

# MODIFICATION OF THE GAME ENGLEK TO IMPROVE THE CHARACTER OF DISCIPLINE AND THINKING IN EARLY CHILDHOOD

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**Abstract:** *The internalization of disciplinary character values in early childhood between 10-12 years can be done by playing various games, one of which is playing Engklek. Based on the results of observations, children are still lacking in obeying the lines of the engklek field. To determine the effect of game engklek modification on the ability to internalize the character values of discipline and thinking in children aged 10-12 years. This research uses descriptive quantitative research with the type of Pre-Experiment Design research with the One-Group Pretest-Posttest Design design. The sample of this study used all children aged 10-12 years at SD Negeri 3 Clering with a total of 30 children consisting of 16 boys and 14 girls. Data collection techniques used observation and documentation. The assessment indicator used is the accuracy of footsteps on the engklek field. The use of this modification is used to make it interesting so that children are interested in doing it. Based on the results of hypothesis testing through the Wilcoxon test, the sig value = 0.000 was obtained, this shows that there is a significant effect of the crank game modification on increasing the character values of discipline and critical thinking. These results indicate that the modified engklek game can be more effectively used as a physical education learning process in improving the ability to internalize the character values of discipline and thinking in children aged 10-12 years.*

**Keywords:** *Engklek, Discipline, Character and Thinking.*

## INTRODUCTION

The Indonesian nation has many types of traditional games, where traditional games have different characteristics. The utilization of traditional games in order to preserve traditional games requires efforts in introducing and practicing various games in early childhood. Traditional games are one form or form of culture that characterizes a particular culture. Traditional children's games are cultural assets, which are capital for a society to maintain its cultural identity in the midst of other societies. Traditional games are also known as reactive activities that not only aim to entertain themselves, but also as a tool to maintain social relationships and comfort (Prastowo A, 2018). According to Sujarno (2010), traditional games are cultural products of great value to children in order to fantasize, recreate, exercise and as a means to practice polite and skillful living in society. The values contained in Dolanan Anak play a role in aspects of children's growth and development, Dolanan Anak is grouped into 6 groups of Dolanan Anak, namely (1) Games to develop children's cognitive aspects, (2) Games to develop physical motor aspects, (3) Games to develop language skills, (4) Games to develop social emotional aspects, (5) Games to develop aspects of art and creativity, and (6) Games to develop moral aspects and religious values (Suherman, W. S. 2017).

Traditional games are diverse activities, because each place has different types of traditional games (Pratiwi, J. W., & Pujiastuti, H., 2020). This depends on the customs or habits of the area that have been passed down from generation to generation which can affect the shape and name of the traditional game. A traditional game, especially in certain regions, is strongly influenced by the culture and characteristics of the region. This traditional game itself is very fun when done either individually or together (group). Some kinds of traditional games such as cranglek, jump rope, marbles, catfish, bentengan, boy-boyan, snake-ularan, enggrang and many more. In traditional games, children's motivation will be boosted because in traditional games there are many variations and modifications that can be applied in physical education learning. In traditional games, the rules of the game are based on mutual decisions, such as the number of players, the tools used and the length of play can be changed according to mutual agreement (Susanto et al., 2024). In addition, traditional games themselves have existed from ancient times and are played by children from various regions in Indonesia (Iswanto Ari et al., 2024).

Traditional games have now begun to be abandoned and rarely played, children are now turning to modern or sophisticated games such as playstations, video games and online games. Although there are many types of traditional games, many children prefer advanced technology games compared to traditional games, something like this will have an impact on children’s interaction patterns later. Many types of traditional games can be a medium to teach various positive things and besides that the child’s body will move a lot so that the child’s body will be healthy. UNESCO has currently encouraged the preservation of culture called intangible heritage or intangible cultural heritage, where one of them is traditional games in it. As the nation’s generation, we must preserve the nation’s culture in the form of traditional games. Traditional games are not only played by children, but adults can play them depending on the type of traditional game. Folk games or traditional games for children there are various types depending on the ethnic group that has. In essence, traditional games have elements of physical skills (physical strength), speed of thinking and implementation of social and cultural values. Traditional children’s games generally prioritize togetherness, cooperation and harmony of social relations in the community.

Preserving various traditional games, because by including traditional game material for learning, children will feel happier and not get bored quickly. Traditional games in each region have a meaning and history that contains human and cultural values in it (Suryawan, I. G. A. J., 2020). From this explanation, it can be concluded that traditional games are activities of various types originating from various regions in which there is a separate meaning that has been played from time to time for generations and in traditional games there are no fixed rules. Playing traditional games in addition to preserving the nation’s culture, also has its own benefits for someone who plays and also children can improve their motor skills, such as running, walking, jumping and others. It is not new what if we see learning physical education sports and health, many use traditional games in every movement activity. These traditional games in learning physical education and health have many benefits, one of which in early childhood can improve the psychological, sociological and physical aspects of children. Learning physical education sports and health using traditional games has many benefits for students (Lubis, A. E, et al., 2023), ( Fernando, F. 2020), ( Hakiki, N., & Khotimah, K., 2020).

Traditional games can make children play into fun activities, take it seriously, feel encouraged to actualize the potential in the form of movement and behavioral attitudes. Traditional games can thus be used as a way of achieving educational goals. Traditional games can develop sociological and motor skills in children. In addition, traditional games can also be used as a way to increase children’s motivation in learning and with this traditional game can help students improve physical fitness. Traditional games can help in the formation of children’s character such as the value of sportsmanship, togetherness, honesty, tenacity, patience, agility, creativity and cooperation of course. From this explanation, traditional games have benefits, namely as a way for an educator to increase the motivation of students in learning to achieve an educational goal. In addition, with traditional games, students can increase the value of discipline, cooperation, togetherness and mutual socialization. The following is an explanation of the values that can be developed including physical and character aspects in traditional games in table 1.

**Table 1.** Values developed in traditional games in the aspects of discipline character, physical aspects and thinking aspects

No	Games	Origin	Character Aspects	Physical Aspects	Thinking aspect
1	Engklek	Java	Discipline, cooperation, decision making	Endurance, agility, accuracy, flexibility	Strategizing to maintain body balance
2	Jump rope	Java	Discipline, honesty, cooperation, socializing	Endurance, strength, agility, coordination, balance	Perform balance movements and tactics so as not to get tired easily
4	Run the block	Java	Discipline, self-confidence	Agility, balance, speed, endurance, coordination	Analyze foot movements so that they are correct in supporting the feet so that they can pass through the block
5	Snake eating its tail	Java	Cooperation, confidence, discipline	Balance, coordination	Performing strategies and tactics so that the dragon’s tail is not pounced on by the dragon’s head
6	Domikado	Maluku	Cooperation, socialization	Creativity, speed	Strategy in choosing a song
7	Cim-ciman	Banyumas, Java	Honesty, discipline, creativity, responsibility, social awareness	Agility, endurance, speed	Doing tactics so that it is easy to touch the game target

**Modification of Engklek Game (Letter S Game)**

The letter game or Letter S is a form of game that utilizes lifting one leg alternately to jump over the pedestal with the shape of the game track in the form of the letter “S”. This game is a modification of the traditional game engklek from Java, tapak geser from Sumatra, where how to play this game using one foot alternately (Ardhika, D. F., 2015), (Drupadi, R. D., & Syafrudin, U. (2020). Engklek games generally have various forms according to the area where the game is played, for example in the form of boxes, circles and so on. This game develops children’s discipline character. The discipline in this game is that children take turns doing one-legged jumping movements so as not to collide with other children and put their feet in the pedestal position without missing. Then the location of critical thinking in this game is that children organize strategies to maintain body balance when jumping with one foot and can mention the form of the game. The jumping activity itself is an effort to introduce children to the long jump number (Arga M W., 2024). The modified form of the Engklek game and the aspects of discipline character are described in table 2.

**Table 2.** Modified form of Engklek game and discipline value

Game Shape	Game Modification	Character Aspect	Thinking Aspect
Letter S	Players alternate between doing one-legged jumps on the triangle-shaped media, and jumping with both feet on the box-shaped media.	The child is required to step according to the footstool in the game.	The child analyzes strength, steps, balance in playing the game.

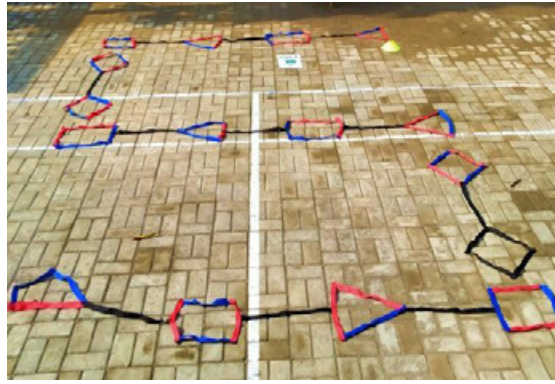
Letter S game, a game that utilizes lifting one leg alternately to jump over a pedestal with the shape of the game track in the form of the letter “S”. This game modifies the traditional game engklek from Java, tapak geser from Sumatra, where the way to play this game uses one foot alternately. Engklek games generally have various forms according to the area where the game is played, for example: in the form of boxes, circles and so on. This game develops children’s discipline character. The location of discipline in this game is that children take turns to do the crank movement so as not to collide with other children and place the foot in the pedestal position without skipping. Then the location of critical thinking in this game is that children organize strategies to maintain body balance when jumping on one leg and can mention the shape of the game.

1. Competency standards, children are able to: (1) Develop character values of discipline and critical thinking. (2) Perform coordination of movements between eyes, hands and feet. (3) Step by lifting one foot alternately on the pedestal.

2. Basic competencies, children can: (1) Perform movements in accordance with the pedestal media without crossing it and strategize to maintain body balance and predict stride length. (2) Take into account the placement of the foot position in accordance with the pedestal so that the body balance is maintained. (3) Developing visual skills, the ability to walk using one foot alternately on a pedestal.

3. Learning objectives (1) Character aspects: This game aims to improve the character value of discipline. The character of discipline is contained in the movement of stepping by lifting one foot alternately according to the shape of the pedestal. (2) Critical thinking aspect: Organizing strategies so that in performing the movement of lifting one leg alternately, to keep the balance of the body is maintained. In addition, players recognize shape and space.

Equipment and rules. The equipment used in the learning process in post 1 (one) is a line media as a pedestal in the form of an isosceles triangle measuring 30cm as many as 6 pieces and a box-shaped line media measuring 40x40 cm as many as 8 pieces. The angled triangle-shaped lines and box-shaped lines are assembled in parallel placed on a flat ground plane forming the letter (S). and installed parallel towards the track to go to the next post (post 2).



*Figure 1. Shape of the letter S game field*

Implementation: The child does the activity of stepping with one foot alternately on a triangular and rhombus-shaped footstool and jumping with both feet on a box-shaped pedestal. In the following picture, the child demonstrates how to step with one foot alternately on triangular, rhombic and square pedestals.



*Figure 2. Implementation of the letter S game*

Indicators of success: Children can pass all triangular, rhombus and box-shaped footstools by lifting one leg alternately to maintain balance so as not to fall. Based on the explanation above, it can be concluded that, by modifying the traditional game of engklek into a new game, it will provide a vehicle for a more interesting form of play and provide meaning in internalizing the character of discipline in children. But in this study the Engklek game can be used to develop the internalization of character values in early childhood. This allows children to learn about traditional games and learn about various games through the modified Engklek game.

## **METHOD**

This type of research is quantitative research with a pre-experimental design. The research design used the “One-Group Pretest-Posttest Design” design. This design only uses experiments without a control class. Before being given treatment, the experimental group was first given a pretest, then given treatment using a modified Engklek game which was then carried out a posttest. The results of the treatment can be known accurately and can be compared between the conditions before treatment and those that have been given treatment. The following is a description of the “One-Group Pretest-Posttest Design” design. This design can be described as follows (Creswell, 2015: 243). The following is a picture of the research design in Figure 3.

*Table 3. One-Group Pretest-Posttest Design*

Pretest	Treatment	Posttest
01	X	02

Description:

O1 : Pretest results of internalizing the character of discipline and thinking

X : Treatment in the form of a modified Engklek game

O2 : Posttest results of internalization of discipline and thinking characters

The subjects of this study were all 3rd grade students of SD Negeri 3 Clering who were 10-12 years old and the implementation of the research in the odd academic year 2022/2023. This research data collection technique uses observation and documentation techniques. The observation technique was carried out before and after modifying the Engklek game. The first observation was carried out before the Engklek game was implemented, as an initial step to understand the problems in the ability to recognize shapes in children. While in the second observation after the implementation of the game, the researcher used guidelines as an observation tool. This observation guideline was made to observe the process, situation, and use of media by research participants regarding the modification of the Engklek game. The documentation technique is used to record ongoing events. Documents collected in this study are in the form of child data, photos of activities during observation, validation sheets and observation sheets of the ability to internalize character values and thinking on modifications of the Engklek game for children aged 10-12 years. The data collection instrument in this study used an observation sheet of the ability to internalize character values with a grid and validation sheet. Data analysis techniques were carried out using Statistical Package For Social Science (SPSS) for windows evaluation rerleas 23.0 software. The stages of data analysis are as follows: 1) Descriptive analysis, 2) Validity and Reliability Test, if the data is declared valid and reliable, then the analysis is carried out to the next stage, otherwise the data must be re-examined, even if it is necessary to retake the data, with the aim that the validity and reliability of the data are met. 3) Normality test of data on the results of the ability to internalize the value of discipline character before treatment and treatment results. This test is conducted to determine whether the data is normally distributed or not. The normality test used is the Shapiro-Wilk statistical test, 4) If the data is normal then proceed with the parametric statistical test with the T/Test, 5) If the data is not normally distributed using the Wilcoxon non-parametric test, 6) To find out the effect by comparing the results of the pretest and posttest on the target trial using the value  $\alpha = 0.05$ . If the value of T. Count > T. Table, then there is a significant influence. However, if the value of T count < T table, then there is no significant effect. The research hypothesis if H0: is accepted then there is no difference in the average between the two groups and if Ha: is accepted then there is a difference in the average of the two sample groups.

**RESULTS**

The results of research on the internalization of disciplinary character values through Engklek games found that when the activity took place, children felt happy because children had never learned about Engklek games. In addition, from the Engklek learning activities, it was found that some children still have difficulty jumping using one foot and with the Engklek game, children more easily absorb the information provided about the introduction of geometric shapes. The results of the assessment of the internalization of disciplinary character values that have been carried out in the pretest can be seen that the number of children who scored in the 0-3 interval was 0 children, while those who scored in the 4-6 interval were 0 children, then those who scored in the 7-9 interval were 16 children, and those who scored in the 10-12 interval were 14 children. From the above scores, it can be described as follows, children who score in the 0-3 interval have a very poor internalization of the value of discipline character, while children who score in the 4-6 interval have the ability to internalize the value of discipline character that is lacking, while children who score in the 7-9 interval have the ability to internalize the value of discipline character that is sufficient, and children who score in the 10-12 interval have the ability to internalize the value of discipline character that is good. Based on the results of the assessment of the ability to internalize the value of discipline character that has been carried out in the posttest, it can be seen that the number of children who get scores in the 0-3 interval is 0 children, then scores in the 4-6 interval are 0 children, then scores in the 7-9 interval are 0 children, then in the 10-12 interval are 30 children.

From the acquisition of these scores, it can be described that children who get scores in the 0-3 interval have the ability to internalize the value of discipline character that is very lacking, while children who get scores in the 4-6 interval have the ability to internalize the value of discipline character that is lacking, while children who get scores in the 7-9 interval have the ability to internalize the value of discipline character that is sufficient, while children who get scores in the 10-12 interval have the ability to internalize the value of discipline character that is good. The results of the pretest and posttest of 30 children aged 10-12 years will be explained based on the mean, median, mode, standard deviation and variance. In detail can be seen from Table 1 below:

**Table 4. Variable Description**

Statistics	Pretest	Posttest
Average	2.867	3.723
Median	3.023	4.034
Mode	2.456	4.012
Standard Deviation	0.256	0.267
Variance	0.087	0.090

Based on Table 1, it can be seen that there is an effect of giving Engklek games, which is indicated by an increase in the statistical value of the pretest and posttest. The mean value of the pretest was 2.867 while the posttest was 3.723. The pretest median and mode values were 3.023 and 2.456 while the posttest values were 4.034 and 4.012. Standard deviation and variance values tend to remain from pretest values of 0.256 and 0.087 to posttest values of 0.267 and 0.090. Validity and reliability data test results. The validity test is seen based on the Pearson correlation value between the indicators and the total number of indicators. Called valid if the r value (correlation) is greater than r table or sig value. < alpha (0.05). The validity test results are as follows:

**Table 5. Pretest Validity Test Results**

Indicator	R count	Sig.	Description	Indicator	R count	Sig.	Description
Pretest 1	0.768	0.000	Valid				
Pretest 2	0.834	0.000	Valid				
Pretest 3	0.767	0.000	Valid				

Based on Table 2, the value of r count > r table (0.256) and sig. < alpha (0.05) so it can be concluded that the pretest indicator items are declared valid.

**Table 6. Posttest Validity Test Results**

Indicator	R count	Sig.	Description	Indicator	R count	Sig.	Description
Posttest 1	0.812	0.000	Valid				
Posttest 2	0.823	0.000	Valid				
Posttest 3	0.818	0.000	Valid				

Based on Table 3, the value of r count > r table (0.256) and sig. < alpha (0.05) so it is concluded that the pretest indicator items are declared valid. As for the reliability test, the Cronbach's Alpha value is used. If the Cronbach's alpha value > 0.60 then it is declared reliable. It can be seen in Appendix 24, the pretest Cronbach's alpha value is 0.812. This value is greater than 0.60 so it is concluded that the pretest indicator items are reliable. The posttest Cronbach's alpha value is 0.823, this value is also greater than 0.60 so it is concluded that the posttest indicators are reliable. Normality test is conducted to test whether the data analyzed is normally distributed or not. This data calculation was carried out using the Saphiro-wilk test statistics. The data testing criteria can be seen in table 7:

**Table 7. Normality Test**

Treatment		Shapiro-Wilk		
		Statistic	Df	Sig.
Data	Pretest	.857	59	.000
	Posttest	.743	59	.000

Data is said to be normal if the Sig. Saphiro-Wilk test > alpha = 0.05. Based on Table 4, it was found that the Sig. value of pretest and posttest was smaller than 0.00 so it was decided to reject Ho. So it is concluded that the data is not normally distributed. In testing the normality assumption, it was concluded that the data was not normally distributed so that the statistical method used to determine the difference in the effect of two paired samples was the Wilcoxon statistic. The results of the Wilcoxon test are as follows:

**Table 8. Wilcoxon Test**

	Posttest – Pretest
Z Count	-6.501 <sup>b</sup>
Sig. (2-tailed)	.000

If the sig value. Wilcoxon test statistics < alpha (0.05) or Zhitung > Ztabel (1.96) then Ho is rejected. Based on Table 5, the sig value = 0.000 < alpha (0.05) was obtained so that it was decided to reject Ho. and it was concluded that there was an effect of cranklek game modification on the ability to internalize disciplinary character values in children aged 10-12 years.

**DISCUSSION**

Based on the exposure to the results of testing the modification of the Engklek game where the game is made with different shapes and materials from the previous Engklek game, this makes children interested in playing the game. and the results of treatment before and after modification of the Engklek game there is a significant difference. Thus, the Engklek game that has been modified is quite eThe Engklek game can apply children’s disciplinary character, for example teaching the value of discipline to players who are willing to obey the agreed rules of the game (Jiwandono, 2020). Research also shows that the traditional game of engklek contains several educational values, namely moral education values, social education values, and cultural education values (Jamaludi, 2023). This can be beneficial for children’s character building, such as harmonizing honesty, discipline, mutual respect, fairness, cooperation, and love and pride in the culture of the country (Setiawan et al., 2021). Engklek can help improve children’s character, such as honesty and hard work, because it is a traditional game that aims to teach children about the process of achieving goals. This game can also help improve gross motor skills in early childhood, which is an important aspect in children’s character development.

In addition, engklek games can also optimize students’ cognitive abilities and shape early childhood character. Restoring children’s games to traditional games as children’s games can be an alternative in creating a generation with superior character (Nur, H., 2013). Traditional games can also be used as a learning medium, there are character values contained in the game, if used as a learning medium, namely honesty, discipline, hard work, creativity, curiosity, independence, communicative, responsibility and respect for achievement (Helvana, N., & Hidayat, S., 2020). Traditional games have many benefits and can stimulate child development (Al Ningsih, Y.R., 2021). Traditional games are still relevant to be preserved in the current era of globalization and support is needed from various parties to preserve them such as community fiber educators in general (Hayati, S. N., & Hibana, H. 2021). Traditional games as a learning medium that can stimulate the formation of children’s character, especially in early childhood (Nurhayati, I., 2012). These traditional games contain various positive values that are very good to develop which not only include cognitive aspects, but also motor, affective, language, social, emotional, spiritual and ecological aspects (Dewi, K. Y. F., & Yaniasti, N. L., 2016). There are benefits contained in the traditional game of Engklek in the aspect

of gross motor development in children (Indriyani, D et al., 2021). The Engklek game, which is quite popular with children, turns out to have an effect on children's cognition, this can be seen in the way children carry out strategies in every game to achieve their goals (Pertiwi, D. A., et al., 2018). In addition, the ethnomathematics-based engklek game can also improve children's thinking skills (Wijayanti, R., & Trisiana, A., 2018), (Susanto, S. et al., 2022). The modified engklek game in another study also turned out to be able to provide understanding to children in solving a problem (Fitriyah, A., & Khaerunisa, I., 2018).

## CONCLUSION

The results of research and discussion regarding the modification of the Engklek game on the internalization of disciplinary character and thinking in children aged 10-12 years can be concluded that, by modifying the traditional game of engklek, it turns out that children are more interested and happy to do it, because the modification of engklek developed in the form of engklek is more interesting with various shapes such as box shapes, triangular shapes and colored lines. The modified Engklek game makes an effective game used as a learning process for internalizing disciplinary character and thinking skills in children aged 10-12 years. In addition, by modifying traditional games, it is hoped that it will participate in preserving the culture of playing traditional games in the archipelago.

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### Conflict of Interest

The authors declare that there are no conflicts of interest.

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