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Unveiling the Value of *Pancasila* Learning in Early Childhood: The *Garuda* Bird Puzzle Game Approach

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Abstract

The cultivation of *Pancasila* values in early childhood is essential for shaping individuals with a strong national identity. However, current methods for instilling these values remain suboptimal. This study investigates the effectiveness of the *Garuda Pancasila* puzzle game in enhancing the internalization of *Pancasila* values among early childhood learners. Using a quasi-experimental nonequivalent control group design, the study involved 77 children aged 5–6 years from Perwanida I Kindergarten, Kediri City. Data were collected using observation sheets structured around the five fundamental values of *Pancasila*: (1) Belief in One God, (2) Just and Civilized Humanity, (3) Unity of Indonesia, (4) Democracy Led by Wisdom in Representative Deliberation, and (5) Social Justice for All Indonesians. The research instrument comprised 18 items rated on a binary scale (1 or 0). The findings indicate a significant improvement in the internalization of *Pancasila* values in the experimental group (mean score: 9.60) compared to the control group (mean score: 7.88) after implementing the *Garuda* puzzle game. The independent t-test results (t = -2.068, p = 0.042) confirm a statistically significant difference, underscoring the effectiveness of the game-based intervention. Additionally, children in the experimental group exhibited greater engagement, active participation, and improved social interactions, reinforcing both cognitive and socio-emotional development. The structured yet flexible nature of the game facilitated hands-on learning, enabling children to explore ethical reasoning and collaborative problem-solving. These results highlight the potential of play-based learning strategies in character education. The study recommends integrating culturally relevant games into early childhood curricula to strengthen civic awareness and national identity. Future research should examine longitudinal effects and explore the integration of digital puzzle games to assess long-term value internalization and broader scalability in diverse educational settings.

Introduction

Education serves as a fundamental foundation in an individual's life. The educational process not only facilitates the transfer of knowledge but also shapes skills, attitudes, and values essential for social life. Effective education enhances critical thinking skills, problem-solving abilities, and individual well-being (Gil-Lacruz et al., 2020). One crucial aspect of education is the development of moral and ethical character from an early age (Birhan et al., 2021; Hasanah & Deiniatur, 2020; Rindrayani, 2020). Character education based on Pancasila plays a vital role in shaping individuals who uphold the nation's core values (Karageorgiou et al., 2020; Pujiastuti et al., 2021; Rachmawati et al., 2022).

The values embedded in Pancasila serve as a fundamental guideline for shaping the attitudes and behaviors of Indonesian society. Pancasila functions not only as the nation's ideology but also as a guiding principle in social, national, and state life (Adha & Susanto, 2020). Therefore, instilling Pancasila values from an early age is essential to ensure that children understand and apply these principles in their daily lives (Dewi & Rachman, 2022). Pancasila-based education aims to develop a generation that possesses both national identity and a global perspective, enabling them to navigate an increasingly complex world (Lestariningrum,

2021; Loka et al., 2022; Rantina et al., 2022). However, one of the challenges in teaching Pancasila values to young children is their cognitive limitations, as they are still in the preoperational stage according to Piaget's cognitive development theory (Istiqomah & Maemonah, 2021; Ribeiro et al., 2020; Videnovik et al., 2022).

To effectively instill Pancasila values in early childhood, engaging and interactive teaching methods are necessary. One effective approach is through educational games, which create an enjoyable learning environment (Iswantiningtyas, 2018). Games allow children to actively participate in the learning process and gain direct experience in understanding abstract concepts (Hassan et al., 2022; Lv et al., 2022; Rantina et al., 2020). One proven method for early childhood education is the use of puzzle-based media, which enhances memory, critical thinking, and creativity (Bhavnani et al., 2019; Halimah, 2021; Permata, 2020; Sadhana, 2022; Wati Fajrina et al., 2024). Additionally, puzzle-based learning encourages independent exploration and interaction with the environment, fostering deeper understanding.

Field observations and interviews with educators at Perwanida Kediri Kindergarten revealed challenges in cultivating national values among young children. The findings indicated that children struggled to engage meaningfully in patriotic activities, such as participating solemnly in flag ceremonies or singing the national anthem with enthusiasm. Given these circumstances, an innovative learning strategy is required to effectively instill national values in children at school. A promising approach aligned with modern educational developments is the *Garuda Bird Puzzle Game.* This activity allows children to engage in imaginative play while reinforcing national values in their memory, indirectly positively shaping their character.

The *Garuda Pancasila Puzzle* is a learning tool designed to help children recognize the symbols and values of Pancasila. Through this game, children learn to identify the Garuda Pancasila emblem, understand the meaning of each principle, and internalize national values in a concrete and engaging manner. The game consists of several stages, including assembling puzzle pieces and interpreting the symbols represented in the Garuda Pancasila image (Wulandari et al., 2023). Previous studies have demonstrated that using visual media in teaching Pancasila values is effective, as it relies more on visual perception than auditory processing, making it more appealing to young learners (Anggraini & Aslami, 2023; Bagchi et al., 2023; Rendón et al., 2025). Additionally, digital comics and interactive books have been found to enhance children's understanding of Pancasila values (Fitri et al., 2023; Masitah et al., 2023).

Although numerous studies have highlighted the effectiveness of puzzles in early childhood education, research specifically examining the impact of the *Garuda Pancasila Puzzle* on children's understanding of Pancasila values remains limited. Most prior studies have focused on the use of visual media or interactive books, with little exploration of *Garuda Pancasila Puzzle* as a character education tool (de Hoop et al., 2023; Mubaroroh et al., 2023; Repo, 2015). Furthermore, few studies have rigorously assessed the effectiveness of this medium using experimental quantitative approaches (Parvez et al., 2019; Raudenbush et al., 2020).

This study aims to explore the role of the *Garuda Pancasila Puzzle* in strengthening the learning of Pancasila values in early childhood. Specifically, it will evaluate the impact of this game on children's comprehension and application of the five principles of Pancasila through a quasi-experimental study involving 5- to 6-year-old children at Perwanida I Kindergarten in Kediri City. By investigating the effectiveness of this learning tool, this research hopes to contribute to the development of more innovative and developmentally appropriate character education methods based on Pancasila for young learners.

Methods

This study is a type of experimental research, specifically quasi-experimental research, using a nonequivalent control group design. The study involved two classes: the experimental class and the control class, each receiving different treatments. The experimental class played the *Garuda Pancasila* puzzle, while the control class followed the usual learning methods previously

implemented. The procedures of this quasi-experimental research with a nonequivalent control group design are outlined in the table below:

Table 1. Research Design

Group	Pre-test	Treatment	Post-test
Experiment	O_1	X	O_2
Control	O_3	-	O_4

(Sugiyono, 2019)

Description:

O1 = Score before treatment in the experimental class
O2 = Score after treatment in the experimental class
X = Use of the *Garuda Pancasila* puzzle as a learning medium to reinforce Pancasila values in the experimental class
O3 = Score before treatment in the control class
O4 = Score after treatment in the control class
(-) = No treatment applied to the control class

Data collection techniques involved analyzing the differences in observation results between pre-test and post-test scores: O1 and O2 in the experimental class and O3 and O4 in the control class. Through observation and documentation, the study examined the variations between these scores to assess the impact of the intervention.

The study population consisted of children aged 5–6 years at Perwanida I Kindergarten in Kediri City. The research sample was determined using a purposive sampling technique, considering factors such as a similar curriculum, common challenges, and school facilities that support Pancasila-based learning. Based on these criteria, Perwanida I Kindergarten in Kediri City was selected, with a total of 77 students. Classes B1 and B2, comprising 40 children, served as the control group, while Classes B3 and B4, with 37 children, formed the experimental group.

The data collection techniques used in this study included observations and observation sheets with research instruments designed based on the five fundamental values of Pancasila: (1) Belief in One God, (2) Just and Civilized Humanity, (3) Unity of Indonesia, (4) Democracy Led by Wisdom in Representative Deliberation, and (5) Social Justice for All Indonesians. The observation instrument consisted of 18 items, assessed using a rating scale of 1 and 0. The research instrument framework is presented in Table 2.

Table 2. Grid of instruments for Pancasila values in early childhood

Values of Pancasila	Description	Indicator		Item Number	Number of Items
Godly Value	Fostering the value of faith in children.	1.	The child can say the sound of the 1st precept.	1,2,3	3
		2.	The child can mention the symbol of the 1st precept.		
		3.	The child can say one of the daily prayers.		
Humanity Value	Cultivate an attitude of sympathy, empathy and fairness to others.	1.	The child can say the sound of the 2nd precept.	4.5.6.7	4
		2.	The child can mention the symbol of the 2nd precept.		
		3.	The child comforts his friend who is crying.		
		4.	Children help friends if they see them falling or in trouble, and so on.		
Value of Unity	Giving children the understanding that living together is a better life than living divided.	1.	The child can mention the sound of the 3rd precept.	8,9,10,11	4
		2.	The child can mention the symbol of the 3rd precept.		
		3.	The child plays with his/her friends who are different in ethnicity, language, and so on.		
		4.	The child and his friends eat cake together.		
Deliberation Value	Providing freedom or	1.	The child can mention the sound of the 4th precept.	12,13,14	3

Values of Pancasila	Description	Indicator	Item Number	Number of Items
	opportunity for children to determine their desires.	2. The child can mention the symbol of the 4th precept		
		3. Children participate in community service / work together to clean up the school environment		
Value of Justice	Teaching children to always be kind to others, not to do bad things or hurt their friends.	1. The child can say the sound of the 5th precept.	15,16,17, 18	4
		2. The child can mention the symbol of the 5th precept		
		3. Children do not take toys / food belonging to friends without permission.		
		4. Children do not disturb their friends who are playing / learning.		

The collected data were analyzed through several stages, including descriptive analysis, prerequisite test analysis, and hypothesis testing using the independent t-test.

Result
Descriptive Analysis
The results of the descriptive analysis show that the average cultivation of children's Pancasila values in the experimental group is higher than in the control group. Based on statistical test results, it can be concluded that there is a difference and an increase in the cultivation of children's Pancasila values in both the control and experimental groups after the application of the *Garuda Pancasila* puzzle. These findings indicate that using interactive learning media can positively influence children's understanding of national values.

Berikut adalah tabel yang telah diperbaiki:

Saya juga telah menghitung uji-t independen. Jika Anda memerlukan interpretasi hasilnya, silakan beri tahu saya.

The following is a summary of the descriptive analysis results presented in Table 3.

Table 3. Descriptive Statistics Results

	Group	N	Mean	Std. Deviation	Std. Error Mean
Values of Pancasila	Control Group	32	7.88	1.792	0.317
	Experiment Group	30	9.60	1.886	0.344

Prerequisite Test Results
The prerequisite analysis tests conducted include normality and homogeneity tests for the post-test values of the control and experimental groups. These tests were carried out to determine whether the sample data met the assumptions required for hypothesis testing using parametric statistics, specifically the Independent t-test. Ensuring these assumptions are met is essential to maintaining the validity of statistical conclusions.

The results of the assumption test for the post-test scores of the control and experimental groups, with a sample of 32 children in the control group and 30 children in the experimental group, are presented in Table 4. Meanwhile, the learning activities in both groups can be seen in Figure 1.

Table 4. Normality and Homogeneity Test Results for Pre-test of Control and Experimental Groups

Value	Normality		Homogeneity		Hypothesis
	value	*Sig.*	value	*Sig.*	
Control	0,952	0,325	3,524	0,064	H_0 accepted (Sig > 0,05)
Experiment	1,209	0,107			

Figure 1. activities of the control and experimental groups

Figure 1 illustrates the activities of the control and experimental groups during the learning process. The control group followed conventional learning methods, whereas the experimental group engaged with the *Garuda Pancasila* puzzle. Unlike the control group, the experimental group showed more enthusiasm and engagement in their learning activities, suggesting that interactive learning tools can enhance participation.

Observations indicate that children in the experimental group demonstrated greater involvement and enthusiasm in understanding Pancasila values through the puzzle game. The documentation also reveals increased interaction between children and teachers, which contributed to an improved conceptual understanding and the development of fine motor skills. These findings highlight the importance of using engaging and interactive methods in early childhood education to strengthen children's understanding of abstract concepts.

Hypothesis Testing

Hypothesis testing was conducted to determine whether there were significant differences in the cultivation of Pancasila values between the control and experimental groups after implementing the puzzle game. The statistical analysis aimed to verify whether the observed differences were statistically significant rather than occurring by chance. The following hypothesis test results are presented in Table 5.

Table 5. Hypothesis Test Results

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
value	Equal variances assumed	3.524	.064	-2.068	75	.042	-3.133	1.515	-6.151	-.115
	Equal variances not assumed			-2.100	68.306	.039	-3.133	1.492	-6.110	-.156

Based on the results of the Independent *t*-test, the Levene's Test for checking homogeneity of variance shows an *F* value of 3.524 with a *p*-value (Sig.) of 0.064. Since the *p*-value is greater than 0.05, the assumption of homogeneity of variance is met, so the "Equal variances assumed" row is used for the *t*-test interpretation. Meeting this assumption ensures that the *t*-test results are valid and comparable between groups.

The *t*-test results show a *t*-value of -2.068 with a *p*-value of 0.042, which is smaller than 0.05. This indicates a significant difference between the control and experimental groups, confirming that the intervention had a measurable impact. The findings suggest that the use of the *Garuda Pancasila* puzzle contributed to a higher level of Pancasila values cultivation in children compared to conventional learning methods.

In conclusion, the application of the *Garuda Pancasila* puzzle has a significant impact on children's understanding of Pancasila values. The experimental group, which received an intervention emphasizing Pancasila values, demonstrated better learning outcomes than the

control group. These results provide strong evidence that implementing Pancasila-based learning approaches can positively influence early childhood character development and academic achievement.

Discussion

The findings of this study contribute to the growing body of research on game-based learning in early childhood education, particularly in the internalization of *Pancasila* values. Previous studies have emphasized the importance of interactive and tangible media in fostering children's cognitive and social development (Lv et al., 2022; Wang et al., 2023). The effectiveness of game-based learning in promoting critical thinking and cultural awareness is well-documented (Bagchi et al., 2023; Hassan et al., 2022). The *Garuda Pancasila* puzzle, as an innovative instructional tool, aligns with these findings by offering a structured yet engaging method for instilling *Pancasila* values in young learners. This study extends prior research by demonstrating the effectiveness of traditional puzzles in strengthening national identity and character education among children aged 5–6 years in the Indonesian context.

The results revealed a significant increase in *Pancasila* value internalization among children in the experimental group compared to the control group. The mean score of 9.60 in the experimental group, as opposed to 7.88 in the control group, indicates notable improvements in children's understanding and application of *Pancasila* principles. Moreover, the puzzle-based approach enhanced children's active participation and engagement, fostering meaningful teacher-student interactions. These findings align with prior research highlighting the benefits of game-based learning in early childhood education (Pramono et al., 2021; Rendón et al., 2025). Parametric statistical tests confirmed the reliability of these results, reinforcing the assertion that structured, play-based learning strategies effectively support early moral and civic education.

A comparative analysis with previous research suggests that game-based learning methods outperform conventional pedagogical approaches in values-based education. Studies on digital and physical educational games indicate that interactive learning tools significantly enhance cognitive retention and moral reasoning (Karagiannis et al., 2020; Raudenbush et al., 2020). Similar to the findings of this study, the integration of play-based strategies has been shown to improve engagement and long-term comprehension in young learners (Bhavnani et al., 2019; Lin et al., 2023). Additionally, research on social gamification and formative assessment in early education underscores the effectiveness of structured play in fostering higher-order thinking skills and social interaction (Sudana et al., 2020; Videnovik et al., 2022). These findings reinforce the argument that puzzles and other interactive games are effective tools for value-based education in early childhood.

Conversely, some prior studies have highlighted potential limitations of game-based learning compared to traditional instructional methods. Certain digital game models, for instance, have been criticized for failing to sustain long-term engagement due to their reliance on extrinsic rewards (Karageorgiou et al., 2020; Tandika & Ndijuye, 2020). However, the *Garuda Pancasila* puzzle circumvents this issue by fostering intrinsic motivation through cultural and national identity reinforcement. Unlike fully digital platforms, which may lead to screen fatigue or passive learning, the tangible and interactive nature of the puzzle game ensures consistent engagement and active participation (Rosak-Szyrocka & Tiwari, 2023; Solihat et al., 2024). These findings highlight the importance of balancing technological integration with hands-on activities to optimize learning outcomes in early childhood education.

The effectiveness of the *Garuda Pancasila* puzzle can be attributed to its structured yet flexible design, allowing children to engage in active problem-solving while reinforcing national values. Similar findings have been observed in studies on cooperative and social play, which indicate that hands-on learning experiences enhance social-emotional skills and ethical reasoning (Ribeiro et al., 2020; Thippana et al., 2020). The integration of symbolic representation, such as the national emblem and associated moral principles, further

strengthens children's conceptual understanding of *Pancasila* values (Husen et al., 2022; Pujiastuti et al., 2021). Additionally, embedding moral education within play-based learning environments fosters a sense of collective identity and ethical awareness from an early age, as evidenced by research on character education initiatives (Fitriyah et al., 2022; Mahanani et al., 2022).

These findings have implications for early childhood education policy and curriculum development. The incorporation of national values through structured play can serve as a model for cultural and civic education programs, particularly in diverse and pluralistic societies (Gunada et al., 2024; Khateeb et al., 2023). Moreover, the success of this approach underscores the need for greater investment in pedagogical innovations that leverage play-based learning to instill civic virtues (Marpaung et al., 2024; Zulkefli et al., 2024). The potential scalability of such initiatives, particularly in developing contexts, suggests promising avenues for integrating values-based education into national curricula (Najmina, 2018; Shofiah & Fauzi, 2023).

Future research should explore the long-term impact of the *Garuda Pancasila* puzzle on children's moral development and civic engagement. Longitudinal studies examining the retention and application of *Pancasila* values at later educational stages would provide valuable insights into the sustained efficacy of this approach (Karmila & Muhtarom, 2022; Novitawati & Khadijah, 2018). Additionally, comparative studies involving digital and non-digital game-based learning methods could help refine best practices for early childhood character education (Islamy et al., 2020; Parvez et al., 2019). By further integrating culturally relevant pedagogical strategies, educators can enhance the effectiveness of value-based learning and promote holistic child development.

Conclusion

The findings of this study underscore the effectiveness of the *Garuda Pancasila* puzzle game as a pedagogical tool for enhancing the internalization of *Pancasila* values in early childhood education. The research demonstrated that children in the experimental group exhibited a significantly higher understanding and application of *Pancasila* principles compared to the control group, as indicated by their improved scores and heightened engagement in learning activities. The puzzle-based intervention facilitated interactive and experiential learning, fostering both cognitive and socio-emotional development. Additionally, the structured yet flexible design of the puzzle allowed children to engage in meaningful problem-solving activities while reinforcing their comprehension of national values. These results highlight the potential of play-based learning strategies in instilling foundational civic virtues, which is particularly relevant in the context of early childhood character education.

Despite its promising outcomes, this study has certain limitations. The research was conducted in a single kindergarten with a relatively small sample size, which may limit the generalizability of the findings. Future studies should consider larger, more diverse samples across different educational settings to validate these results. Additionally, longitudinal research is needed to assess the long-term retention and application of *Pancasila* values beyond early childhood. Further exploration of digital adaptations of the *Garuda Pancasila* puzzle and comparisons with other value-based learning approaches could also provide deeper insights into the most effective strategies for character education. These findings reinforce the need for integrating culturally relevant, play-based learning into early childhood curricula, emphasizing its role in fostering national identity and ethical awareness from an early age.

Declarations

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