

Elementary School Students' Emotional Engagement in Anti-Corruption Learning through Pappasang-Based Mandar EduMotion Game-Based Learning

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Abstract: Anti-corruption education at the elementary school level often encounters challenges in fostering students' affective internalization due to the predominance of conventional teacher-centered instructional approaches. This study aims to explore and provide an in-depth analysis of students' emotional engagement through the implementation of Mandar EduMotion Game-Based Learning (GBL), an instructional approach that integrates Pappasang, the traditional wisdom of the Mandar community, into anti-corruption education. A descriptive qualitative design supported by descriptive quantitative data was employed to strengthen methodological triangulation. The study involved 62 fifth-grade elementary school students, with 10 participants purposively selected as key informants for semi-structured interviews. Data were collected using an emotional engagement questionnaire and an interview protocol focusing on positive emotions, psychological comfort, learning enthusiasm, situational interest, and intrinsic motivation. Qualitative data were analyzed using an interactive model consisting of data condensation, data display, and conclusion drawing and verification. The findings demonstrate that the implementation of culturally integrated Game-Based Learning effectively fostered students' emotional engagement. Students reported greater enjoyment, reduced learning anxiety, and heightened interest in anti-corruption topics. They also expressed strong learning satisfaction and a willingness to participate in similar learning activities in the future. Furthermore, the integration of Pappasang functioned as a cultural anchor that transformed abstract moral values into meaningful and contextually relevant learning experiences.

Keywords: emotional engagement; game-based learning; Pappasang; anti-corruption education; Mandar local wisdom.

Abstrak: Pendidikan antikorupsi di tingkat sekolah dasar sering kali menghadapi tantangan dalam menumbuhkan internalisasi afektif siswa akibat dominasi pendekatan pembelajaran konvensional yang berpusat pada guru. Penelitian ini bertujuan untuk mengeksplorasi dan menganalisis secara mendalam keterlibatan emosional siswa melalui penerapan *Game-Based Learning* (GBL) Mandar EduMotion, sebuah pendekatan pembelajaran yang mengintegrasikan *Pappasang*—kearifan tradisional masyarakat Mandar—ke dalam pendidikan antikorupsi. Desain kualitatif deskriptif yang didukung oleh data kuantitatif deskriptif digunakan untuk memperkuat triangulasi metodologis. Penelitian ini melibatkan 62 siswa kelas lima sekolah dasar, dengan 10 peserta yang dipilih secara purposif sebagai informan kunci untuk wawancara semi-terstruktur. Data dikumpulkan menggunakan kuesioner keterlibatan emosional dan protokol wawancara yang berfokus pada emosi positif, kenyamanan psikologis, antusiasme belajar, minat situasional, dan motivasi intrinsik. Data kualitatif dianalisis menggunakan model interaktif yang

mencakup kondensasi data, penyajian data, serta penarikan dan verifikasi kesimpulan. Temuan penelitian menunjukkan bahwa penerapan Game-Based Learning yang terintegrasi secara budaya secara efektif menumbuhkan keterlibatan emosional siswa. Siswa melaporkan rasa senang yang lebih besar, berkurangnya kecemasan belajar, dan meningkatnya minat terhadap topik antikorupsi. Mereka juga mengungkapkan kepuasan belajar yang tinggi serta kesediaan untuk berpartisipasi dalam kegiatan pembelajaran serupa di masa mendatang. Selain itu, integrasi berfungsi sebagai jangkar budaya yang mengubah nilai-nilai moral abstrak menjadi pengalaman belajar yang bermakna dan relevan secara kontekstual.

Kata Kunci: *keterlibatan emosional; pembelajaran berbasis permainan pendidikan antikorupsi; kearifan lokal Mandar.*

Introduction

Corruption is not merely a legal offense; it has evolved into a pervasive challenge that undermines national development. Its consequences extend far beyond financial losses, affecting social progress, economic growth, and the quality of education in Indonesia. This problem is not confined to institutional settings but can also emerge from seemingly minor dishonest behaviors when values such as integrity, honesty, and responsibility are not effectively cultivated from an early age (Rinenggo et al., 2022).

Anti-corruption education is widely recognized as a preventive strategy for fostering honesty, responsibility, and integrity from the early years of formal education, with the ultimate goal of developing future generations who uphold strong ethical values and moral character (Bintang Auliya Tyananda et al., 2025). Despite its recognized importance, the implementation of anti-corruption education in elementary schools continues to face substantial challenges, particularly regarding the instructional approaches employed in classroom practice.

Traditional teacher-centered instruction often limits students' active participation, resulting in learning experiences that are less meaningful and insufficient to promote optimal student engagement (Reeve, 2012). Consequently, students' emotional engagement during the learning process tends to remain low, reducing the effectiveness of internalizing anti-corruption values. Moreover, instructional practices that primarily emphasize cognitive achievement while overlooking the affective dimension may diminish students' enthusiasm, sense of belonging toward the learning process, and their ability to construct meaningful interpretations of the moral values being taught (Skinner et al., 2009)..

With the rapid advancement of educational technology, Game-Based Learning (GBL) has gained increasing recognition as an instructional approach capable of creating interactive, contextualized, and learner-centered educational experiences. By incorporating game elements such as challenges, immediate feedback, reward mechanisms, and problem-solving activities, GBL promotes active student participation while fostering more meaningful learning experiences. A growing body of research indicates that game-based learning not only enhances academic achievement but also strengthens students' intrinsic motivation, overall engagement, and affective learning experiences throughout the instructional process (Li et al., 2024). Furthermore, a meta-analysis conducted by Sailer and Homner (2020) confirmed that gamification exerts a consistently positive influence on students' motivation and learning engagement across different educational levels.

Advances in educational technology have accelerated the adoption of interactive digital platforms to support the implementation of Game-Based Learning (GBL), with

Educaplay emerging as one of the most widely utilized instructional tools. The platform enables teachers to design diverse, interactive, and adaptive game-based learning activities that align with the characteristics and learning needs of twenty-first-century students. Beyond enhancing students' classroom participation and interest in learning, Educaplay facilitates higher levels of student engagement by providing enjoyable, collaborative, and learner-centered learning experiences (Wafiqni & Fitri Adelia, 2025).

Beyond technological innovation, the integration of local wisdom into educational practice has become an increasingly important strategy for creating contextualized and meaningful learning experiences. Incorporating local cultural values into classroom instruction not only strengthens students' cultural identity but also promotes greater participation, engagement, and relevance by connecting learning activities with their everyday lives (Minsih et al., 2025).

Among the various dimensions of student engagement, emotional engagement has been recognized as a critical determinant of successful learning outcomes. It encompasses students' feelings of enjoyment, enthusiasm, comfort, interest, and willingness to remain actively involved in the learning process. According to Fredricks et al. (2004), student engagement comprises three interrelated dimensions-behavioral, cognitive, and emotional engagement-with the emotional dimension playing a particularly significant role in sustaining students' long-term involvement and commitment to learning.

Recent studies have consistently demonstrated that Game-Based Learning (GBL) exerts a significant positive influence on students' emotional engagement. A meta-analysis conducted by Sailer and Homner (2020) reported that gamification enhances students' enjoyment, learning motivation, and overall engagement throughout the instructional process. Likewise, Xiao and Hew (2024) found that personalized gamification designs can foster greater student participation and enrich learners' emotional experiences, although the magnitude of these effects depends on the quality and characteristics of the instructional design employed.

Although a substantial body of research has established the effectiveness of Game-Based Learning in improving students' motivation, participation, and overall engagement in school settings, studies integrating this pedagogical approach with local cultural wisdom in anti-corruption education at the elementary school level remain limited. Furthermore, the dimension of students' emotional engagement within anti-corruption learning contexts has received relatively little scholarly attention. This gap highlights the need to develop more contextualized, holistic, and culturally responsive instructional models that not only facilitate meaningful learning experiences but also strengthen character development from an early age (Ruiz et al., 2024).

In response to these challenges, this study introduces a novel instructional approach through the development of the Mandar EduMotion Game-Based Learning model grounded in Pappasang, the indigenous wisdom of the Mandar community. Unlike conventional anti-corruption instruction that primarily emphasizes cognitive learning outcomes, this approach is specifically designed to foster students' emotional engagement throughout the learning process. The novelty of this study lies in its holistic integration of game-based learning principles, local cultural values, and anti-corruption education into a single pedagogical framework that promotes both character development and meaningful learning experiences.

Accordingly, this study aims to examine elementary school students' emotional engagement during anti-corruption learning implemented through the Mandar EduMotion

Game-Based Learning model based on Pappasang and delivered using the Educaplay platform. The findings are expected to contribute to the advancement of innovative instructional strategies that extend beyond improving conceptual understanding by cultivating students' emotional involvement, thereby supporting the internalization of integrity-related values within authentic and culturally relevant learning contexts.

Method

Research Design and Context

This study employed a qualitative descriptive design to investigate elementary school students' emotional engagement during anti-corruption learning implemented through the Mandar EduMotion Game-Based Learning approach integrating Pappasang, a traditional Mandar cultural wisdom. A qualitative descriptive approach was selected because it enables researchers to obtain comprehensive insights into students' lived experiences, perceptions, and emotional responses based on their direct participation throughout the learning process. By emphasizing naturalistic inquiry, this design facilitates an in-depth understanding of the phenomenon while maintaining close alignment between empirical evidence and its contextual interpretation (Villamin et al., 2025). Figure 1 illustrates the theoretical intervention framework and the integration of mixed-methods data collection employed throughout the study.



Figure 1. *Pedagogical Framework of the Learning Activities and Data Collection Triangulation*

As illustrated in Figure 1, the research procedure was systematically organized into four sequential phases. The process began with a pre-intervention stage aimed at introducing students to fundamental anti-corruption concepts through conventional instructional activities. This was followed by the implementation of the Mandar EduMotion digital game-based learning intervention, during which anti-corruption content was delivered through interactive gameplay. The subsequent phase focused on reinforcing students' affective learning experiences by integrating the cultural values embedded in Pappasang, thereby contextualizing moral concepts within the learners' local cultural framework. Finally, the study concluded with a comprehensive data collection phase, in which questionnaire responses and semi-structured interviews were administered to enable methodological triangulation and provide a more comprehensive understanding of students' emotional engagement throughout the learning process.

Participants and Informants

The study was conducted at SD Negeri 18 Deteng-deteng and SD Negeri 6 Kampung Baru, both located in Majene Regency, West Sulawesi, Indonesia. The instructional intervention involved 62 fifth-grade elementary school students from the two participating schools. From this population, 10 students were purposively selected as key informants for the qualitative phase of the study.

Purposive sampling was employed to identify participants who had actively engaged in the complete sequence of learning activities and were willing to provide detailed reflections

on their learning experiences. This sampling strategy enabled the researchers to recruit information-rich cases, thereby facilitating an in-depth exploration of students' emotional engagement throughout the implementation of the Mandar EduMotion Game-Based Learning intervention (Ahmad & Wilkins, 2025)..

Instruments and Data Collection Procedure

Qualitative data were collected through semi-structured interviews with students, as illustrated in Figure 2. The interviews were guided by a protocol developed from the key dimensions of emotional engagement. These dimensions included students' emotional responses during the learning activities, their enthusiasm for learning, perceived comfort throughout the instructional process, interest in the learning content, emotional experiences while participating in the game-based activities, and their willingness to engage in similar learning experiences in the future..



Figure 2. Semi-Structured Interview Conducted with a Research Participant Following the Learning Session

As illustrated in Figure 3, local wisdom was embedded into the game through moral messages derived from Pappasang and contextual problem-solving scenarios that required students to respond interactively. Upon completing the game-based learning activities, in-depth semi-structured interviews were conducted immediately within the school setting to ensure that students' emotional responses and lived learning experiences remained vivid and could be articulated comprehensively.



Figure 3. The User Interface of a Pappasang-Based Corruption Challenge in the Mandar EduMotion via Educaplay.

Conducting the interviews immediately after the intervention enabled the researchers to capture authentic reflections while minimizing recall bias. The semi-structured interview format also provided sufficient methodological flexibility to probe participants' responses in greater depth while maintaining alignment with the predetermined research objectives (Adeoye-Olatunde & Olenik, 2021).

Data Analysis and Trustworthiness

Qualitative data were analyzed using the interactive analytical framework proposed by Miles, Huberman, and Saldaña (2023), which comprises three iterative stages: data condensation, data display, and conclusion drawing and verification. During the data condensation phase, interview recordings were transcribed, systematically reviewed, coded, and organized into thematic categories representing students' emotional engagement throughout the learning process.

The resulting qualitative data were then presented as thematic narratives to facilitate the interpretation of relationships across emerging themes. In the final stage, conclusions were developed and continuously verified through iterative comparisons across participants to ensure the consistency and credibility of the findings. Throughout the analytical process, coding procedures and theme development were conducted systematically and rigorously to ensure that the interpretations accurately reflected the participants' emotional learning experiences while maintaining analytical trustworthiness (Coates et al., 2021).

The trustworthiness and validity of the findings were strengthened through member checking, whereby the researchers returned the interview transcripts and preliminary interpretations to several student participants for confirmation. This procedure was undertaken to ensure that the researchers' interpretations accurately reflected the participants' lived experiences and perceptions throughout the learning process. In addition, source triangulation was employed by systematically comparing evidence obtained from the semi-structured interviews with the quantitative descriptive results derived from the questionnaire. The convergence of these complementary data sources enhanced the consistency, credibility, and overall rigor of the study, thereby increasing the trustworthiness of the research findings (Erdmann & Potthoff, 2023).

Results and Discussion

Results

The data analysis adopted a sequential explanatory mixed-methods approach, in which descriptive quantitative data collected from 62 elementary school students served as the initial basis for examining the overall level of students' emotional engagement. These quantitative findings were subsequently enriched through qualitative analysis using the interactive model proposed by Miles, Huberman, and Saldaña, based on in-depth interviews with 10 purposively selected key informants. Integrating these two sources of evidence enabled a more comprehensive understanding of students' affective experiences during the implementation of the Mandar EduMotion Game-Based Learning intervention. Figure 1 presents the mean scores across the five principal dimensions of students' emotional engagement.

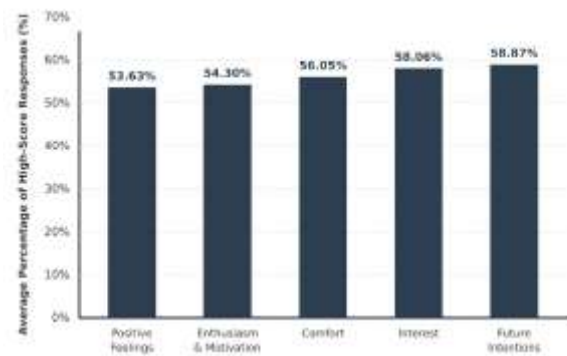


Figure 4. *The Distribution of Students' High-Score Responses across Five Emotional Engagement Dimensions (n = 62)*

As illustrated in Figure 4, all dimensions of emotional engagement demonstrated consistently high levels, with each indicator exceeding 53%. The Sustained Intention dimension recorded the highest mean score (58.87%), followed closely by Interest in the Learning Material (58.06%). These descriptive findings suggest that the implementation of the Pappasang-based Mandar EduMotion platform did more than elicit temporary positive emotions; it fostered enduring psychological engagement that encouraged students to remain interested in and committed to subsequent learning activities.

To explain the underlying patterns reflected in these quantitative results, the qualitative data were systematically condensed and analyzed to establish a transparent analytical audit trail. Through an iterative process of coding, categorization, and thematic abstraction, the interview transcripts were examined to identify the conceptual foundations underpinning the observed statistical trends. The progression from raw interview excerpts to initial codes, categories, and overarching themes is presented in the thematic analysis matrix shown in Table 1.

Table 1. *Qualitative Thematic Condensation Matrix of Students' Emotional Engagement*

Core Dimension	Initial Codes / Keywords	Core Representative Quotes	Final Main Themes
Student Feelings	Exciting classroom atmosphere Boredom reduction/mitigation Gaming-like experience Affective transition (from anxiety to joy)	"The learning process was very exciting, so I didn't feel bored at all." (R3) "I really like it because learning feels just like playing a game." (R7) "At first, I was a bit confused and slightly nervous, but after playing, I felt so happy." (R1)	Students' Positive Feelings During the Learning Process
Enthusiasm	Enhanced learning enthusiasm Learning persistence Intrinsic motivation to complete tasks	"I became more enthusiastic because learning felt like playing a game." (R5) "I didn't feel bored at all; in fact, I wanted to keep going until the end." (R2)	Increased Enthusiasm and Learning Motivation
Comfort	Relaxed/casual classroom atmosphere Reduction of psychological tension Physical alertness (prevention of drowsiness)	"The learning process was relaxed, so I felt highly comfortable." (R8) "I didn't feel tense or drowsy like I usually do in conventional classes." (R6)	Creation of a Comfortable Learning Environment

Interest	Attractiveness of game-based materials Stimulation of epistemic curiosity Media-driven value contextualization	“The learning material became much more interesting because it was presented through a game.” (R4) “It triggered my curiosity, and I wanted to keep playing until the game was finished.” (R9)	Increased Interest in the Learning Materials
Future Intentions	Expectation of method replication High learning satisfaction Long-term emotional attachment	“I want to learn like this again in the future because it was so much fun.” (R10) “If possible, I hope we can use this method continuously because it is very enjoyable.” (R2)	Emergence of Future Intentions for Learning Method Replication

To provide a more detailed representation of students' responses, the researchers further summarized the frequency distribution of the highest response category for each questionnaire item, where a score of 4 indicated Strongly Agree (Table 2). This tabulation offers a more granular view of the extent to which students expressed positive emotional engagement across the measured indicators. Furthermore, the distribution serves as an empirical validation tool by examining the consistency between the collective response patterns obtained from the questionnaire and the subjective accounts elicited through the semi-structured interviews.

Table 2. *Quantitative Descriptive Distribution of the Highest-Score Responses*

No .	Theme / Emotional Engagement Dimension	Item Code	Questionnaire Item Statement	High-Score Frequency (f)	Item Percentage (%)	Mean Theme Percentage (%)
1	Students' Positive Feelings During the Learning Process	M1	Learning with <i>Mandar EduMotion</i> elicits smiles and joyful laughter in the classroom.	35	56.45%	53.63%
		M6	The classroom environment feels highly engaging and less rigid since utilizing the <i>Mandar EduMotion</i> game.	34	54.84%	
		M7	This game renders the classroom atmosphere lively, exciting, and completely free of boredom.	42	67.74%	
		M10	This game-based approach is considerably more captivating than the conventional learning methods I usually undergo.	22	35.48%	
2	Increased Enthusiasm and Learning Motivation	M2	The instructional time passes remarkably fast due to the exciting learning atmosphere.	44	70.97%	54.30%
		M9	This learning method keeps me fully enthusiastic about listening to the teacher's explanations from the beginning to the very end of the session.	30	48.39%	

3	Creation of a Comfortable Learning Environment	Y4	I listen to the embedded moral messages at the end of the game with absolute earnestness out of curiosity regarding their meaning.	27	43.55%	56.05%
		M3	I do not experience anxiety or intellectual strain when answering the evaluative challenges within this game.	30	48.39%	
		M4	I feel entirely relaxed and free of tension when the teacher instructs using this game.	30	48.39%	
		M5	I feel highly comfortable because the teacher facilitates the game with a supportive, warm, and humorous demeanor.	42	67.74%	
		M8	Learning through play keeps my body refreshed and thoroughly eliminates classroom drowsiness.	37	59.68%	
4	Increased Interest in the Learning Materials	Y1	I am profoundly interested in the integrity and anti-corruption themes integrated into this game.	41	66.13%	58.06%
		Y2	My cognitive focus remains firmly locked on the lesson because the core topic highly captivates my attention.	34	54.84%	
		Y3	I am driven to explore more localized cultural wisdom narratives after completing this instructional game.	33	53.23%	
5	Emergence of Future Intentions for Method Replication	Y9	I am highly motivated to continue learning about anti-corruption principles if the instructional delivery remains this profoundly meaningful.	31	50.00%	58.87%
		Y10	I strongly hope the instructor will reuse the <i>Mandar EduMotion</i> game in subsequent class sessions at school.	42	67.74%	

Interview Findings Analysis

Students' Positive Feelings During Learning

As presented in Table 2, the Students' Positive Feelings dimension achieved an average percentage score of 53.63%, indicating a consistently favorable emotional response toward the learning intervention. The highest level of agreement was observed for Item M7 ("The game created an enjoyable and lively classroom atmosphere that was not boring"), with 67.74% of students ($n = 42$) selecting the highest response category (Strongly Agree). This quantitative pattern closely corresponded with the qualitative findings summarized in Table 1, where participants consistently described the learning experience as enjoyable, engaging, and free from the monotony commonly associated with conventional classroom instruction.

One participant commented:

"The lesson was really fun, so I never felt bored." (Participant R3)

Another student similarly stated:

"I liked it because learning felt like playing a game." (Participant R7)

Beyond generating enjoyment, the interview data further revealed that the game-based learning (GBL) intervention effectively transformed students' initial feelings of uncertainty and anxiety into positive emotional experiences as the learning activities progressed. This finding suggests that the interactive characteristics of the learning environment not only enhanced enjoyment but also facilitated emotional adaptation throughout the instructional process.

As expressed by one participant:

"At first I was a little confused and nervous, but after playing the game, I became happy." (Participant R1)

Increased Enthusiasm and Learning

As illustrated in Figure 1, the Enthusiasm and Learning Motivation dimension achieved an average maximum percentage score of 54.30%, reflecting a high level of students' motivational engagement throughout the intervention. A closer examination of the item-level responses in Table 2 revealed that Item M2 ("The lesson seemed to pass very quickly because the learning activities were enjoyable") received the highest level of agreement within this dimension, with 70.97% of respondents ($n = 44$) selecting Strongly Agree. This finding suggests that the game-based learning environment effectively sustained students' attention and created an immersive learning experience that reduced their perception of time during classroom activities.

The quantitative findings were further corroborated by the interview data, in which participants consistently described heightened enthusiasm and a strong willingness to remain engaged until the completion of the learning activities. These narratives indicate that the interactive nature of the Mandar EduMotion platform stimulated students' intrinsic motivation and encouraged sustained participation throughout the instructional process.

One participant remarked:

"I became much more enthusiastic because learning felt like playing a game." (Participant R5)

Another participant stated:

"I never felt bored; instead, I wanted to keep playing until the activity was finished." (Participant R2):

Creation of a Comfortable Learning Environment

The Comfort During the Learning Process dimension achieved a high average percentage score of 56.05%, indicating that students generally perceived the learning environment as psychologically supportive and conducive to active participation. As shown in Table 2, the strongest agreement within this dimension was recorded for Item M5 ("I felt comfortable because the teacher guided us through the game in a friendly and cheerful

manner"), with 67.74% of respondents ($n = 42$) selecting Strongly Agree. These findings underscore the important role of the teacher's supportive facilitation in fostering a positive emotional climate throughout the learning activities.

The interview data further reinforced these quantitative findings. Participants consistently described the classroom atmosphere as relaxed, enjoyable, and free from the pressure often associated with conventional instruction. Such responses suggest that the game-based learning environment promoted not only emotional comfort but also reduced feelings of tension and learning fatigue, thereby enabling students to engage more confidently in the instructional process.

One participant explained:

"The lesson felt relaxed, so I was comfortable throughout the activity." (Participant R8)

Another student commented:

"I didn't feel nervous or sleepy like I usually do during regular lessons." (Participant R6):

Increased Interest in Learning Materials

The quantitative findings presented in Table 2 indicate that students demonstrated a consistently high level of interest in the instructional content, with this dimension achieving an average percentage score of 58.06%. Notably, Item Y1, which specifically assessed students' interest in learning about honesty and anti-corruption values, received the highest level of agreement, with 66.13% of respondents ($n = 41$) selecting Strongly Agree. These findings suggest that the instructional approach successfully stimulated students' curiosity and encouraged greater engagement with the moral concepts presented during the learning activities.

Evidence from the qualitative interviews further substantiated these results. As summarized in Table 1, participants consistently attributed their heightened interest to the interactive, game-based presentation of the learning materials. Rather than perceiving the lesson as a conventional moral instruction, students experienced the content as an enjoyable and exploratory activity, which naturally fostered curiosity and sustained their engagement throughout the session.

One participant stated:

"The learning materials became much more interesting because they were presented like a game." (Participant R4)

Another participant remarked:

"It made me curious, and I wanted to keep playing until I finished." (Participant R9)

Future Intentions for Method Replication

Among the five dimensions of emotional engagement, Continued Learning Intention recorded the highest overall score, achieving an average percentage of 58.87%. As shown in Table 2, Item Y10 ("I hope my teacher will use the Mandar EduMotion game again in future

classroom lessons") received the strongest endorsement, with 67.74% of respondents (n = 42) selecting Strongly Agree. This finding indicates that the positive learning experiences generated by the intervention extended beyond the immediate instructional session, fostering students' willingness to engage in similar learning activities in the future.

The qualitative evidence further reinforced this pattern. Interview participants consistently expressed a strong preference for experiencing future lessons through the same game-based approach, emphasizing that the interactive learning environment made classroom activities both enjoyable and motivating.

One participant stated:

"I want to learn this way again because it was really enjoyable." (Participant R10)

Another participant commented:

"If possible, I hope we can keep learning like this because it is fun." (Participant R2)

Beyond the enjoyment associated with the game mechanics, the quantitative findings also revealed evidence of sustained moral engagement. Specifically, responses to Item Y9 indicated that exactly 50.00% of the students expressed a strong intention to continue learning about anti-corruption values and ethical conduct. This result suggests that the intervention not only promoted students' enthusiasm for the instructional method itself but also strengthened their long-term interest in exploring the moral principles embedded within the learning content.

Discussion

The integration of quantitative and qualitative evidence in this study demonstrates that the implementation of Mandar EduMotion Game-Based Learning grounded in the local wisdom of Pappasang constitutes an effective pedagogical intervention for strengthening elementary school students' emotional engagement in anti-corruption education. The convergence of descriptive statistical findings with in-depth interview data indicates that the intervention generated positive emotional experiences characterized by enjoyment, enthusiasm, psychological comfort, heightened interest in learning materials, and a sustained willingness to participate in similar learning activities. Collectively, these findings suggest that emotional engagement emerged not as an incidental outcome but as a central consequence of the learning design, which combined game mechanics, culturally meaningful content, and interactive digital media. Such evidence reinforces the proposition that meaningful learning environments should foster affective participation alongside cognitive development, particularly within character education contexts..

Affective Dynamics and the Emergence of Positive Emotions

Affective Dynamics and the Emergence of Positive Emotions

The emergence of positive affect, particularly the high level of enjoyment reflected in the strong agreement with Item M7 (67.74%), represents a fundamental indicator of students' emotional engagement. From a theoretical perspective, positive emotions function as cognitive facilitators that reduce learners' psychological resistance toward instructional content perceived as complex, abstract, or morally demanding. The qualitative finding from Informant

R1, who described a transition from initial confusion and nervousness to feelings of enjoyment, further suggests that the Educaplay-based learning environment effectively alleviated early psychological discomfort and fostered a more supportive emotional climate for learning.

These empirical findings provide direct support for the argument advanced by Reeve (2012), who criticized conventional teacher-centered instruction for limiting students' active participation and, consequently, weakening the internalization of moral values. Within such instructional environments, students frequently assume passive roles that restrict opportunities for meaningful emotional involvement. Likewise, Skinner et al. (2009) emphasized that learning experiences dominated by one-way cognitive knowledge transmission, while neglecting affective dimensions, often result in boredom, disengagement, and reduced emotional investment among young learners. The findings of the present study suggest that integrating game-based learning with culturally relevant content can effectively address these limitations by cultivating positive emotional experiences that support deeper engagement with anti-corruption education.

Mandar EduMotion effectively addressed this affective gap by creating a learning environment that fostered positive emotional experiences alongside cognitive development. These findings are consistent with the Control-Value Theory of Achievement Emotions (Pekrun, 2021), which posits that students' positive emotions emerge when learning activities are perceived as both valuable and manageable. The present results also corroborate the meta-analytic evidence reported by Sailer and Homner (2020), demonstrating that well-designed digital gamification significantly enhances learners' enjoyment, intrinsic motivation, and emotional engagement compared with conventional instructional approaches.

Flow State and the Enhancement of Intrinsic Motivation

The remarkably high level of student agreement within the enthusiasm dimension, particularly for Item M2 (70.97%), indicating that class time seemed to pass very quickly, provides compelling evidence that many participants experienced a flow state during the learning activities. A flow state refers to an optimal psychological condition in which individuals become fully immersed, highly focused, and deeply engaged in an activity, often resulting in a positive distortion of time perception. The combination of progressively challenging tasks, immediate feedback, and digital reward mechanisms embedded within the Educaplay-based Mandar EduMotion platform appears to have successfully fostered elementary students' sense of autonomy and sense of competence throughout the learning process.

From the perspective of Self-Determination Theory (Ryan & Deci, 2020), satisfaction of these fundamental psychological needs is a critical mechanism for transforming externally driven participation into intrinsic motivation. Consequently, students' enthusiasm was no longer sustained merely by external demands or compliance with classroom expectations but was increasingly driven by the inherent satisfaction derived from interacting with the learning environment. This interpretation is consistent with the findings of Li et al. (2024) and Meng et al. (2024), who reported that well-designed game-based learning environments consistently promote stronger intrinsic motivation, sustained learning engagement, and greater learning

persistence, thereby reducing students' tendency to disengage before completing academic tasks.

Psychological Safety and the Reduction of Learning Anxiety

The quantitative findings indicating relatively low levels of fear and anxiety when students responded to learning tasks (Items M3 and M4 = 48.39%) provide further evidence that the intervention successfully established an affectively supportive classroom environment. Anti-corruption education has often been criticized for relying on rigid, didactic, and fear-oriented instructional practices, which may inadvertently create emotional barriers that hinder children's moral development (Rinenggo et al., 2022). In contrast, the digitally supported joyful learning approach implemented through *Mandar EduMotion*, together with the teacher's warm and encouraging facilitation (Item M5 = 67.74%), fostered a psychologically safe learning environment in which students felt comfortable participating without fear of making mistakes.

Such an emotionally secure environment is particularly important because the absence of excessive pressure and fear of failure enables students to allocate their cognitive resources more efficiently. When anxiety is minimized, working memory can function more effectively, as learners are less burdened by extraneous cognitive load, allowing greater attention to be directed toward meaningful learning activities. Furthermore, the positive interpersonal interactions characterized by humor, encouragement, and mutual respect between teachers and students observed in this study reinforce the arguments advanced by Resa et al. (2025) and Baptista and Oliveira (2019). These scholars emphasize that although digital technologies have become integral to twenty-first-century education, their pedagogical effectiveness depends substantially on being complemented by a humanistic instructional approach that nurtures students' emotional well-being, psychological security, and overall learning comfort.

Pappasang as a Cultural Anchor and the Development of Meaningful Learning

The substantial increase in students' interest in anti-corruption learning, reflected in the 66.13% agreement rate for Item Y1, indicates that the contextualization of curriculum content through culturally embedded digital media was highly effective. Given the developmental characteristics of elementary school learners, abstract moral concepts require concrete representation and contextual experiences to become meaningful. Fundamental values such as integrity, honesty, and social responsibility are often difficult for young learners to comprehend when presented solely through abstract definitions or didactic explanations. By embedding the moral wisdom of *Pappasang*, a traditional *Mandar* cultural heritage, within the narrative structure of the educational game, *Mandar EduMotion* functioned as a cultural anchor that connected formal anti-corruption instruction with the social values students encounter in their families and communities.

This pedagogical approach aligns closely with the principles of Culturally Responsive Teaching (Gay, 2018), which advocate integrating learners' cultural backgrounds into instructional design to enhance relevance and engagement. Likewise, Minsih et al. (2025) argued that local cultural knowledge serves as a powerful educational resource capable of increasing students' personal relevance, contextual understanding, and meaningful learning experiences. Within this framework, anti-corruption values are no longer perceived as externally imposed moral prescriptions but instead become internalized as integral

components of students' cultural identity and personal responsibility. Consistent with the findings of Hardiansyah et al. (2024) and Bintang et al. (2025), the effectiveness of anti-corruption character education depends not only on transmitting ethical knowledge but also on cultivating students' emotional attachment to values of integrity. Such affective internalization provides a stronger foundation for the development of enduring moral character and strengthens children's resilience against corruptive behaviors from an early age.

Sustaining Emotional Engagement Beyond the Novelty Effect

A persistent challenge in the adoption of educational technology is the novelty effect, whereby students' motivation and engagement increase temporarily because of the perceived newness of a learning tool but gradually decline as its novelty diminishes. The present findings suggest that Mandar EduMotion successfully extended students' engagement beyond this initial phase. This is evidenced by the 67.74% of participants who expressed a desire to experience the same learning approach in future lessons (Item Y10), together with 50.00% who indicated a strong intention to continue learning about anti-corruption values (Item Y9). These findings indicate that the emotional engagement fostered through the intervention evolved into a more sustainable form of learning engagement rather than remaining a short-lived response to technological novelty.

From a motivational perspective, the intervention appears to have transformed situational interest, which is typically triggered by immediate learning experiences, into a more enduring individual interest toward anti-corruption education. This transition is particularly important because individual interest is associated with long-term motivation, voluntary engagement, and sustained commitment to learning. Longitudinal evidence reported by Xiao and Hew (2024) and Ruiz et al. (2024) similarly demonstrates that deep learning satisfaction generated through positive emotional experiences during game-based learning is one of the strongest predictors of students' continued participation and behavioral commitment to future learning activities. Accordingly, Mandar EduMotion should not be viewed merely as a recreational digital learning tool. Rather, it represents a holistic pedagogical model that integrates cognitive learning, educational technology, and culturally grounded affective experiences to strengthen character education and promote enduring emotional engagement among elementary school students.

Synthesis of the Discussion

Overall, the findings demonstrate that the implementation of Mandar EduMotion Game-Based Learning integrated with the local wisdom of Pappasang effectively fostered students' emotional engagement through five interrelated dimensions: the emergence of positive emotions, enhanced enthusiasm and intrinsic motivation, the establishment of psychological comfort during learning, increased interest in instructional content, and a sustained willingness to participate in similar learning experiences. Rather than functioning as isolated outcomes, these dimensions interacted synergistically to create a holistic and emotionally meaningful learning experience for elementary school students.

The convergence of quantitative and qualitative evidence further indicates that the use of digital game-based learning extended beyond merely increasing students' classroom participation. The interactive learning environment generated enjoyable educational

experiences that enabled students to establish stronger emotional connections with both the instructional process and the anti-corruption content. Moreover, embedding the cultural values of Pappasang within the learning activities enriched the instructional experience by providing culturally authentic and contextually relevant learning opportunities. This integration allowed students to relate abstract ethical concepts to familiar social and cultural values, thereby facilitating deeper meaning-making and supporting the development of anti-corruption character.

Taken together, these findings suggest that Mandar EduMotion Game-Based Learning represents more than an instructional innovation aimed at improving academic achievement. It constitutes a comprehensive pedagogical approach that intentionally cultivates students' affective development by strengthening emotional engagement throughout the learning process. Such emotional involvement provides an essential foundation for the successful implementation of anti-corruption education in elementary schools, as positive emotional experiences encourage students to become more receptive to, actively engage with, and ultimately internalize the values of honesty, integrity, and social responsibility in their everyday lives.

Limitations

Despite providing meaningful theoretical and practical contributions to the development of integrity-based character education, this study has several limitations that should be acknowledged. First, the research was conducted within a relatively limited geographical context, involving only two elementary schools in Majene Regency and a total of 62 student participants. Consequently, the findings should be interpreted with caution when considering their transferability to broader educational settings or national contexts. Future studies involving larger and more diverse samples across different regions are needed to strengthen the external validity of the proposed learning model.

Second, students' affective responses were assessed through questionnaires and semi-structured interviews administered shortly after the completion of the game-based learning intervention. Although this approach effectively captured participants' immediate emotional experiences, it was insufficient to determine the long-term stability of emotional engagement or the sustained internalization of anti-corruption values once the novelty effect associated with the digital learning environment had diminished. Therefore, future research employing longitudinal designs is recommended to examine whether the positive emotional experiences observed in this study translate into enduring character development and persistent anti-corruption behaviors over time.

Conclusion

Based on the integrated analysis of quantitative and qualitative evidence, this study concludes that the implementation of Mandar EduMotion Game-Based Learning, grounded in the local wisdom of Pappasang, is highly effective in fostering strong and sustainable emotional engagement among elementary school students in anti-corruption education. The intervention promoted multiple dimensions of emotional engagement, including positive emotional experiences, heightened enthusiasm, the emergence of a flow state, psychological comfort during learning, increased situational interest in integrity-related content, and a sustained willingness to participate in similar learning activities in the future.

Furthermore, the incorporation of Pappasang, as an expression of Mandar cultural wisdom, functioned as a cultural anchor that transformed abstract moral principles into authentic, contextualized, and meaningful learning experiences. By connecting anti-corruption values with students' sociocultural backgrounds, the learning model facilitated deeper emotional attachment and more meaningful internalization of integrity-related values.

Taken together, these findings suggest that Mandar EduMotion Game-Based Learning extends beyond its role as a digital instructional medium and represents a holistic pedagogical framework that integrates educational technology, game-based learning principles, affective engagement, and local cultural values. Accordingly, this model offers considerable potential as an innovative approach for strengthening character education and cultivating integrity from an early age, while providing a practical reference for the development of culturally responsive anti-corruption education in elementary schools.

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