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The Implementation of Traditional Games on the Color Recognition Skills of Early Childhood

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Abstract

In this study, the use of traditional games as a learning medium to improve colour recognition skills among 5- to 6-year-old children was examined. The case study was conducted over three months at *Taman Kanak Kanak* (TK) Negeri Pembina Kanatang in East Sumba, involving 24 purposively selected research participants. The results of this case study confirmed that colour recognition skills in 5- to 6-year-old children can be effectively developed through the implementation of traditional classroom games, such as 'Porch Stone', 'Colored *Congklak*', and 'Colored Jump Rope'. The findings of this case study confirmed that the color recognition skills of the selected children had progressed from the 'developing' stage to the 'well-developed' stage, and this was evidenced from the feedback of the teachers and mothers of the selected children, who stated that the selected children participated fully and enjoyed the process of playing the traditional games for improved color recognition.

Keywords: Traditional games; Colour recognition; Early childhood; Porch stone; Colored Congklak; Colored Jump Rope.

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INTRODUCTION

Early Childhood Education (ECE) plays a crucial role in children's overall development. Often referred to as the golden age, this stage is characterised by rapid brain development in these children and is thus a crucial period in human development (Arrasyid et al., 2025; Chandratika, 2025). Stimulation provided to these children can affect their development; therefore, this stage is crucial for preparing them for future learning.

ECE centres not only care for children but also serve as strategic settings for developing creativity, character, and independence from a young age (Afriansyah et al., 2024). Among these skills, grasping basic concepts such as shapes, numbers, sizes, and colours is a necessary prerequisite

for later academic success (Fadillah & Suryadi, 2025). Color identification, for example, is a crucial skill that fosters human perceptual abilities, aids language development, supports aesthetic appreciation, enhances problem-solving, and facilitates the logical grouping of ideas. It prepares learners for success in higher education by emphasising colour-based content, although colour learning is crucial, a considerable number of 5- to 6-year-old children have difficulty grasping colour concepts. They can memorise colour names but are unable to associate them with corresponding images, or they become confused about different colours. Standard training techniques, such as assigning papers to memorise, are not sufficiently compelling to capture their attention.

Consistent with this, teachers are encouraged to employ learning methods that are concrete, game-based, and culture-based. Classic games offer a potential solution to this problem, as they incorporate substantial cultural content, support motor development, and promote interaction among diverse individuals, making them appropriate as learning tools in ECE (Eva Soraya Zulfa, 2023; Feni Ayu Mutiara Bru Surbakti et al., 2021)

The importance of these traditional games, particularly their effects on users' cognitive and social skills, has already been recognised, for example, a study done by (Amalia & Murtono, 2024) Concluded that playing *Congklak and Engklek* improved mathematical preparedness, attention, and problem-solving abilities, additionally Herawati & Mirawati (2023) Study found improved vocabulary development when learning through traditional games than through conventional storytelling techniques. Nevertheless, most of these investigations center on social-emotional or motor development, without much consideration of their significance for overall cognitive functions, especially colour identification (Sit & Rakhmawati, 2022).

Preliminary survey findings in ECE settings indicate minimal effort to incorporate game activities for colour learning. Educators recognize the motivational aspects of playing games such as Porch Stone, *Congklak*, and Jump Rope, but the objective of learning colors is absent. Worksheets or cards are predominantly used for color learning, in which interaction is absent to enhance involvement. These findings align with (Jumiatmoko et al., 2022).

This research addresses the existing gap by incorporating a structured intervention using conventional games to teach color concepts. The application of conventional games contextualizes abstract knowledge, creating a joyful environment for natural learning to take place. Additionally, conventional games are cost-effective, culture-friendly, and readily available, thus making them a sustainable tool for learning (Nurhidayah et al., 2024).

Accordingly, this study attempts to conduct a thorough assessment of the effectiveness of these traditional games, Porch Stone, *Congklak*, and Jump Rope, in improving color recognition skills among children belonging to the 5 to 6-year-old age group. This study will contribute to the existing body of knowledge on learning through play and the cognitive importance of these traditional games, and will offer innovative ideas to optimize ECE. Ultimately, this research shall help to achieve high-quality ECE, enabling these children to be better prepared for the modern world.

METODOLOGI

Type Study

In this study, a qualitative descriptive case study was employed to examine and describe the process of implementing traditional games as instructional media to improve color recognition skills among children aged 5-6 years. It was applied because this method captured the dynamics of the learning process, emphasizing meaning, processes, and experiences rather than statistics or measurement figures. (Creswell & Ploth, 2018; Sugiyono, 2021).

Time And Place Study

The study was carried out at TK Negeri Pembina Kanatang, Waingapu, East Sumba, East Nusa Tenggara, Indonesia, for a duration of three months from April to June 2025.

Target Study

The target population comprises 24 children aged 5-6 years enrolled in Group B at TK Negeri Pembina Kanatang, Waingapu, East Sumba, East Nusa Tenggara, Indonesia. The research subjects were selected using purposive sampling based on their developmental levels in color detection. Other respondents are two classroom teachers, six parents, and a school principal.

Technique Data Collection and Development Instrument

The data was collected through a variety of qualitative techniques, including:

1. Observation sheets: to record the performance of the children in naming, identifying, and differentiating colors.
2. Student response sheets: capturing children's engagement and enjoyment.
3. Semi-structured Interviews – These were carried out among teachers, parents, and the school principal.
4. Documentation: Photographs, Field Notes, and Validation Sheets.In order to make the findings credible, this research was carried out through the triangulation of sources, including the

teachers who managed the conventional games, as well as the children who participated as respondents.

Technique Data analysis

Data Analysis was done through the interactive method of (Miles & Huberman, 1994) That involves three phases, namely:

1. Data reduction: choosing relevant information from the initial data for research.
2. Data Representation: Presentation of findings through descriptive text passages and matrices to distinguish patterns, such as improvement in color identification.
3. Conclusion drawing and verification: synthesizing data from multiple sources and verifying results through triangulation to ensure validity and alignment with research objectives.

RESULTS AND DISCUSSION

RESULTS

In this research, the implementation of three conventional games, namely Porch Stone, Colored *Congklak,* and Colored Jump Rope, was examined to improve the color-recognition ability of children between 5 and 6 years old from TK Negeri Pembina Kanatang, East Sumba. The results of this study are presented in several phases, corresponding to the qualitative data-gathering process.

1. Initial Conditions

Initial observations indicated that most of these children had difficulty distinguishing between the primary and secondary colors. Teaching techniques, such as color cards or worksheets, that had been used with them showed minimal gains. Most of these children scored in the “developing” stage, in which they could name a limited number of colors. They also tended to confuse colors that looked alike.

2. Implementation of Traditional Games

In the intervention, color-recognition tasks were integrated into traditional games. In the game Porch Stone, colored stones were used, and the children had to categorize the colors before play. In Colored Congkalak, the shells were replaced with color-coded beads, and the children had to sort the beads by color. In Colored Jump Rope, colored jump ropes enabled children to perform various tasks, such as naming or pointing to objects of the corresponding color.

3. Children’s Engagement and Participation

It was observed that the children's enthusiasm and active participation remained high. The children volunteered to participate, cooperated, and spontaneously called out colors. The

teachers felt that this game fostered a less stressful learning environment, and the children felt motivated to learn the colors without coercion.

4. Improvement in Color Recognition Ability

At the conclusion of the intervention, a marked improvement was observed in the children's ability to distinguish, name, and describe colors. The observation forms showed that children who had identified two to three colors were now able to identify as many as six or eight colors. Most of the kids moved from the 'developing' to the 'well-developed' stage. Moreover, some of the children demonstrated the capacity to remember this information and apply it even when outside the intervention activities.

5. Teacher, Parent, and Headmaster Feedback

Feedback from the interview processes and questionnaire administration confirmed the feasibility and practicality of incorporating traditional games into the classroom.

a. Teachers' Feedback

The teachers observed that these activities, in addition to enhancing mental development, have also helped increase these children's cooperation, communication, and confidence. They stated that through play, these children can easily remember colors and apply them in their daily activities.

"*This game teaches the kids to count while saying the color names. They know what primary and secondary colors are*."— Teacher Group B.

"*Colored jump rope makes color recognition a kinesthetic experience. Children learn while moving*."— Teacher Group B.

The teachers agreed that traditional games can be conducted in a classroom setting because they require minimal materials and can cover multiple domains.

b. Parents' Feedback

Changes were also noted by the parents at home after the activities. Most respondents reported that their children began to name colors independently while playing, color-coding, or even during day-to-day chores.

"My child now points at clothes and toys, saying 'this is blue' or 'that is green,' which she never did before." — Parent of participant 5

"Children look happier and more confident when talking about colors." — Parent of participant 11

Based on the interview summary, the parents realized that, in addition to making learning more engaging, conventional games promoted the uniform use and awareness of colors even outside the classroom.

c. Headmaster's Feedback

The headmaster was highly supportive of incorporating these traditional games into the early childhood curriculum. According to the headmaster, these activities align with the school's vision of promoting culture-based education and improving children's intellectual capabilities. *"Traditional games reflect our local culture and values. Using them as learning media helps children grow in both knowledge and identity."* — Headmaster, TK Negeri Pembina Kanatang.

In conclusion, all informants, namely teachers, parents, and the headmaster, confirmed that the adoption of the traditional game was successful, appropriate, and sustainable. The combined findings from the informants' perspectives reinforced that the improved color identification among the children resulted from the intervention rather than a mere coincidence.

6. Observation Indicators and Results

The following table summarizes the observation checklist for color recognition abilities:

Table 1. Observation Indicators of Color Recognition Using Traditional Games

No.	Game	Color Recognition Task	Observation Results	Notes
1	Porch Stone	Recognizing red, yellow, green, orange, and blue	2 children not yet able to recognize yellow and orange	Most children improved
2	Colored *Congklak*	Recognizing red, yellow, green, orange, and blue	2 children not yet able to recognize yellow and orange	Most children improved
3	Colored Jump Rope	Recognizing red, yellow, green, orange, and blue	All 20 children were able to recognize primary and secondary colors	Full participation

Table 1 shows that most children were able to identify the primary colors from an early stage of the intervention. Initially, a few of them found it challenging to identify yellow and

orange. However, by the last game, all of them successfully distinguished between primary and secondary colors through the conventional game.

7. Validation of Findings

A data triangulation method was employed to enhance the validity of the findings by comparing findings from observation, interviews, and documentation. Multiple data points confirmed that the observed positive trends were synchronous. Field observations verified that the progress evidenced by the children was not random but systematic to the adapted game activities. In general, the results prove that the integration of 'Porch Stone', 'Colored *Congklak*', and 'Colored Jump Rope' tasks within a classroom-based learning setting is possible and successful. These tasks served as a stimulating, culture-based, and appropriate development tool that effectively improved the color recognition skills of children belonging to the age group of 5-6 years.

DISCUSSION

The results of this study indicate that the use of traditional games, including Porch Stone, Colored *Congklak*, and Colored Jump Rope, was significantly effective in improving the recognition of colored objects in 5-6-year-old children. Children who did not initially identify the primary and secondary colors showed marked improvement after the intervention. This discovery suggests that traditional games can be both recreational and instructional, supporting cognitive development.

This result could be explained through Vygotsky's sociocultural theory Vygotsky (1978), which proposes that learning is best achieved through meaningful social activities within the context of their culture, such as Nardo (2021) is a social activity that supports children's cognitive, emotional, and social development. Operationally, these informal games provided scaffolds and peer learning: children who correctly identified colors advised their peers, and teachers also aided students by asking questions and providing cues to recognize and amplify color differences. For example, during the Beads Colored *Congklak* game, before children count beads by color, their teachers remind them to compare their work and state aloud the name of any mixed color, thereby internalizing this practice in social interaction. This process illustrates Vygotsky's theory that cognitive development is mediated by participation in culturally relevant and socially meaningful practices.

The teachers noted a distinct increase in children's enthusiasm during the exercises. Unlike traditional means such as worksheets or flashcards, which frequently elicited passive responses,

games promoted children's active participation, including cooperative turns and free color-naming. One teacher commented, "*This game trains children to count while naming colors. They also understand the concepts of primary and secondary colors*" (Teacher, Group B). Another teacher noted, "*Colored jump rope makes color recognition a kinesthetic experience. Children learn while moving*" (Teacher, Group B). These data demonstrate that learning through games contributes to cognitive as well as emotional development; this is consistent with the results obtained by Zulfa (2023), who asserts that play encourages motivation, attention, and active learning for young children.

Beyond cognitive benefits, the intervention supported socioemotional development. The participants cooperated with their peers, respected the rules, and waited patiently for their turns; all of which are social skills learned through play-based activities. Parents also independently verified this impact at home, reporting that their children were now naming colors with confidence in everyday life. This connection between the home and school underscores the value of reinforcing practice across settings, an application of Bronfenbrenner's (1979) modelClick or tap here to enter text.. Ecological systems theory that stresses the dynamic interplay between individual development and social-environmental influences.

The use of culturally known games was also a factor here. Some of them, such as Conklak and Jump Rope, are already part of children's everyday life, so learning feels easy for them. This is consistent with the research of Mu'mala and Nadlifah (2019) that advocates the use of local cultural resources in early childhood programs to promote relevance and identity. Integrating academic material with playful activities ensures that learning occurs in a context that is authentic to young children's lives.

Parents' responses also supported the observation that children generalized classroom lessons to out-of-school experiences. Parents reported that children had begun to identify and name colors with greater confidence at home, whether playing with toys or selecting clothing. This home–school relationship reinforces the value of overlap and consistency, consistent with Bronfenbrenner. Children are more likely to learn when both their home and school environments align.

Teachers also noted that, from their perspective, the games were practical and realisable. Materials costs were low and locally available, making them cost-effective for ECE institutions. This result is important, given that resource availability poses a challenge for many rural early childhood centers. The use of culture-embedded games, which do not require costly media, would be more sustainable for enhancing learning quality.

The results are also consistent with other previous research indicating a cognitive contribution of folk games Amalia & Murtono (2024) Discovered that integrating traditional play into early childhood learning had a significant impact on the language and numeracy abilities of children. Similarly, Anggraini et al. (2018) Observed that classical games improved problem-solving skills and creativity among preschool children. This work generalizes these results by providing the first evidence that such games are effective not only in enhancing a child's ability to choose between two competing verbal majority-response options rapidly but also in developing a fundamental cognitive skill: color recognition.

However, a few difficulties were encountered with the application. Some children initially had difficulty following the game rules for color-response-based play, and teachers needed more training to use games as educational tools. Such challenges underscore the importance of ongoing teacher professional development for developing creative, play-based approaches. Sufficient support and training are also critical to the sustainability and scalability of such interventions.

Overall, the foregoing discussion demonstrates that traditional games are not merely cultural remnants but also practical pedagogical tools in early childhood education. Through the fusion of play, culture, and cognition, these games offer developmentally appropriate, culturally rich, engaging, and cost-effective ways for children to learn. The success of the present study indicates that reevaluating traditional games in PAUD's curriculum will benefit children's holistic development through enjoyment-based learning.

CONCLUSION

The introduction of conventional games such as Porch Stone, Colored *Congklak*, and Colorful Jump Rope notably improved color recognition skills among 5–6-year-old children. Children made significant progress in identifying, naming, and discriminating among colors; progressing from the "developing" to "well-developed" over time, according to both teacher and parent observations. These results reveal that traditional games are effective, culturally appropriate, and inexpensive pedagogical tools that provide children with enjoyable opportunities to construct explanatory knowledge through cognitive development and social interaction. Preschools are also recommended to introduce traditional games as part of classroom activities, with teachers and parents supporting learning in both home and school settings.

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