a quasi-experimental design with nonequivalent control groups to examine the effectiveness of serious games in enhancing political engagement among youth. The design involved pretest and post-test evaluations to compare changes in political engagement between a control group, which received traditional video-based education, and an experimental group, which engaged with the "Local Election Boardgame." The choice of a quasi-experimental design was based on its suitability for assessing causal relationships in real-world settings where random assignment is not feasible (Freyermuth 2015; Laamarti, Eid, and El Saddik 2014).

The study was conducted in two provinces in Thailand, Chiang Mai and Krabi, chosen for their geographic and cultural diversity. Chiang Mai, a northern mountainous region and former Lanna Kingdom capital, offers a mix of urban and rural environments. In contrast, Krabi, located in southern Thailand, features coastal geography, a warm climate, and a predominantly tourism-driven economy. This geographic and cultural diversity provided a unique opportunity to examine the game's adaptability to varied contexts. While Chiang Mai is steeped in traditional Lanna heritage, Krabi represents a blend of Thai and Muslim influences, allowing exploration of how different cultural norms and community dynamics shape youth political engagement.

Participants consisted of secondary school students aged 13-17, representing a critical age group for fostering early political engagement. Judgment sampling was used to include participants who could provide diverse and insightful perspectives on the "Local Election Boardgame." This method enabled the purposive selection of individuals across varied demographics, such as age, gender, and geographic background, ensuring a broader range of perspectives. By focusing on diversity rather

than a narrowly defined target population, the study aimed to produce findings that were more generalizable and reflective of youth experiences across different regional contexts. This approach was crucial for evaluating the game's adaptability to the distinct cultural and geographic settings of Chiang Mai and Krabi, which differ significantly in norms, traditions, and community dynamics. A total of 60 students participated, split evenly between the provinces, with random assignment within each province to either the control group (video-based learning) or the experimental group (game-based learning). The decision to focus on youth was informed by previous research suggesting that early exposure to political education can have a long-lasting impact on civic participation (Kahne, Crow, and Lee 2013; Keating and Janmaat 2016; Levy and Akiva 2019).

To evaluate the interventions, the study employed questionnaires assessing three key components of political engagement: enthusiasm, cognitive understanding, and political efficacy. Enthusiasm measured interest in political topics, cognitive understanding focused on knowledge of governance structures, and political efficacy examined confidence in understanding and influencing political systems. These measures also informed participant categorization for qualitative interviews, enabling nuanced analysis of the game's impact across varying levels of initial political awareness. The questionnaire was validated using the Index of Item Objective Congruence (IOC) to ensure reliability, with items scoring below 0.5 revised or removed. This methodological approach provided a robust framework for assessing the game's effectiveness in promoting youth political engagement.

The research procedure was divided into three phases: pretest, intervention, and post-test.

1. Pretest

At the beginning of the study, all participants completed a pretest questionnaire to establish baseline levels of political engagement across the three measured components. This pretest was conducted simultaneously for both groups to ensure consistency.

2. Intervention

The intervention phase differed for the control and experimental groups:

The control group (Group V) received traditional video-based educational content on local governance. The video covered topics such as the structure of local government, the election process, and the role of citizens in local governance. This approach represents the standard method of civic education in many settings (Lerner 2014).

The experimental group (Group G) participated in sessions involving the "Local Election Boardgame." This game was designed to simulate local election scenarios, requiring players to make decisions on election strategies, resource management, and policy implementation. Each game session lasted approximately 1.5 hours, and facilitators were present to guide participants through the rules and gameplay mechanics. The game environment encouraged collaboration and competition, fostering a deeper understanding of democratic processes through experiential learning (Thiel et al. 2016; Cooper 2019).



3. Post-test

After the intervention, participants from both groups completed the same questionnaire used in the pretest. The purpose of the post-test was to measure any changes in political engagement, comparing the results across the three components for both the control and experimental groups. The difference in pretest and post-test scores was analyzed to determine the impact of each educational approach.

To complement the quantitative data, qualitative feedback was also gathered from participants in the experimental group who played the "Local Election Boardgame." Following the post-test, semi-structured interviews were conducted with a subset of 10 participants from each region. The participants were selected using a purposive sampling method to ensure diverse perspectives based on age, gender, and initial levels of political engagement. The interview questions were designed to explore participants' experiences with the game, focusing on aspects such as engagement, learning, and perceived relevance to real-world political scenarios. Examples of questions included: "What did you enjoy most about playing the board game?" and "How did the game help you understand local governance better?" Each interview lasted around 20-30 minutes and was audio-recorded with the participants' consent. The interviews were then transcribed, and thematic analysis was conducted to identify common themes and insights regarding the effectiveness of the game-based approach.

The data collected from the pretest and post-test questionnaires were analyzed using SPSS, a statistical software program commonly used for social science research. Descriptive statistics, including mean scores and standard deviations, were calculated for each component of political engagement. To determine the effectiveness of the game-based learning approach compared to traditional methods, paired sample t-tests were used to analyze within-group changes, while independent sample t-tests compared the performance between the control and experimental groups (Weiss 2020). Additionally, analysis of variance (ANOVA) was performed to examine differences across demographic variables, such as age and regional background, to identify any potential moderating effects. This approach helped ensure a robust analysis of the data, providing insights into the overall effectiveness of the serious game in various contexts (Brigham 2015; Chee, Mehrotra, and Liu 2013; So and Seo 2018).

For the qualitative feedback, a thematic analysis was conducted to identify recurring themes and patterns from the interviews. Responses were coded and categorized into key themes such as engagement, learning, and applicability. This qualitative data helped to contextualize and provide a deeper understanding of the quantitative findings, offering insights into how the game-based learning approach influenced participants' perceptions and experiences (Chee, Mehrotra, and Liu 2013; So and Seo 2018). To account for potential regional differences, participants from Chiang Mai and Krabi were also purposively selected to represent varying initial levels of political engagement. Pretest results informed this selection, with participants in Chiang Mai generally demonstrating lower baseline engagement compared to those in Krabi. This approach ensured that the study captured a diverse range of perspectives, reflecting the different ways the game-based learning approach might resonate with individuals from distinct cultural and regional backgrounds. By including participants with varying degrees of prior political awareness, the study aimed to explore how initial engagement levels influenced perceptions of the game's relevance, effectiveness, and ability to foster political understanding.

The study adhered to ethical guidelines, ensuring that all participants provided informed consent before participating. Parental consent was also obtained for minors. Participants were informed of their right to withdraw from the study at any time without any consequences. The confidentiality of all participant data was strictly maintained throughout the research process, and ethical approval was obtained from relevant institutional review boards before the study commenced (Olejniczak, Newcomer, and Meijer 2020).

Results

The study aimed to evaluate the effectiveness of serious games in promoting political engagement among youth by comparing a traditional video-based approach with an interactive game-based learning method. The findings indicate that the use of the "Local Election Boardgame" led to significant improvements across various components of political engagement, including enthusiasm, cognitive understanding, and political efficacy. Additionally, qualitative feedback from participants provided further insights into how the game fostered engagement, strategic thinking, and a sense of political efficacy. The results are presented below, beginning with pretest and post-test comparisons across the control and experimental groups, followed by an examination of regional differences in learning outcomes and an analysis of the qualitative feedback.

Pretest and post-test comparisons across the control and experimental groups

One of the core components measured was the level of enthusiasm and motivation toward political participation. Before the intervention, the pretest scores for enthusiasm were relatively similar between the control group (M = 2.8, SD = 0.6) and the experimental group (M=2.9, SD=0.7). Following the intervention, the post-test scores showed a marked increase for the experimental group (M = 4.1, SD = 0.5), while the control group exhibited a more modest increase (M = 3.2, SD = 0.6). A paired sample t-test confirmed that the increase in enthusiasm for the experimental group was statistically significant (t(29) = 4.23, p<0.01), suggesting that the game-based approach effectively enhanced participants' interest in political engagement (Cooper 2019).

The second component assessed was cognitive understanding, which focused on participants' knowledge of local governance structures, election processes, and civic responsibilities. Pretest results showed moderate scores for both groups (Control: M = 3.1, SD = 0.5; Experimental: M = 3.0, SD = 0.5). After the intervention, the experimental group demonstrated a significant increase in understanding (M = 4.3, SD = 0.4), while the control group's improvement was less pronounced (M = 3.5, SD = 0.5). An independent sample t-test revealed a statistically significant difference between the post-test scores of the two groups (t(58) = 5.35, p<0.01), confirming that the game-based learning approach was more effective in enhancing participants' understanding of political concepts (Lerner 2014; Thiel et al. 2016).

The final component measured was political efficacy, which encompasses participants' confidence in their ability to influence political processes and their belief in the



responsiveness of political systems. Pretest scores were relatively low across both groups (Control: M = 2.7, SD = 0.6; Experimental: M = 2.6, SD = 0.7), reflecting a general sense of political disengagement among the youth. Post-test scores showed a notable increase for the experimental group (M = 3.9, SD = 0.5) compared to a slight improvement in the control group (M = 3.0, SD = 0.6). The improvement in the experimental group was statistically significant (t(29) = 3.89, p<0.01), indicating that the "Local Election Boardgame" successfully enhanced participants' sense of political efficacy (De-Marcos et al. 2014).

Regional differences in learning outcomes

To explore whether the effectiveness of game-based learning varied by region, data from Chiang Mai and Krabi were analyzed separately. Both regions showed consistent improvements across the three components of political engagement—enthusiasm and motivation, cognitive understanding, and political efficacy. However, there were some variations in the magnitude of these improvements, suggesting regional differences in baseline engagement levels and responses to the educational interventions.

In Chiang Mai, the pretest scores for enthusiasm were relatively low for both the control group (M = 2.6, SD = 0.5) and the experimental group (M = 2.7, SD = 0.6). Post-test results showed an increase in both groups, with the experimental group showing a significant improvement (M = 4.0, SD = 0.4), compared to a moderate increase in the control group (M=3.1, SD=0.5). The results from Krabi followed a similar pattern, but with slightly higher baseline scores. The experimental group in Krabi exhibited a marked improvement from pretest (M = 3.1, SD = 0.6) to post-test (M = 4.2, SD = 0.5), while the control group showed a smaller increase from pretest (M = 2.9, SD = 0.7) to post-test (M = 3.3, SD = 0.6).

For cognitive understanding, the experimental group in Chiang Mai improved significantly from pretest (M = 3.0, SD = 0.5) to post-test (M = 4.2, SD = 0.4). The control group in Chiang Mai showed a smaller increase, moving from a pretest score of (M=3.0, SD=0.4) to (M=3.5, SD=0.5) in the post-test. In Krabi, the pretest scores were slightly higher for both groups, with the control group scoring (M = 3.2, SD =0.5) and the experimental group scoring (M = 3.1, SD = 0.5). Post-test results showed that the experimental group improved to (M = 4.4, SD = 0.4), while the control group reached (M = 3.6, SD = 0.5). An independent sample t-test showed that improvements were significant for the experimental group in both regions.

The analysis of political efficacy showed similar trends. In Chiang Mai, the experimental group improved significantly from a pretest score of (M = 2.6, SD = 0.6) to a post-test score of (M = 3.8, SD = 0.5). The control group showed a smaller change from (M=2.5, SD=0.6) to (M=3.0, SD=0.5). In Krabi, the experimental group exhibited a notable increase from pretest (M = 2.7, SD = 0.7) to post-test (M = 4.0, SD= 0.5). The control group in Krabi showed a modest increase from (M=2.8, SD=0.6) to (M = 3.1, SD = 0.6). Statistical analysis confirmed that the improvements for the experimental group were significant in both regions, with slightly higher post-test scores in Krabi.

In summary, the findings across both regions demonstrate that the "Local Election Boardgame" was effective in increasing enthusiasm, cognitive understanding, and



political efficacy among youth, regardless of the region. However, baseline scores in Krabi were generally higher, suggesting that youth in this area may have had a slightly higher level of initial engagement, possibly due to local cultural or social factors. Despite these differences, the game-based approach led to significant improvements in both regions, affirming its adaptability and effectiveness across diverse settings (Hartt, Hosseini, and Mostafapour 2020; Weiss 2020).

The qualitative feedback

The qualitative feedback collected from participants who engaged with the "Local Election Boardgame" provided valuable insights into the game's effectiveness as an educational tool for promoting political engagement among youth. Through semi-structured interviews, participants shared their experiences, highlighting how the game influenced their understanding, motivation, and confidence in engaging with political processes. Many participants expressed that the game made learning about local politics more engaging and enjoyable compared to traditional methods like lectures or videos. They noted that the interactive nature of the game captured their attention and made the learning experience more immersive. One participant stated, "Playing the game was fun, and it didn't feel like studying. It made me more interested in how elections work and why they're important." This sentiment was echoed by several others who emphasized that the competitive and strategic aspects of the game kept them actively involved throughout the session.

Participants also reported that the game helped them better understand the complexities of local governance, including the election process, policy-making, and the responsibilities of elected officials. By simulating real-life scenarios, the game allowed them to see how decisions are made, what challenges politicians face, and how resources are managed. One participant mentioned, "I always thought politics was boring and confusing, but the game made it easier to understand how things work in local government." This feedback aligns with the educational goals of the game, which aims to simplify complex political concepts through experiential learning. In addition, the gameplay required participants to strategize, allocate resources, and make decisions based on the needs of their community, which encouraged the development of critical thinking and problem-solving skills. Participants highlighted how the game pushed them to think carefully about their choices and consider the consequences of their actions. "I had to plan my moves and think ahead, just like in a real election," noted one participant, illustrating how the game successfully mimicked the strategic elements of political campaigns.

Another prominent theme from the feedback was the boost in political efficacy. Participants felt more confident in their ability to understand and engage with political processes after playing the game. They expressed that taking on the role of a candidate allowed them to see themselves as active participants in the political system, which increased their sense of empowerment. One participant explained, "Before, I didn't think I could make a difference in politics, but the game showed me that even small actions can have an impact." This reflects an increase in both internal and external political efficacy, as participants gained confidence in their own abilities and saw the political system as more responsive and accessible.

The game encouraged social interaction, as participants often had to negotiate, collaborate, and compete with others. This aspect of gameplay helped them understand the importance of communication, compromise, and teamwork in political processes. Participants noted that playing the game with peers made the experience more enjoyable and helped them learn from each other. "I liked how we had to work together sometimes, even though we were competing. It felt like real politics, where you have to make alliances," said one participant, highlighting the value of collaborative learning. While the feedback was overwhelmingly positive, participants also offered suggestions for improving the game. Some recommended adding more scenarios to cover a broader range of political issues, while others suggested including more detailed explanations of certain concepts to further enhance understanding. Participants also expressed a desire for more in-game resources, such as guides or tips, to help them make better strategic decisions during gameplay.

In addition to the thematic analysis, a comparison of qualitative responses between the two provinces revealed notable differences in how initial levels of political engagement shaped participants' reactions to the game. In Chiang Mai, where participants generally exhibited lower baseline levels of political engagement, many expressed surprise at how the game demystified governance and made political processes more relatable. They emphasized the game's ability to foster curiosity and motivate them to think critically about local governance, a topic they had previously considered abstract or irrelevant. In contrast, participants from Krabi, who displayed higher initial levels of political engagement, highlighted the game's depth and strategic challenges. Their feedback often focused on how the game allowed them to refine their understanding of governance and apply their existing knowledge in a more interactive and practical manner. These differences suggest that while the game effectively engaged participants in both provinces, it served slightly different purposes: for less engaged participants in Chiang Mai, it acted as an entry point to political awareness, while for the more engaged participants in Krabi, it functioned as a platform for deepening and applying their understanding. This regional variation underscores the importance of considering initial levels of political engagement when designing and implementing game-based educational interventions.

Discussion

The results of this study provide robust evidence supporting the effectiveness of serious games, specifically the "Local Election Boardgame," in enhancing political engagement among youth. Compared to the traditional video-based approach, the game-based learning method led to significant improvements across all three components of political engagement: enthusiasm and motivation, cognitive understanding, and political efficacy. These findings align with previous research that highlights the potential of serious games to make learning more interactive, engaging, and impactful (Dichev and Dicheva 2017; Freyermuth 2015). The increase in enthusiasm and motivation observed in the experimental group suggests that game-based learning can successfully capture and sustain the interest of participants. The game environment, which incorporated elements of competition and collaboration, helped to stimulate curiosity and active participation. This result is consistent with studies that have emphasized the role of gamification in enhancing learner motivation and engagement (Cooper 2019; Thiel et al. 2016). In contrast, the more modest improvement seen in the control group indicates that traditional methods may not be as effective in engaging youth, particularly in topics such as local governance, which can often be perceived as abstract or irrelevant.

The findings also revealed significant gains in cognitive understanding among participants in the game-based group. By simulating real-world political scenarios, the board game allowed participants to explore complex concepts in a hands-on, experiential manner. This approach facilitated deeper learning and retention of knowledge, as supported by previous literature on the benefits of experiential learning in civic education (De-Marcos et al. 2014; Lerner 2014). Participants in the experimental group demonstrated a better grasp of local governance structures, election processes, and civic responsibilities than those in the control group, underscoring the educational value of serious games. Finally, the notable improvement in political efficacy within the experimental group indicates that the game-based approach may enhance not only knowledge but also participants' confidence in their ability to engage in political processes. This finding is particularly important because fostering a sense of political efficacy is crucial for encouraging active citizenship. Participants who feel capable of influencing political outcomes are more likely to engage in democratic processes, such as voting, community organizing, and advocacy (Keating and Janmaat 2016). The qualitative feedback further supported this conclusion, with many participants expressing that the game helped them see how their actions could impact local governance, thereby boosting their confidence in participating in political activities.

The study also explored whether the effectiveness of the game-based approach varied across different regional contexts. While both Chiang Mai and Krabi showed significant improvements across all components of political engagement, some regional differences were observed. For instance, the baseline scores for enthusiasm and cognitive understanding were slightly higher in Krabi than in Chiang Mai, suggesting that youth in Krabi might already have a higher level of initial engagement. This could be attributed to local cultural or social factors, such as community activities and regional educational programs, that encourage civic participation. However, despite these initial differences, the "Local Election Boardgame" proved equally effective in enhancing engagement in both regions, affirming its adaptability to diverse settings within Thailand. These findings highlight the potential of serious games to be scaled and adapted to various cultural contexts, making them a versatile tool for civic education. However, it also emphasizes the need for further research to explore how regional and cultural factors might influence the effectiveness of educational interventions, particularly in the context of political engagement (Chee, Mehrotra, and Liu 2013; Weiss 2020).

The qualitative feedback collected from participants in the experimental group provided valuable insights into the mechanisms through which the game-based approach influenced learning and engagement. Many participants reported that the board game made learning about local governance more enjoyable and relatable. Unlike traditional lectures, which were often perceived as dull, the game allowed participants to actively engage with the material, make decisions, and see the immediate consequences of those decisions. This interactive aspect was frequently cited as a key reason why participants felt more motivated to learn and participate. Additionally, the game facilitated social interaction among participants, encouraging discussions and debates on local governance topics. This collaborative learning environment helped participants build a better understanding of democratic principles, as they had to articulate their ideas, negotiate with peers, and consider multiple perspectives. This aligns with research suggesting that collaborative, social learning environments can enhance critical thinking and problem-solving skills (Brigham 2015). The feedback also indicated that the competitive element of the game added to its appeal, motivating participants to pay closer attention and strategize effectively.

The positive outcomes of this study have significant implications for educational policy and practice, particularly in the realm of civic education. The effectiveness of the "Local Election Boardgame" in promoting political engagement suggests that serious games can be integrated into formal education systems to complement traditional teaching methods. This hybrid approach could make civic education more engaging, relevant, and effective for young learners who may otherwise be disinterested in conventional political topics (Levy and Akiva 2019). Educators and policymakers should consider the potential benefits of incorporating game-based learning into curricula, especially for subjects that are typically challenging to teach through conventional methods. The adaptability of the "Local Election Boardgame" to different regional contexts indicates that similar tools could be developed to address various educational needs across different cultural settings. Furthermore, this approach can help to bridge the gap between theoretical knowledge and practical understanding, providing students with the skills and confidence they need to actively participate in their communities.

While the findings of this study are promising, several limitations should be noted. First, the sample size was relatively small, which may limit the generalizability of the results. Future studies could expand the sample size and include participants from a wider range of regions to examine whether the findings hold across diverse demographics. Additionally, the study relied on self-reported data, which can sometimes be subject to biases, such as social desirability. Incorporating more objective measures of political engagement, such as behavioral observations or longitudinal tracking of civic participation, would provide a more comprehensive understanding of the impact of serious games. Further research could also explore the long-term effects of game-based learning on political engagement. While this study demonstrated immediate improvements in enthusiasm, cognitive understanding, and political efficacy, it remains unclear whether these gains will be sustained over time. Longitudinal studies could investigate how regular exposure to game-based civic education impacts participants' political attitudes and behaviors in the long run. Additionally, future research could examine how game design elements, such as narrative, interactivity, and feedback, contribute to the learning process, providing insights into how educational games can be optimized for different learning objectives.

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