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Increasing Children's Creativity through The Use of Natural Materials at BA Aisyiyah Jekani

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Abstract

This study aims to describe in depth the efforts to increase children's creativity through the use of natural materials as learning media at BA Aisyiyah Jekani. The background of this research is based on the importance of developing creativity in early childhood as one of the aspects of development that must be stimulated from an early age. Children's creativity is often underdeveloped because learning activities are still dominated by factory-made or printed media, which provide limited opportunities for children to explore freely. Therefore, teachers need to design learning activities that are concrete, engaging, and contextual by utilizing materials that are easily found in the child's surrounding environment.

This research used a qualitative method with a descriptive approach. The research subjects consisted of class A teachers and students at BA Aisyiyah Jekani. Data were collected through observation, interviews, and documentation. Data analysis was carried out through data reduction, data display, and conclusion drawing.

The results show that the use of natural materials such as leaves, twigs, stones, seeds, and sand has a positive impact on increasing children's creativity. Children became more active, enthusiastic, and able to produce various creative works using natural materials from their surroundings. In addition, natural materials were effective in fostering children's learning interest, developing fine motor skills, and instilling a sense of responsibility in maintaining the environment. This study concludes that natural materials are effective learning media in improving learning outcomes and student participation at BA Aisyiyah Jekani.

Keywords: Early childhood, natural materials, creativity development, learning media

Introduction Section

Early Childhood Education (PAUD) is the main foundation in shaping children's character, intelligence, and creativity. At this stage, children are in the golden age, a period in which brain development occurs very rapidly and is optimal for receiving various educational stimuli. It is during this age that creativity needs to be developed, because creativity is not only related to artistic abilities but also to divergent thinking skills, problem-solving abilities, and the ability to generate new ideas independently (Utami, 2012). Thus, appropriate stimulation from an early age greatly determines how children's creative abilities develop in the next stages of life.

However, in practice, many PAUD institutions still tend to use factory-made learning media such as plastic teaching aids, printed picture cards, or commercial educational toys. Although these media are practical, they often limit children's opportunities to explore deeply. Children tend to imitate the examples provided by the teacher rather than creating their own ideas (Nana, 2010). In fact, creativity develops through direct experience, free exploration, and the opportunity to use a variety of different materials.

One effective solution to address this is the use of natural materials as learning media. Natural materials such as leaves, stones, sand, clay, twigs, seeds, and flowers can serve as rich and multifunctional learning resources. When children interact with these materials, they not only use their senses optimally but also develop motor, cognitive, aesthetic, and creative abilities (Dadan, 2018). In addition, natural materials are easy to find in the surrounding environment, low-cost, and environmentally friendly, making them suitable for PAUD learning principles that are contextual and based on real-life experiences.

BA Aisyiyah Jekani, as one of the early childhood education providers in its area, has made efforts to integrate natural materials into the learning process. The selection of this location is important because the institution is situated in an environment that still has access to various natural resources that can be utilized in learning activities. This study aims to explore in depth how Group A teachers use natural materials as learning media to enhance children's creativity, how learning strategies are designed, and the obstacles that arise during their implementation.

Teachers have a key role as facilitators who provide a conducive learning environment for children's exploration. Teachers need to encourage children to experiment freely, provide space for them to try various possibilities, and appreciate every form of work they produce. According to Mursid, child development is a gradual change toward physical and psychological maturity, which can be observed through increasingly refined physiological and psychomotor abilities (Mursid, 2015). The use of natural materials in learning becomes one form of stimulation that encourages this developmental process.

This study uses a descriptive qualitative approach with the subjects consisting of Group A teachers and Group A children at BA Aisyiyah Jekani. Data were collected through observation, interviews, and documentation. The results of the observations show that activities based on natural materials significantly increase children's enthusiasm and creativity. Children appeared active while creating collages from leaves, arranging patterns using stones, or forming animal shapes using twigs. These activities not only enrich learning experiences but also strengthen fine motor coordination. The teacher also stated that the use of natural materials makes it easier for children to understand concepts because these materials are concrete, close to everyday life, and help build environmental awareness. Children are naturally encouraged to recognize, appreciate, and care for the surrounding environment.

Thus, this study is important in providing a comprehensive description of the effectiveness of using natural materials in enhancing early childhood creativity, as well as offering recommendations for developing learning in early childhood education institutions, particularly at BA Aisyiyah Jekani.

Literature Review

Early childhood creativity is one of the developmental aspects that requires special attention because, during this period, children are in a phase that is highly sensitive to new stimuli and experiences. Young children have the ability to absorb, imitate, and form concepts through play activities, so every form of stimulation provided can be easily recorded and influence their personality development (Nurunnisa, S., Nuraeni, T., & Andrisyah, 2020). At this stage, creative experiences are essential as a foundation for the maturation of children's artistic, emotional, linguistic, cognitive, and social development. Children need a learning environment that is enjoyable, expressive, and free from boredom so that their creative potential can develop optimally (Santrock, J.W., 2011).

In various global studies, creativity is considered a key 21st-century competency that must be cultivated starting from basic education, including early childhood education. Educational institutions around the world encourage teachers to shift from traditional pedagogy toward creative learning approaches that provide broader opportunities for exploration and innovation (Cropley, A. & Patston, T., 2019). Teachers' creativity itself becomes an important factor in creating such an environment, as it plays a major role in facilitating student competence and teachers' professional development (Narayanan, 2018). Creative teachers are able to design activities that provide new experiences for children and integrate their characteristics with a social environment that supports creative development (Ellis, R. & Childs, 2019). Thus, early stimulation of creativity will help children develop skills such as discovering solutions, creating works, and adapting to various situations (Nurinayah et al., 2021).

One effective form of stimulation is through the use of natural materials in learning activities. Natural materials include various objects that are naturally available in the surrounding environment, such as leaves, stones, twigs, flowers, clay, and seeds. These materials are not only easy to find but also offer sensory experiences that cannot be obtained from factory-made media. Munandar (2024) explains that natural materials are non-manufactured media rich in textures, shapes, colors, and functions that can be explored to develop children's creativity. By interacting directly with natural materials, children can touch, smell, observe, differentiate, and compare—making the learning process more meaningful.

The concept of affordance emphasizes that the natural environment provides natural opportunities for children to play, experiment, and create (Gibson, 1979). Environments rich in natural materials offer children opportunities to construct meaning through direct exploration. A study by Nasution (2023) found that the use of natural materials significantly improves children's logical thinking and socio-emotional abilities because it gives them the space to make creative decisions, such as choosing materials, arranging shapes, and creating patterns according to their imagination. These findings are supported by research on Nature-Based Exposures of Learners (Bilpub, 2025), which shows that nature-based learning helps foster curiosity, observational skills, reflection, and environmental awareness.

The use of natural materials in early childhood learning is also closely related to constructivist theory. According to Piaget, children build knowledge through direct experiences via assimilation and accommodation processes that occur when interacting with concrete objects (Piaget, 1973). Natural materials offer real objects that children can touch, modify, and manipulate, enabling them to construct their own understanding. Meanwhile, Vygotsky emphasizes that learning occurs through social interaction and teacher support (scaffolding) (Vygotsky, 1978). When children collaborate to create works from natural materials, they engage in dialogue, negotiation, and collaborative work that supports sociocultural learning.

From Bruner's perspective, learning becomes more meaningful when children discover concepts through direct experience (discovery learning) (Bruner, 1961). When children are given the freedom to create shapes from leaves, arrange patterns from stones, or make figures from twigs, they are constructing knowledge independently. Thus, natural materials serve as a bridge between constructivist theory and early childhood learning practice that is child-centered, as they allow children to learn through exploration, experimentation, social interaction, and independent discovery.

Based on these theories, it can be understood that early childhood creativity will develop optimally when children are given the opportunity to explore natural materials in a supportive environment. Natural materials are not merely play tools but educational media that strengthen the knowledge construction process, build character, and cultivate children's creativity holistically.

Research Methodology

This study uses a descriptive qualitative approach, as it seeks to describe in depth the phenomenon of using natural materials in developing early childhood creativity at BA Aisyiyah Jekani. This approach was chosen because children's creativity and their processes of exploring natural materials are natural, dynamic experiences that cannot be fully explained through numbers or statistics. Through a qualitative approach, the researcher can understand the meanings that emerge from children's behaviors, interactions, and thought processes when engaging with various natural materials as learning media.

The research was conducted at a private early childhood education institution in Mondokan, Sragen, which is committed to implementing learning based on environmental exploration. This location was selected purposively based on the consideration that the institution had already utilized natural materials in various play and creative activities, thus allowing the researcher to observe the phenomenon directly. The research subjects included Group A teachers and Group A children who were actively involved in natural-material-based learning activities. Teachers were chosen as the main informants because they play an important role in designing activities, providing stimuli, and guiding children's creative processes.

This study employed a descriptive qualitative design focusing on describing children's activities while exploring natural materials. This design allowed the researcher to understand how children build concepts, create ideas, and express their creativity through direct interaction with natural objects such as leaves, stones, clay, seeds, tree bark, and twigs. The analysis was based on constructivist theory, which views that children build knowledge through real experiences and direct interaction with their environment. Therefore, the processes of manipulating and exploring natural materials became the central focus of the research.

The research data were collected through observations, interviews, and documentation. Observations were conducted directly in the classroom and play environment to observe how children responded to natural-material stimuli, how they used the materials when creating works, and how teachers provided appropriate guidance. Observations were carried out continuously to obtain a consistent or varied picture of behavior depending on the context of the activity. Interviews were conducted with the classroom teacher to obtain in-depth information about learning strategies, methods of providing creative stimuli, and obstacles encountered during learning activities using natural materials. Information from the interviews helped the researcher understand the pedagogical perspectives underlying the teacher's actions. Meanwhile, documentation in the form of activity photos, teacher notes, children's work, and learning plans (such as RPPM and RPPH) was collected to strengthen findings and provide concrete evidence of the implementation of natural-material-based learning.

In qualitative research, the researcher acts as the primary instrument or human instrument. The researcher is responsible for observing, recording, interpreting, and analyzing various phenomena occurring in the field. In addition, the researcher used supporting instruments such as observation guidelines and interview guidelines, which were developed based on indicators of early childhood creativity, indicators of natural material utilization, and aspects of constructivism emphasizing thinking, trying, and discovering processes.

Data analysis was conducted continuously using the interactive analysis model of Miles and Huberman, which includes data reduction, data display, and conclusion drawing. In the data reduction stage, the researcher selected and simplified the obtained data to focus on the research variables, namely children's creativity and the use of natural materials. Next, data display was presented in descriptive narrative form, illustrating patterns of children's interaction with natural materials, teacher interventions, and the development of creativity that emerged. The final stage was conclusion drawing, carried out by evaluating all the data to obtain answers to the research questions.

To ensure data validity, the researcher applied triangulation techniques by comparing observation results, interviews, and documentation so that the obtained data were genuinely valid and reliable. Triangulation was conducted not only in terms of technique but also in terms of data sources by comparing information from teachers, children, and written documents. Repeated observations were conducted at different times to ensure consistency in children's behavior and learning processes.

Overall, this research methodology was designed to provide a comprehensive description of how natural materials are used as learning media to develop early childhood creativity through a constructivist approach. This approach enables the researcher to examine holistically children's experiences in constructing knowledge, innovating, and expressing their creative ideas through direct interaction with the natural environment.

Discussion

The results of the study show that the use of natural materials in learning at BA Aisyiyah Jekani provides a significant contribution to the development of children's creativity. In the observed learning activities, the children demonstrated high enthusiasm when introduced to various types of natural materials such as leaves, twigs, stones, seeds, clay, and tree bark. This rich environmental stimulus allowed children to build learning experiences directly and concretely. The natural-material-based learning approach proved to be more effective in fostering creativity because it provides space for children to explore, manipulate objects, and discover relationships between shapes, textures, colors, and the functions of the materials.

Within the framework of constructivist theory, these explorative experiences are essential because children are viewed as active learners who construct their knowledge through direct interaction with the environment. Observations revealed that children more easily generated creative ideas when they were allowed to choose the materials they wanted to use. For example, when creating collage art, each child selected different types of leaves, arranged patterns according to their imagination, and created unique visual compositions. These decisions reflect divergent thinking processes, which are at the core of creativity. The teacher did not provide rigid examples; instead, they gave general instructions so that the children were free to interpret and produce artwork according to their own ideas.

The interaction between children and natural materials also shows how creativity develops through multisensory experiences. Children use their sight to distinguish leaf colors, touch to recognize the texture of stones or twigs, and motor strength when breaking, pressing, or arranging the materials. All these processes facilitate higher-order cognitive activities such as analysis, problem-solving, and decision-making. This aligns with constructivist ideas that emphasize learning occurs when children actively organize new information from the experiences they gain.

In addition to enhancing creativity, the use of natural materials also has a positive impact on children's social-emotional aspects. During the activities, children were seen collaborating, discussing which materials they chose, and helping one another when facing difficulties. This indicates that exploring natural materials not only develops individual creativity but also fosters a sense of togetherness, communication, and the ability to interact with peers. The teacher also used these moments to appreciate each child's work without making comparisons, creating a more supportive and inclusive classroom atmosphere.

Findings from interviews with the teacher reinforce the observational results. The teacher explained that natural materials help children understand concepts more concretely. For instance, concepts of size, shape, color, and weight are more easily understood through natural objects than through printed or factory-made media. The teacher also added that natural materials are flexible and can be used in various activities—from visual arts, sensory play, to simple science experiments. This flexibility allows children to explore more deeply and express their creative ideas more freely.

On the other hand, the teacher also mentioned several challenges in using natural materials, such as the availability of materials that sometimes depend on the season, and the need for more preparation and cleanup time after activities. Nevertheless, the teacher believes that the benefits of using natural materials far outweigh the challenges, especially in supporting learning goals oriented toward direct experience and creativity development.

Overall, learning using natural materials at BA Aisyiyah Jekani shows that children's creativity can develop optimally when they are given the opportunity to experience the process of discovering, trying, making mistakes, trying again, and eventually creating. These findings align with the principles of constructivism, which state that children do not merely receive information but construct their own understanding through meaningful experiences. Through exploratory experiences with natural materials, children not only create art but also construct creative, imaginative, and innovative ways of thinking that will become an important foundation for their future development.

Conclusion

Based on the results of the study and the discussion presented, it can be concluded that the use of natural materials in learning has a significant influence on enhancing the creativity of young children. The children demonstrated increasingly developing creative behavior when they interacted directly with various types of natural materials, whether through art activities, sensory play, or simple experiments. The real-life experiences they gained from the natural environment enabled them to actively construct knowledge, engage in free exploration, and generate new ideas, which are the main characteristics of creativity.

Learning based on natural materials also supports the principles of constructivism, as children act as active subjects who process experiences through direct manipulation of natural objects. The entire process—from observing, selecting, trying, arranging, to creating new forms—serves as evidence that children construct understanding through concrete experiences. Teachers act as facilitators who create an open learning environment and show appreciation for every child's work, making the learning atmosphere more enjoyable and inclusive.

The success of learning using natural materials is not only seen in the enhancement of creativity but also in the development of children's social-emotional skills, motor abilities, and environmental awareness. Collaborative activities help children learn to work together, respect one another, and communicate their ideas. Meanwhile, intensive interaction with nature fosters ecological awareness from an early age, an important value relevant to character education.

Although there are challenges such as varying availability of materials and the need for additional preparation, these obstacles do not diminish the effectiveness of the learning process. Teachers can still overcome these challenges through creativity and flexibility in designing activities. Thus, natural materials serve as effective, inexpensive, contextual media capable of optimizing various aspects of children's development holistically.

Overall, this study affirms that natural-material-based learning is a highly effective pedagogical strategy for developing early childhood creativity. Through an approach grounded in constructivism, children are given the opportunity to naturally and meaningfully build knowledge and creative skills. The findings of this study are expected to serve as a reference for early childhood education practitioners to further expand the use of natural materials in learning activities to support the creation of a generation that is creative, independent, and capable of innovative thinking.

Suggestions

Based on the conclusions presented in this study, several recommendations can be considered by various related parties in order to optimize the use of natural materials as learning media to enhance the creativity of young children. For teachers, it is important to continually develop creativity in designing learning activities that are based on environmental exploration. Teachers need to provide children with more frequent opportunities to interact directly with natural materials, not only during art activities but also in science, language, and motor activities. Teachers are also expected to create an inclusive and open learning environment that allows room for freedom of expression so that children feel safe to try, make mistakes, and then improve their work. In addition, teachers must strengthen their pedagogical competence related to the constructivist approach so they can understand how children learn through concrete experiences and can provide appropriate guidance without limiting the child's creativity.

For early childhood education institutions, it is recommended to provide greater support in creating a learning environment rich in natural materials. Institutions can design a nature corner or outdoor area designated as a space for children's exploration, allowing them to engage in both structured and free-learning activities using natural objects around them. Additionally, institutions may develop collaborative programs with parents and the community to collect safe natural materials such as dry leaves, twigs, small stones, seeds, or pieces of bark. Institutional support is also important in providing training or workshops for teachers so they can gain deeper understanding of nature-based learning and the application of constructivism.

For parents, this study provides the understanding that the development of children's creativity does not rely solely on modern media or factory-made toys, but can also be supported through simple objects available in the home environment. Therefore, parents are encouraged to provide exploration opportunities at home, for instance by inviting children to play in the yard, collect leaves, string seeds, or create simple crafts from materials that are easy to find. Parental involvement in daily nature-based activities will help strengthen children's learning experiences while also enhancing the emotional bond between parents and children.

Based on the findings of this research, future researchers are also encouraged to expand the study of natural-material utilization by integrating it into other aspects of child development, such as language development, cognitive skills, gross motor skills, or social-emotional development. Further research may employ experimental approaches to examine the direct effects of natural materials on specific creativity indicators or compare the effectiveness of natural versus non-natural materials. In addition, future studies may broaden the research context or increase the number of subjects so that the findings become more comprehensive and can be generalized more widely.

Overall, these suggestions aim to encourage the optimal use of natural materials in early childhood learning. With the collaboration of teachers, institutions, parents, and future researchers, it is hoped that meaningful, creative, and contextual learning can be realized and contribute positively to early childhood development in the long term.

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