



Developing Senior High School Students' Leadership Character through a Gamified Leadership Training Program at SMA Negeri 3 Kota Batam

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Abstract

This community service program aimed to develop students' leadership character through a Gamified Leadership Training program implemented at SMA Negeri 3 Kota Batam. The program employed a gamification-based experiential learning approach involving interactive activities such as Leadership Identity Card, Mission Possible, Leader Swap Role Play, Trust Tower Challenge, Leaderboard and Reward System, and Guided Reflection Sessions. The activities were designed to strengthen students' leadership competencies, including communication, teamwork, critical thinking, responsibility, decision-making, and problem-solving skills. The findings indicate that gamification created a more engaging, collaborative, and student-centered learning environment that increased students' participation and motivation throughout the training process. Furthermore, reflective sessions helped students connect leadership values learned during the games with real-life situations and social interactions. The program also demonstrated strong sustainability and scalability potential for implementation in other educational institutions as an innovative approach to character education and leadership development among secondary school students.

Keywords: Leadership, Gamification, Training

INTRODUCTION

Leadership is one of the essential competencies of the 21st century that is highly needed in facing the challenges of globalization, technological advancement, and the dynamics of modern society. Education today is not only focused on academic achievement but also on the development of students' character and social skills, including leadership, critical thinking, collaboration, and effective decision-making abilities. The OECD emphasizes that leadership is an important component in preparing young generations to become adaptive and innovative individuals capable of responding to future social and professional challenges (OECD, 2013). Furthermore, leadership is closely related to an individual's ability to influence, direct, and collaborate with others in achieving common goals (Nazifi et al., 2025).





In the context of secondary education, senior high school students are at a strategic psychosocial developmental stage for leadership character formation. During adolescence, students begin to build their self-identity, improve interpersonal communication skills, and develop social awareness toward their surrounding environment (Joshua LEKSANA et al., 2025; Saptari et al., 2024). According to Erikson's psychosocial development theory, adolescence represents the stage of identity versus role confusion, which significantly influences personality and character formation. Therefore, schools play an important role in providing learning environments that encourage students to develop responsibility, decision-making skills, and teamwork as part of leadership character development.

However, leadership character development in schools still faces several challenges. Classroom learning activities generally remain teacher-centered and focus more on cognitive achievement than on the development of students' soft skills. Leadership education is often delivered only through theoretical explanations or advice without providing students with opportunities to directly experience leadership practices in real situations. As a result, students tend to understand leadership concepts theoretically but are not yet able to apply them in daily life. In fact, leadership skills require continuous practice, experience, and social interaction in order to develop effectively.

To address these issues, innovative learning approaches are needed to enhance students' active involvement in character development processes. One of the approaches increasingly implemented in modern education is gamification. Gamification refers to the application of game elements in non-game contexts, including education, with the purpose of increasing learners' motivation, engagement, and learning experiences (Dubiaha et al., n.d.). This approach utilizes elements such as points, levels, badges, challenges, rewards, and leaderboards to create more interactive and enjoyable learning environments. Through gamification, learning activities become more participatory and contextual rather than monotonous and passive.

Various studies have shown that gamification positively affects students' motivation and engagement in learning activities. Hamari explain that the use of game elements in education can improve engagement, intrinsic motivation, and students' active participation in learning processes (Klock et al., 2023). In addition, Caponetto et al state that gamification enhances learning effectiveness because students feel more challenged and motivated to complete learning tasks



(Caponetto et al., 2016). In the context of character education, gamification enables students to learn through direct experience, teamwork, and simulations of real-life situations related to leadership values.

Gamification is also considered highly relevant to the characteristics of Generation Z, who tend to prefer interactive, visual, collaborative, and technology-based learning activities. Today's students are generally more engaged in learning environments that provide direct experiences and immediate feedback compared to conventional lecture-based methods. Therefore, gamified learning has become an effective strategy for increasing students' motivation and engagement in classroom activities (Sujarwo & Rejekiningsih, 2023). Through game-based activities, students can naturally and enjoyably learn about responsibility, strategy, communication, decision-making, and leadership.

In leadership character development, gamification provides contextual learning experiences through simulations and collaborative activities. Students are encouraged to act as leaders in various group challenges, solve problems collaboratively, and learn how to manage conflicts and team communication. This approach aligns with the concept of experiential learning, which emphasizes the importance of direct experience in the learning process. Effective learning occurs when learners experience, reflect upon, understand, and apply their experiences in real situations (Cordero-Brito, 2020; Fu, n.d.; Toda et al., 2019). Therefore, gamified leadership training can serve as an effective alternative learning method for developing leadership character among senior high school students.

In addition to enhancing leadership abilities, gamification can also support the development of other 21st-century skills such as critical thinking, creativity, collaboration, and communication. Research on gamification in education indicates that game-based learning improves students' problem-solving abilities, teamwork, and self-confidence in social interactions (Cordero-Brito & Mena, 2018). Therefore, the implementation of gamified leadership training is not only aimed at developing future leaders but also at supporting students' holistic competency development as adaptive and innovative future generations.

SMA Negeri 3 Kota Batam as one of the secondary educational institutions in Batam has considerable potential for developing students' character through various academic and non-academic activities. The school provides a learning environment that supports students' participation in organizations, extracurricular activities, and collaborative programs. However, leadership character





development among students still requires more innovative, interactive, and applicable approaches so that students can not only understand leadership concepts theoretically but also implement them in daily life. Therefore, training programs that integrate active learning and character strengthening are highly needed.

Based on the explanations above, this community service program is designed in the form of Gamified Leadership Training for students at SMA Negeri 3 Kota Batam. The program aims to develop students' leadership character through various interactive activities, educational games, leadership simulations, problem-solving activities, group communication exercises, and self-reflection sessions. Through the gamification approach, students are expected to improve their leadership abilities, teamwork, responsibility, interpersonal communication, and decision-making skills effectively. Thus, this program is expected to become an innovative model for character education development in secondary schools while supporting the formation of adaptive young generations with strong leadership qualities who are prepared to face future challenges.

COMMUNITY OVERVIEW

SMA Negeri 3 Kota Batam is one of the public senior high schools that accommodates students from diverse social, cultural, and academic backgrounds. This diversity creates a dynamic learning environment in which students actively participate in various academic and extracurricular activities. In addition to classroom learning, students are also involved in student organizations, leadership committees, competitions, and community-based programs that encourage collaboration and social interaction. Such activities provide valuable opportunities for students to develop communication skills, teamwork, responsibility, and self-confidence as important foundations of leadership character.

The students of SMA Negeri 3 Kota Batam possess significant potential to become future young leaders both within the school environment and in the broader community. Adolescents at the senior high school level are in a critical developmental stage where leadership values, social awareness, and decision-making abilities can be effectively nurtured. Many students demonstrate enthusiasm, creativity, and initiative in participating in school programs and collaborative activities. However, these potentials need to be supported through





structured and experiential leadership development programs that allow students to practice leadership directly rather than merely learning it theoretically.

Despite the existing potential, the school still faces challenges in providing practical and engaging leadership training programs for students. Leadership education activities are often limited to formal organizational duties or theoretical classroom discussions, which may not fully develop students' leadership competencies in real-life contexts. Therefore, this community service program is expected to address these needs through an applicative and interactive training model tailored to the characteristics of today's younger generation. By integrating gamification and experiential learning approaches, the program aims to create meaningful learning experiences that enhance students' motivation, participation, and leadership character development in a more enjoyable and effective manner.



Figure 1. Source: Community Service Team 2026

METHODOLOGY

The implementation method of this community service program employed a gamification-based experiential learning approach designed to actively engage students in leadership development activities. Experiential learning emphasizes learning through direct experience, reflection, and active participation, allowing students to internalize leadership values more effectively. Through interactive games, collaborative challenges, and reflective discussions, participants were encouraged to develop leadership competencies such as communication, teamwork, responsibility, critical thinking, and decision-making. The integration of





gamification elements such as points, challenges, rewards, and team competition also aimed to increase students' motivation and engagement throughout the training sessions.

The first stage of the program was the Ice Breaking activity entitled Leadership Identity Card. In this activity, participants created personal leadership identity cards containing their values, strengths, leadership qualities, and future aspirations as leaders. This activity aimed to help students recognize their personal potential and build self-awareness regarding their leadership characteristics. In addition, the session functioned as an introductory activity to create a positive and interactive learning atmosphere among participants. Through self-introduction and sharing sessions, students were encouraged to communicate confidently and appreciate the uniqueness of each individual within the group.

The second stage consisted of interactive leadership games designed to strengthen students' collaborative and problem-solving skills. In Mission Possible (Problem Solving Challenge), students worked in teams to solve school-related leadership case studies within a limited amount of time. This activity trained participants to think critically, manage time effectively, and make collective decisions under pressure. Furthermore, the Leader Swap Role Play activity required each team member to take turns acting as the leader while completing collaborative tasks. This role rotation system allowed students to experience different leadership responsibilities and understand the importance of adaptability, communication, and empathy in leading a team.

The next activity was the Trust Tower Challenge, in which participants were asked to build a tower using simple materials provided by the facilitators. This game was specifically designed to develop trust, teamwork, communication, creativity, and strategic decision-making among students. Participants had to collaborate effectively and distribute responsibilities within their teams to complete the challenge successfully. To increase participants' enthusiasm and competitiveness, the program also implemented a Leaderboard and Reward System. Teams earned points based on teamwork quality, leadership performance, creativity, and reflective participation throughout the activities. Rewards were given to teams demonstrating outstanding collaboration and leadership attitudes as a form of positive reinforcement.

The final stage of the program was the Guided Reflection Session, which played an important role in helping students connect their experiences during the





games with real-life leadership values. In this session, participants reflected on the challenges they faced, the strategies they used, and the lessons they learned throughout the training activities. Facilitators guided students to identify leadership values such as responsibility, cooperation, discipline, communication, trust, and problem-solving that emerged during the activities. Through this reflective process, students were expected to gain a deeper understanding of leadership concepts and become more prepared to apply these values in their school environment, organizations, and everyday social interactions.



Figure 2. Source: Community Service Team 2026

SUSTAINABLE RESULT AND POTENTIAL

The implementation of the Gamified Leadership Training program at SMA Negeri 3 Kota Batam is expected to generate sustainable impacts on students' character development, particularly in strengthening leadership competencies and other essential 21st-century skills. Through experiential and gamification-based learning activities, students are not only introduced to leadership concepts theoretically but are also given opportunities to directly practice communication, teamwork, decision-making, problem-solving, and responsibility in collaborative situations. The reflective learning process integrated into each activity is expected to help students internalize leadership values and apply them in their daily academic, organizational, and social lives. As a result, the program may contribute





to the formation of more confident, responsible, adaptive, and socially aware young leaders.

In terms of sustainability, the program has strong potential to be continuously implemented as part of the school's character education and student development activities. The gamification-based leadership training model is flexible and can be adapted into extracurricular programs, student council activities, leadership camps, orientation programs, and classroom-based character education initiatives. Since the activities utilize simple materials and collaborative learning strategies, the program can be conducted repeatedly without requiring expensive resources or complex technological support. Teachers, school counselors, and student organization mentors may also adopt and further develop the training modules as part of long-term leadership development programs within the school environment.

Furthermore, this program has the potential to create a positive school culture that promotes collaboration, active participation, empathy, and student engagement. Students who participate in the training are expected to become peer role models capable of encouraging positive behaviors among their classmates and organizational communities. The leadership experiences gained through the games and reflection sessions may also strengthen students' confidence in participating in competitions, organizational activities, social projects, and community service initiatives. Consequently, the program may contribute not only to individual character growth but also to the development of a more supportive and collaborative educational environment.

From a broader perspective, the Gamified Leadership Training model also possesses replication and scalability potential for implementation in other schools and educational institutions. The combination of experiential learning and gamification approaches aligns with the learning preferences of Generation Z students who tend to favor interactive, collaborative, and engaging learning experiences. Therefore, the program can serve as an innovative model for leadership and character education in secondary schools, particularly in developing students' soft skills and social competencies. Future program development may include digital gamification elements, inter-school leadership collaboration projects, or integration with entrepreneurship and community empowerment programs to further enhance students' leadership capacity and readiness for future challenges.





CONCLUSION

The Gamified Leadership Training program implemented at SMA Negeri 3 Kota Batam demonstrates that experiential learning combined with gamification can become an effective approach for developing students' leadership character and 21st-century competencies. Through interactive activities such as problem-solving challenges, role-play leadership simulations, collaborative games, and guided reflection sessions, students were actively engaged in meaningful learning experiences that encouraged communication, teamwork, responsibility, confidence, and decision-making skills. The integration of game elements such as points, challenges, rewards, and team competition also increased students' motivation and participation throughout the program.

The program not only provided theoretical understanding of leadership but also allowed students to directly experience leadership practices in collaborative and real-life contexts. The reflective activities helped students internalize important leadership values and connect them to their daily academic and social environments. Therefore, the program contributed positively to strengthening students' leadership awareness, interpersonal skills, and character development. In addition, the implementation of gamification created a more enjoyable and student-centered learning atmosphere that aligned with the characteristics and learning preferences of today's younger generation.

SUGGESTION

Based on the implementation of this program, several suggestions can be proposed for future development. First, schools are encouraged to integrate gamified leadership activities into regular student development programs such as extracurricular activities, student council training, leadership camps, and character education programs to ensure sustainability and long-term impact. Continuous leadership training activities may provide students with more opportunities to practice and strengthen their leadership competencies in various contexts.

Second, teachers, facilitators, and school counselors are recommended to adopt more experiential and interactive learning approaches in character education programs. The use of gamification strategies can help increase students' engagement, motivation, and active participation in learning activities. Future programs may also incorporate digital platforms or technology-based gamification tools to create more innovative and engaging learning experiences for students.

Finally, further community service programs and research are recommended to evaluate the long-term effectiveness of gamified leadership training in improving students' leadership competencies, social skills, and academic engagement. Similar programs may also be implemented in other schools or educational institutions to expand the impact of leadership character development among young generations.

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