Emotional Ludo game media to improve students' emotional intelligence: a 4D research and development study

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Article Info

ABSTRACT

This study was conducted with the aim of developing guidance and counseling media in the form of a ludo game with emotional themes. The research methods used in this study were Research and Development (R&D). The 4-D model development concept, which consists of four stages of development such as Define, Design, Development, and Dissemination. The participants in this study were 8 students from class XI of SMAN 1 Baros who had low levels of emotional intelligence. Data collection techniques were performed using a questionnaire instrument. The feasibility test of the developed product obtained a score of 94% in the material feasibility test, 81% in the language feasibility test, and 91.66% in the media expert feasibility test, resulting in an average score of 91% or falling into the "Highly Appropriate" category. Furthermore, based on the students' responses to the game media, the score was 84%, which falls into the "excellent" category. This indicates that the development of the emotional Ludo game media product can be implemented for users. The components of the product package include a board game, four versions of game cards, a game guidebook, dice, a dice shaker, game pieces, and game packaging

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Introduction

Emotional intelligence has an important role in the personal and social development of students. It enables students to recognize, comprehend, and regulate their own emotions and the emotions of others (Munawaroh, 2023; Romiaty & Rahimi, 2020). Individuals with high emotional intelligence are more likely to be capable of handling stress better, empathize, think more critically, and have positive relationships with others, including the ability to form healthy social relationships (Hajjah, Munawaroh, Yuniasti, Wulandari, & Hidayati, 2022; Khalillah, Damayanti, Agustriyani, & Susanto, 2025; Rasyidin & Flurentin, 2024). For learners, emotional intelligence facilitates optimal learning processes in the form of academic resilience and the development of learning motivation (Iswandi et al., 2025; Rahman, Putra, & Ningsih, 2024). Emotional intelligence is one of the aspects that can be implemented in character development programs for learners in educational institutions (Syaifuddin, 2025). Therefore, in an ideal condition, emotional intelligence of each student is expected to be sufficient to respond to all challenges faced in the classroom at school and their social environment.

However, the reality on the ground indicates a significant problem. A large-scale study involving 1,013 adolescents in Java and Bali with aged span across 12-19 years, found that majority of the adolescents posssessed

low to moderate emotional intelligence (Basaria, 2019). This finding is corroborated by numerous regional studies which also states similar report, that the dominant level of emotional intelligence of adolescents were within the low to moderate categories (Anggraini, Helma, & Imelda Usman, 2023; Darmawati & Yuniar, 2018; Ervina & Nurhandayani, 2024; Fitria, Harahap, & Agustina, 2022). Furthermore, based on the Need Assessment that has been conducted at the research location, SMAN 1 Baros, it shows that 6% of students are in the low category, 59% in the moderate category, and 35% in the high category of emotional intelligence. This condition leads to various problems that may be correlating to their emotional intelligence, such as lower motivation (Iswandi et al., 2025), conflicts among peers or lack of prosocial skills (Syafitri & Taufik, 2024), lack of discipline among students (Alfianti, Rufaedah, & Mujani, 2025), and increased stress level (Hidayanti et al., 2022).

In addressing the challanges, guidance and counseling teachers play a strategic role. One of the inteventions that can be provided is intensive and reflective group counseling that utilize conventional media such as lectures, posters, and powerpoint (Luthfiani, 2017; Masyidaya, 2021; Munawaroh, 2023). However, preliminary study at SMAN 1 Baros indicate that the methods used in the group guidance service are still conventional, such as lectures, group discussions, and the use of posters and PowerPoint presentations. The finding resulting group guidance services perceived as monotonous and less engaging, resulting un suboptimal effectiveness. A significant gap for more innovative, interactive and enjoyable media that algin with student's developmental needs, particularly through Experiential Learning Techniques (Chintyasari, 2025; Hapsari & Mamahit, 2023; Rasyidin & Flurentin, 2024; Romiaty & Rahimi, 2020).

To fill this gap, this research proposes the development of an innovative educational games called 'Ludo Emotion'. These educational games development aims to enhance student's emotional intelligence. This media is designed based on an interactive and fun educational approach, while integrating the principles of emotional intelligence, namely self-awareness, self-regulation, motivation, empathy, and social skills (Goleman, 2006; Nasution, Nasution, & Harahap, 2023). Based on prior studies, ludo media is feasible to be implemented in guidance services through several modifications (Duarmas, Batkunde, & Bacori, 2022; Gobel, Sumampow, & Istifarianti, 2022a; Hidayatur, Nina, & Inelda, 2021; Ibrahim, 2021; Indriani, 2020; Izzaty, Sunanih, & Nurfitriani, 2021; Lestari & Iswendi, 2021; Sanjiwani, Yudiana, & Japa, 2022; Syafira, 2020). The choice of Ludo as a medium is deliberate and not arbitrary. First, its familiarity lowers the barrier to entry for students. Second, its core mechanics such as turn-taking, chance-based dice rolls, and player interaction provide a natural framework for simulating emotional challenges like patience, managing disappointment, and strategic social engagement (Afrianti, Daulay, & Asilestari, 2018; Alia & Iswendi, 2019; Gobel et al., 2022a; Gobel, Sumampow, & Istifarianti, 2022b; Kasmia, 2022; Lestari & Iswendi, 2021). Finally, its board-and-card format is highly adaptable for integrating content related to emotional scenarios, making it an ideal platform for an Experiential Learning model.

While previous studies have developed various educational media (Duarmas et al., 2022; Fauziah, Rochani, & Handoyo, 2023; Gobel et al., 2022a), none have specifically developed a Ludo-based game to foster student emotional intelligence with 4D research and development models and implemented the media within Experiential Learning approach. This constitutes the novelty of the present study.

Therefore, the aim of this research is to develop, validate and implement an Emotional ludo game media to improve specific aspects of emotional intelligence for 11th-grade students at SMAN 1 Baros. This study is expected to provide two primary contributions, Theoretically, it enriches the literature on game-based learning within guidance and counseling. Practically, it offers school counselors a validated, engaging, and low-cost to facilitate emotional intelligence development through guidance and counseling services.

Method

The research method used in this study is the Research and Development (R&D) model development concept by Thiagarajan et al. (1974), namely the 4-D Model or Define, Design, Development and Dissemination (Rusmayana, 2021). Research and development is a scientific process carried out to develop and validate the developed educational products (Sugiyono, 2019). The product to be developed in this research and development is a ludo game media with the theme of emotional intelligence called Ludo Emotion. The population for this study consisted of 318 11th-grade students at SMAN 1 Baros. An initial screening was conducted on a sample of 177 students, a size determined using the Slovin formula with a 5% margin of error to ensure a representative overview of emotional intelligence levels. From this screening, a smaller group was selected for the product testing phase using purposive sampling. This technique involves deliberately selecting participants who meet specific criteria relevant to the research. The inclusion criteria for participants in the product testing phase were: (1) being an active 11th-grade student at SMAN 1 Baros; (2) scoring within the 'low' category on the emotional intelligence screening questionnaire; and (3) providing voluntary informed consent to participate. Based on these

criteria, 8 students were selected as participants for the development testing phase. This small-group size is characteristic of the development stage in R&D, as it allows for in-depth observation and qualitative feedback on the product prototype.

The instrument used was an emotional intelligence questionnaire with 15 valid items that had gone through an instrument judgment process and instrument validity test using Minitab Software 22 and SPSS for Windows version 30. The results of the validity test are as follows.

Table. 1 Results of Validity Test

Item	Calculated r value	R Table value	Description
Item 1	,686**	,1476	Valid
Item 2	,729**	,1476	Valid
Item 3	,611**	,1476	Valid
Item 4	,669**	,1476	Valid
Item 5	,714**	,1476	Valid
Item 6	,775**	,1476	Valid
Item 7	,685**	,1476	Valid
Item 8	,637**	,1476	Valid
Item 9	,654**	,1476	Valid
Item 10	,610**	,1476	Valid
Item 11	,642**	,1476	Valid
Item 12	,725**	,1476	Valid
Item 13	,745**	,1476	Valid
Item 14	,655**	,1476	Valid
Item 15	,712**	,1476	Valid

The results of the validity test indicate that 15 items of the instrument are valid and 0 items are invalid. As a result, the instrument is able to measure the level of emotional intelligence in students. Furthermore, the reliability results of the research instrument were as follows.

Table. 2 Result of Reliability Test

Cronbach's Alpha	N of Items
0,9179	15

The table shows Cronbach's Alpha value of 0.9179, which falls within the 0.8–1.00 range, indicating "highly reliable." Therefore, this emotional intelligence instrument is appropriate for use by researchers in the research process at senior high schools as research locations. Preliminary studies suggest that the development of an emotional intelligence scale instrument can be implemented during the adolescent period of high school and vocational school students (Sihaloho & Dantes, 2023).

The analysis of the categorization calculations to determine the level of emotional intelligence of the students can be viewed in the table below.

Table. 3 Categorization Calculation

Item	Score
Max	60
Min	15
Hypothetical Mean	37,5
Hypothetical SD	7,5
M-1SD	30
M+1SD	45

The calculation results were then categorized into high, medium, and low categories. The categories can be seen in the following table.

Table. 4 Categorization of Emotional Intelligence Level

Categories	Interval
High	$X \geq 45$
Medium	$30 \leq X < 45$
Low	$X < 30$

Furthermore, a high-quality research product must go through expert validation and development testing (Izzaty et al., 2021). In order to examine the feasibility of the product developed in this research, an adopted instrument developed by Khopipah, Afiati, & Nurmala (2022) was utilized. Therefore, a supporting instrument was also necessary for the research. The expert validation instrument framework used is divided into three parts: content and media expert validation, language expert validation, and practitioner expert validation. As for the development testing, the students' responses toward the developed product in this study were assessed using a student response questionnaire based on the BNSP, which was revised by Wardiani, Nurmala, & Handoyo (2022). The questionnaire used for the student response instrument is divided into five dimensions: appeal of the product, relevance of the content, appropriateness of the language, suitability of the media, and feasibility of the product. These product evaluation questionnaires used a Likert scale with four response options: Highly Appropriate (HA), Appropriate (A), Inappropriate (I), and Highly Inappropriate (HI) (Sihaloho & Dantes, 2023; Sugiyono, 2019).

Furthermore, the results of the expert assessment and student response test for the emotional Ludo game media were compiled and transformed by scoring each of the selected answer alternatives. The data analysis technique used was percentage analysis. The results obtained from the percentage calculations were then classified into four categories of media appropriateness, as described below:

Table 5. Media Suitability Results Categories

Interval	Categories	Feasibility Level
76% - 100%	Excellent	Highly Appropriate
51% - 75%	Good	Appropriate
26% - 50%	Fairly Poor	Inappropriate
0% - 25%	Extremely Poor	Highly inappropriate

The data analysis technique used was descriptive statistics. Descriptive statistics refer to a type of statistics that are used for data analysis by presenting or describing the data that has been obtained without the intention of drawing general conclusions or generalizations. Descriptive statistics were used to describe and explain the results of the product feasibility assessment that had been conducted (Kasmia, 2022; Sugiyono, 2019).

It is important to note that a test for normality was not performed on the feasibility data. The rationale for this decision is that the analysis was purely descriptive in nature. A normality test is a necessary assumption for inferential parametric statistics (e.g., t-tests, ANOVA), which are used to generalize sample results to a wider population. Since the objective of this phase was to describe the feasibility of the product rather than to test a hypothesis about a population, descriptive statistics were the appropriate and sufficient tool for the analysis.

Furthermore, this study did not control for covariate variables (e.g., academic achievement). The research design was focused on product development and feasibility, not on establishing causal relationships. Future experimental studies are recommended to investigate the product's effectiveness while controlling for such variables.

Results and Discussions

Result

The results of this development research would be presented based on the four stages of the 4D development model, which are Define, Design, Development, and Dissemination. Here's a breakdown of each of these stages:

Define

At the initial stage, the researchers began the preliminary study process by conducting a literature review relevant to the research variables, analyzing the learning models provided by guidance and counseling teachers at the school, and performing unstructured interviews with guidance and counseling teachers at SMAN 1 Baros. This interview revealed that the implementation of guidance and counseling services at SMAN Baros still relied on PowerPoint presentations, posters, speeches, and group discussions. These findings indicated a lack of innovative guidance and counseling approaches at the school. Furthermore, the researcher performed a needs assessment on students by distributing questionnaires to assess students' emotional intelligence levels. Statistical descriptive analysis of the quantitative data was carried out to obtain an understanding of the level of emotional intelligence among students in grade XI at SMAN 1 Baros. Need assessment was conducted prior to the guidance and counseling service process. Once all the data for the research had been collected, the first step was to process the data into scores and categorize the data by these categories as follows:

Table 6. Overview of the Level of Emotional Intelligence of the Students

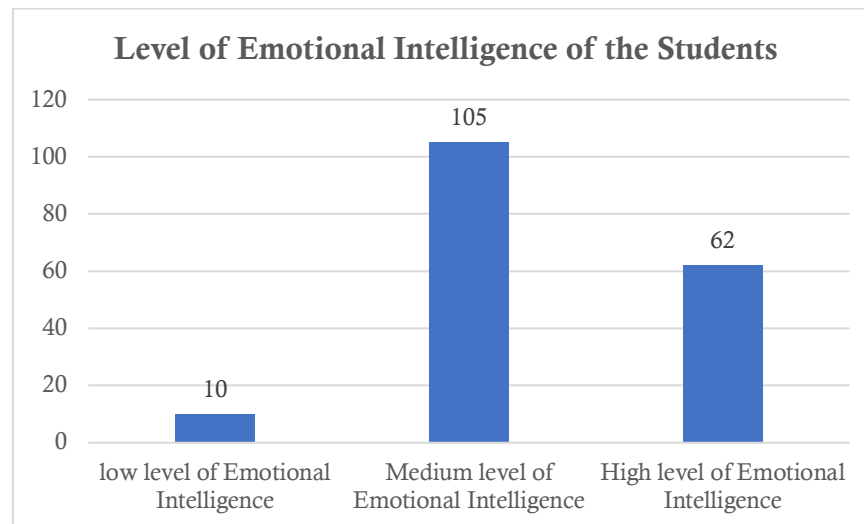| Category	Criteria	Frequency	Percentage
High	X ≥ 45	62	35%
Medium	30 ≤ X < 45	105	59%
Low	X < 30	10	6%
Total		**177**	**100%**

Figure. 1 Overview of the Level of Emotional Intelligence of the Students

The results of the research show the level of emotional intelligence, with 62 students in the "High" category, accounting for 35%, 105 students in the medium category, accounting for 59%, and 10 students in the Low category, making up 6% of the total. There are still students with low emotional intelligence, and the majority of students fall into the medium emotional intelligence category. Based on these preliminary findings, the researcher concluded that it is necessary to provide counseling services and resources to help improve students' emotional intelligence. From these results, 10 students were identified as having a 'low' level of emotional intelligence, meeting the inclusion criteria. These 10 students were invited to the product testing phase. A total of 8 students provided informed consent and participated. All 8 participants completed the entire study with no dropouts recorded

Design

At this stage, the research instruments were designed, the media and product materials were formulated, and the initial product design was developed. The resulting product is the "Ludo Emosi," a game based on Daniel Goleman's theory of emotional intelligence and the traditional game Ludo (Goleman, 2006; Nasution et al., 2023). During this stage, the researcher designs the product's conceptual framework and determines the instruments for feasibility and student response testing. The design of the modified research product consists of the following: 1) The Emotional Ludo game board, which contains the game route from start to finish and has colored circles (red, yellow, green, and blue) added to some squares to serve as markers for participants to take game cards. The Emotional Ludo product consists of 72 boxes (pawn tracks), four large boxes (one of each color) for placing cards and player pawns, and one finish box with the Emotional Ludo logo located at the center of the game board. The second is the Ludo Emosi game cards, which contain information, questions, challenges, and game points. The researcher created four versions of the cards, each with different colors, functions, and quantities. Third, a pop-up book-style game guidebook containing instructions to facilitate gameplay for users of the product.

The components of this emotional ludo product fulfill the characteristics of ludo game media, which are a square board game with dimensions of 35 x 35 cm, four players per round with their own-colored pawns , and pawns that move based on the number rolled on the dice (Gobel et al., 2022a). Additionally, it meets all the components of Ludo, including the board, a die with a die shaker, and fourteen pieces or pawns (Fauza & Iswendi, 2021; Iqra, 2020; Khodizah, 2018). The design model for the Ludo game medium to be developed is as follows:

Table 7. Research Product Blueprint

Components	Total	Specification (w x h)

Ludo Emosi Board Game	1	35 x 35 cm
Game Card:	20	
1) Information Card (*Kartu Informasi*)	30	8 cm x 6 cm
2) Question Card (*Kartu Pertanyaan*)	30	
3) Challenge Card (*Kartu Tantangan*)	36	
4) Point Card (*Kartu Poin*)		
Guidebook game instructions	1	14.8 x 21.0 cm
Pawns (4 paws per player)	16	3 x 1,5
Dice and Dice Shaker	1	1,4 x 1,4 cm

Figure. 2 Ludo Emotional Game Media Design

Development

Expert Testing

In this stage, the media was tested in various aspects, namely content, language, and media aspects. The testing was conducted by three experts in their respective fields. The results of this testing would be used as material for improving the quality and feasibility of the media. The following table shows the results of the testing that has been conducted.

Table 8. Result of Product Feasibility Test

Dimension	Percentage score	Category
Content	94%	Excellent
Language	81%	Excellent
Media	98%	Excellent
Mean Scores	**91%**	
Product Feasibility Rate	**Highy Appropriate**	

From the table above, it can be concluded that the expert practitioners' assessment of the emotional ludo game media shows that total score for the content aspect is 94%, while the total score for the language aspect is 81%, and the total score for the media aspect is 98%. Therefore, it can be concluded that the overall average score for the developed product is 91%. Based on the criteria categories for the suitability of the Ludo Emosi game media product, it is deemed "Highly Appropriate" for implementation in the target research.

Student Response Testing

Limited testing is a testing phase conducted by simulating a product that has been developed and has passed expert evaluation. This testing is conducted to get feedback from students as users on the emotional ludo game media product. The testing is conducted by having the students play the emotional ludo game media. Limited testing was conducted on 8 students in grade XI at SMAN 1 Baros who had low emotional intelligence levels. The results of the responses received during this limited trial are as follows:

Table 9. Result of Limited Testing

Dimension	Percentage Score	Category
Appeal of the Product	88%	Excellent
Content	81%	Excellent

Languange	82%	Excellent
Media Presentation	86%	Excellent
Product Feasibility	86%	Excellent
Total Mean Score	**84%**	
Feasibility Rate	**Highly Appropriate**	

Based on the results obtained above, it can be concluded that overall, the participants gave positive responses and achieved good performance in the emotional ludo game that was developed. The description of the results for the eight students as respondents shows the following average scores: 88% for the Appeal of the Product aspect, 81% for the content aspect, 82% for the language aspect, and 86% for the media presentation aspect. The average score for the product feasibility aspect is 86%. Therefore, it can be concluded that the overall score is 84%, which falls under the "Excellent".

Dissemination

These steps are the process of packaging the emotional ludo game media that has been developed and made available for use by the wider communities. The next step is to distribute the media to the public through a dissemination activity. However, this dissemination activity has not yet been performed by the researcher due to time constraints in the research.

Discussion

The primary objective of this development study was to produce and validate a 'Ludo Emotion' game media that is feasible for enhancing students' emotional intelligence through 4D research and development models. The principal findings demonstrate that the developed product successfully achieved a high level of feasibility. Specifically, the product obtained an average feasibility score of 91% from expert validators and 84% from student responses, both falling into the "Highly Appropriate" category. These results directly answer the research objective, confirming that the developed media met the established feasibility criteria.

The high feasibility score (91%) in our study is consistent with the findings of Kasmia (2022) and Fauziah et al. (2023), who also concluded that modified Ludo games are highly suitable for counseling services. However, our study extends this body of knowledge by specifically validating a game designed around Goleman's five components of emotional intelligence. The high rating on the 'Appeal of the Product' dimension (88%) further suggests that this specific thematic adaptation is a key factor in its positive reception by students, a nuance not explicitly detailed in previous works. These results suggest that Ludo game can be modified and utilized as guidance and counseling media.

The Ludo game is a traditional pastime with a long history, dating back to ancient times and having been transmitted across generations (Iqra, 2020). Ludo, a traditional game with origins in 6th-century India, was referred to as Pachisi (Haeruman, Serevina, Griselda, & Susanti, 2022; Istianah, 2021; Khodizah, 2018; Maria, Saputri, & Sukadi, 2021). The term "LUDO" is derived from the Latin word "Ludus," which signifies "game" (Indriani, 2020). According to Alvi & Ahmed (Angguntari & Nugraha, 2019; Duarmas et al., 2022), the definition of Ludo is as follows: "Ludo is a simple game in which players move counters around a board according to the rolls of a die." Alternatively, Alvi & Ahmed define Ludo as "a simple game where players move counters around a board according to the rolls of a die."

The implementation of the ludo game media has been demonstrated to provide numerous advantages for students and guidance and counseling teachers. This finding aligns with the conclusions drawn from prior research. The positive impacts of ludic media on cognitive functions facilitate educators' efforts to stimulate, encourage, and motivate students in their learning endeavors. Students, in turn, become active participants in the learning process (Izzaty et al., 2021). Furthermore, students have the opportunity to engage more actively and enthusiastically in the service. According to Latuheru (Yolanda & Iswendi, 2019), games have the capacity to enhance student motivation and promote collaborative learning, thereby fostering interaction. Moreover, the Ludo game medium has been demonstrated to facilitate active learning, evoke positive emotions, enhance student motivation, stimulate interest in learning, and augment students' competitive spirit (Indriani, 2020).

The Ludo game has been demonstrated to enhance problem-solving and decision-making skills. A body of research has emerged that suggests the Ludo game confers several benefits, including training in thinking, developing strategies to defeat opponents, fostering cooperation, managing emotions, and making decisions during gameplay (Afrianti et al., 2018). The Ludo game has also been shown to enhance communication skills among students. The present study indicates that the utilization of the Lubikon (Ludo BK) game media, which has been developed for group counseling services, has demonstrated efficacy in enhancing the interpersonal communication skills of junior high school students within the adolescent category. Additionally, the study suggests the implementation of Lubikon, and the preliminary results indicate enhancements in students'

competencies, including active listening, the articulation of their own perspectives, and collaborative group work. Consequently, Lubikon emerges as a pioneering medium for group counseling, characterized by its innovative, engaging, and educational facets. Its efficacy is further underscored by its communicative nature when employed by students in an academic setting (Nabila, 2022).

One of the factors contributing to the appeal of this emotional Ludo game medium is its game-based service medium. Research has demonstrated that the benefits of modifying the Ludo game include its ease of play for students, its enjoyment factor, and students' ability to understand and recall explanations provided by teachers. Furthermore, students are able to test their understanding more deeply through practice questions and engage in more interaction during the game process. This enables students to become each other's learning resources (Angguntari & Nugraha, 2019). The integration of Ludo media in guidance services has been demonstrated to enhance the delivery process, thereby providing a more engaging experience for guidance and counseling professionals. The extant research results indicate that ludic games have the potential to enhance the pedagogical efficacy of teachers. Specifically, the findings suggest that the quality of material delivery is improved by the use of these games, which require preparation on the part of the teacher. Furthermore, the results indicate that teachers exhibit a greater degree of enthusiasm for the innovative use of game media in the educational setting (Nisa & Zakiyaturrosyidah, 2021).

This ludo game has advantages that make it unique and appealing to use. Research findings underscore the advantages of the Ludo game as an innovative medium, suitable for educational processes with modifications tailored to students' needs. The game is characterized by its simplicity, ease of play, active student participation, promotion of learning through group play, function as an educational tool, and stimulation of students to understand and solve simple problems in each game challenge (Iqra, 2020; Maria et al., 2021). It is an inherent quality of all things that they are accompanied by their own weaknesses, just as a game is accompanied by its own shortcomings. A notable constraint of this medium is its capacity to accommodate only four participants concurrently (Maria et al., 2021). However, this limitation can also be regarded as a distinctive benefit of the Ludo game medium, as researchers have observed that it assists students in more effectively managing the playing process.

The Ludo Emotional Game Media is defined as a innovative board game with modified strategies based on the needs of students or adolescents to support the improvement of understanding of emotional intelligence. As posited by Daniel Goleman (Iswandi et al., 2025; Khalillah et al., 2025; Nasution et al., 2023; Syaifuddin, 2025), the components of emotional intelligence encompass self-awareness, defined as the capacity to discern and understand one's own emotional states; self-control, which involves the ability to manage emotions in a constructive manner; motivation, defined as the propensity to direct one's efforts toward achieving one's goals; empathy, understood as the capacity to recognize and understand the emotions of others; and social skills, which refers to the ability to establish and maintain positive relationships with others. According to the relevant studies, individuals experience a variety of emotions while playing games, including joy, anger, frustration, and confusion. The capacity to regulate emotions encompasses not only the act of regulating one's own emotions but also the ability to recognize and express the emotions experienced by others (Kasmia, 2022).

A comprehensive review of the relevant literature indicates that traditional Ludo games, when conceptualized as a form of local wisdom, can offer a variety of benefits in the context of group counseling service models. One alternative that has been proposed is group counseling using the Experiential Learning Technique, which has demonstrated efficacy in addressing various issues faced by students, including emotion management, increased self-efficacy, social-emotional skills, learning activity, self-regulated learning, and critical thinking skills (Daniswara & Setiawati, 2024; Dhana, 2024; Hajjah et al., 2022; Hapsari & Mamahit, 2023; Rasyidin & Flurentin, 2024; Romiaty & Rahimi, 2020). Furthermore, the integration of emotional ludo games within counseling services has been demonstrated to promote active student engagement in the counseling process, thereby fostering the development of emotional intelligence in junior high and senior high school students through an experiential learning approach (Dani, 2024; Kasmia, 2022; Munawaroh, 2023). Consequently, the incorporation of ludo media in group counseling services emerges as an innovative and educational alternative for guidance and counseling teachers, facilitating students' social-emotional and cognitive development within the school environment. The development of emotional ludo game media to enhance emotional intelligence is a highly worthwhile endeavor. This emotional Ludo game media has received a favorable level of feasibility rating from expert testing and has garnered positive feedback from students. Furthermore, the emotional Ludo game media has the potential to enhance students' or adolescents' emotional intelligence.

Despite the positive findings, this study has several limitations. First, the limited testing was conducted on a small and specific sample (N=8) from a single school, which limits the generalizability of the findings to other populations. Second, the R&D design focused on feasibility and did not include a control group, making it

impossible to attribute potential changes in emotional intelligence directly to the media itself. Finally, the study did not include a long-term follow-up to assess the lasting impact of the intervention.

The successful development and high feasibility of the 'Ludo Emotion' game media offer significant implications across educational practice, future research, and school policy. For practitioners, particularly guidance and counseling teachers, this study yields a validated, engaging, and low-cost instrument that can be directly implemented in group counseling services to move beyond conventional methods and actively involve students. From a research perspective, these findings establish a foundation for more rigorous quantitative inquiry; future studies are recommended to employ quasi-experimental designs with control groups to measure the game's direct effectiveness in improving emotional intelligence scores and to explore the media's adaptability for different student populations. Finally, at the policy level, these results can serve as evidence for school administrators to support and allocate resources for the integration of game-based learning into broader character education and social-emotional learning (SEL) programs, thereby fostering more innovative learning environments.

In conclusion, this study successfully developed a 'Ludo Emotion' game media that was confirmed to be highly feasible by both experts and student users. While acknowledging its limitations, the research provides a tangible, innovative tool for guidance and counseling practitioners and establishes a solid foundation for future experimental research on game-based interventions for emotional intelligence.

Conclusions

This study successfully developed the 'Ludo Emotion' game media and validated its 'Highly Appropriate' feasibility for use in guidance and counseling services. Beyond its practical value as a validated tool for educators, this research offers a distinct theoretical contribution to the literature on game-based learning. Specifically, it demonstrates that a traditional, low-tech game framework can be effectively re-engineered to facilitate complex psychological concepts, such as Goleman's components of emotional intelligence. This finding expands the current understanding by highlighting how familiar cultural artifacts can serve as powerful platforms for experiential learning in counseling, offering a valuable model for developing other contextually relevant educational media. Future research is encouraged to build upon this validated model by conducting effectiveness trials to measure the game's long-term impact on students' emotional skills.

Acknowledgments

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