



Natural Material Media in Early Childhood Collage Art Creativity: Study of Local Cultural Learning with a Qualitative Approach

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Abstract: Early childhood education (ECE) is a pivotal stage in human development, establishing the groundwork for lifelong learning and holistic growth. Children acquire foundational academic skills during this period while developing crucial social, emotional, and cognitive abilities. This study investigates the effectiveness of collaborative learning with parents in enhancing children's creative abilities in creating collage art using natural materials in kindergartens in Central Java. Participants included 15 kindergarten students, 10 teachers, five principals, and two parents. Data were collected through interviews, documentation, and questionnaires to capture in-depth participant experiences. The Findings indicate that using natural materials—such as leaves, seeds, and twigs—stimulates children's creativity, fine motor skills, and cognitive development. Additionally, it fosters stronger relationships among children, parents, and the school community, contributing to a holistic educational experience. This research emphasizes the significance of utilizing natural materials in early childhood collage art to foster creativity while incorporating local cultural values. The implications of this research extend to education policies, encouraging the adoption of culturally relevant teaching methods and educators seeking innovative strategies to blend creativity, sustainability, and cultural identity in early learning.

Keywords: collaborative learning, collage art, creativity enhancement, early childhood education, natural materials

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INTRODUCTION

Early childhood education (ECE) is a crucial stage in human development, laying the foundation for lifelong learning and holistic growth. During this period, children acquire basic academic skills and develop essential social, emotional, and cognitive abilities (Mustafa et al., 2022; Essa & Burnham, 2019). One effective approach to achieving these developmental goals is collaborative learning, emphasizing group interaction and shared educational experiences. Collaborative learning fosters creativity, a vital component of early childhood development (Yang, 2023; Roykhan et al., 2022). Collaborative learning involves children working in small groups, allowing them to support each other in achieving common learning objectives. This method encourages the development of social skills such as communication, negotiation, sharing, and conflict resolution. Through these interactions, children learn to appreciate different perspectives, develop critical thinking skills, and discover creative solutions to problems (Warsah et al., 2021; Al-Rahmi & Zeki, 2017). In this context, teachers facilitate and guide the learning process, designing activities that promote student interaction and collaboration (Alharbi et al., 2022; Widiarta et al., 2017).

The importance of collaborative learning extends beyond the classroom, involving active participation from parents as well. Education is not solely the responsibility of schools; families, particularly parents, play a pivotal role in the educational process. Teachers provide education within the school environment, while parents are responsible for continuing this education at home (Nakata et al., 2022; Khasanah & Ichsan, 2019). Effective early childhood education requires a strong partnership between teachers and parents, ensuring children receive consistent support and guidance in school and home environments (Qadafi, 2019). Creativity is a critical aspect of early childhood education that significantly influences a child's development and future success. Creativity enables children to generate new ideas, solve problems innovatively, and express themselves through various art forms. It also helps develop fine motor skills, cognitive abilities, and emotional intelligence (Syifauzakia, 2023). One of the most effective ways to nurture creativity in young children is through art activities, particularly collage art, which allows them to explore different materials and techniques.

Collage art, a visual art created by assembling different materials onto a surface, offers numerous educational benefits for young children. It encourages the development of fine motor skills, enhances spatial awareness, and stimulates creative thinking. By working with various materials such as paper, fabric, and natural objects, children learn to manipulate different textures and shapes, which contributes to their cognitive and sensory development (Binsa et al., 2022). Moreover, collage art allows children to express their individuality and imagination, fostering self-confidence and emotional well-being (Jin & Ye, 2022; Nurkhasanah, 2017). Incorporating natural materials into collage art activities can further enrich the educational experience for young children. Natural materials like leaves, twigs, seeds, and stones offer unique textures and colors that stimulate children's senses and creativity. Using these materials helps children develop a deeper connection with nature and an appreciation for the environment. Additionally, natural materials are often readily available and cost-effective, making them an accessible resource for educational activities (Setiawan et al., 2022).

Integrating collaborative learning and using natural materials in collage art can create a dynamic and engaging educational environment for young children. This approach enhances their creative abilities and promotes holistic development by addressing various aspects of their growth, including cognitive, social, emotional, and physical development (Suboh et al., 2024; Armadi et al., 2018). By involving parents in the learning process, educators can create a supportive and nurturing environment that encourages children to explore their creativity and develop essential skills for future success (Masruroh & Fajrie, 2021). According to Williams et al. (2024), collaborative learning models can significantly enhance children's creative thinking and problem-solving abilities. For example, studies have demonstrated that children who engage in collaborative learning activities perform better in creative tasks and exhibit higher levels of originality and flexibility in their thinking. Furthermore, collaborative learning fosters a sense of community and belonging among children, essential for their social and emotional development (Adisaka et al., 2022). Despite the clear benefits of collaborative learning and the use of natural materials in art activities, there are still challenges and gaps in implementation. For instance, many early childhood educators and parents may lack the necessary skills or resources to facilitate these activities effectively. Additionally, there may be discrepancies between the theoretical understanding of collaborative learning and its practical application in the classroom (Polat et al., 2022). Addressing these challenges requires ongoing professional development for educators, increased parental involvement, and adequate resources and support for collaborative learning initiatives (Dhitasarifa et al., 2023). The study aims to investigate the effectiveness of collaborative learning with parents in enhancing children's creative abilities in creating collage art using natural materials in kindergartens in Central Java. The study seeks to explore both the process and outcomes of collaborative learning, providing insights into how this approach can be effectively implemented to support early childhood development. Therefore, integrating collaborative learning and using natural materials in art activities offers a promising approach to enhancing creativity and holistic development in young children. Educators and parents can help children develop the skills and abilities necessary for future success by fostering a supportive and interactive learning environment.

METHODS

This study adopted qualitative research to examine the impact of natural materials in collage art on young children's creativity and local cultural learning (Cresswell & Cresswell, 2017; Bengtsson, 2016). The participants, including 15 kindergarten students, 10 teachers, five principals, and two parents, captured various perspectives regarding the educational use of natural materials in Central Java. Semi-structured interviews were conducted with teachers, principals, and parents to gather qualitative insights about their perceptions of how natural materials enhance children's creativity and foster connections to local culture (Adeoye-Olatunde & Olenik, 2020; Dworkin, 2012). These interviews focused on participants' observations of children's engagement during art activities and the perceived benefits of integrating cultural elements into the learning process (Creswell & Poth, 2016). Observations were conducted for 120 minutes during classroom activities, followed by interviews with educators. Table 1 shows the information of the participants of the study.

Table 1. Coding of observation and interview informants

Participant	Gender	Institution	Description
MRV	Female	TK 1	Student
GMI	Male	TK 1	Student
TSM	Female	TK 1	Student
SER	Female	TK 1	Teacher
ID	Female	TK 1	Teacher
H	Female	TK 1	Parent
DP	Male	TK 1	Principal
JAA	Male	TK 2	Student

SAY	Female	TK 2	Student
IKA	Female	TK 2	Student
	Female	TK 2	Parent
PA	Female	TK 2	Teacher
R	Female	TK 2	Teacher
S	Female	TK 2	Principal
LUM	Female	TK 3	Student
NMZY	Female	TK 3	Student
ZILJ	Male	TK 3	Student
M	Female	TK 3	Teacher
SN	Female	TK 3	Teacher
WS	Female	TK 3	Principal
AAM	Female	TK 4	Student
MA	Female	TK 4	Student
NYT	Female	TK 4	Student
KF	Female	TK 4	Teacher
RPS	Female	TK 4	Teacher
A	Female	TK 4	Principal
SA	Female	TK 5	Student
MZAS	Female	TK 5	Student
AND	Female	TK 5	Student
NK	Female	TK 5	Teacher
MS	Male	TK 5	Teacher
NH	Female	TK 5	Principal

The data analysis process in this study was conducted in several stages to ensure a thorough examination of the data collected. The main analytical method was thematic analysis, which involves identifying, analyzing, and reporting patterns (themes) in the data (Ravindran, 2019). This approach was used to systematically organize and interpret qualitative data, revealing important insights into the collaborative learning process and its impact on children's creativity. The first step in the analysis was coding, where data from interviews, documentation, and questionnaires were systematically reviewed and categorized into meaningful segments. Each segment was assigned a code that represented a particular idea, theme, or pattern observed in the data. Coding helped organize the data and identified recurring themes related to collaborative learning and creativity (Akinyode & Khan, 2018). Once the data was coded, the next step was identifying themes across various data sources (Kawulich, 2017; Pierre & Jackson, 2014). The researcher used the following coding for gender: (1) Male and (2) Female. The thematic analysis involved examining the coded data to find common patterns and relationships that provided insight into the research questions. The themes were then categorized and interpreted to understand how collaborative learning with parents influenced children's creative abilities in creating collage art using natural materials.

To ensure the reliability and validity of the findings, this study used triangulation by comparing data from multiple sources and methods. This involved cross-referencing interview data with documentation and questionnaire responses to identify consistencies and discrepancies (Rose & Johnson, 2020; Belotto, 2018). Triangulation increased the credibility of the study by confirming that findings were not limited to a single data source or perspective (Donkoh & Mensah, 2023). In addition, the study adhered to ethical guidelines to protect the rights and well-being of all participants. Informed consent was obtained from parents and teachers, ensuring they were fully aware of the purpose of the study, the procedures, and their right to withdraw from the study at any time. Confidentiality was maintained by anonymizing participant information and storing collected data securely. The study was conducted with sensitivity to the cultural and social context of the participants, respecting their values and norms throughout the study.

RESULT AND DISCUSSION

Based on the interviews with the three students, it is evident that students enjoy making collage artwork. They have prior experience creating collages but with different materials, such as colored paper. Students often engage in these activities at home with their parents and siblings, indicating collaborative family involvement. They can appreciate their work and enjoy the learning process involving their family members. After observing and interviewing the students, the researcher conducted interviews with teachers to follow up on the findings. Based on the interview with the teacher, it is evident that the TK1 institution applies an independent curriculum for creating collage artwork. The teacher provides the necessary tools and materials for the collage, part of a

P5 semester 2 project involving parental participation. This P5-based project aims to foster closeness and cooperation between children and parents during the creative process. The educator requests parents to make a learning video, which is then uploaded to the school's Instagram for collective viewing. After completing their projects, children are asked to bring their work to school, where their peers appreciate it. The teacher meticulously prepares and executes the appreciation process, including gathering materials, providing an initial trigger for the activity, and facilitating exploration during learning. Overall, the students have produced good collage works, showcasing a variety of unique and creative forms. Based on the results of interviews with students and teachers, the researcher followed up by interviewing the principal, DP1.

The interview with the principal confirmed that the school implements a comprehensive collaborative learning model involving parents, aligning with the independent curriculum's guidelines. This approach is integral to various school activities, underscoring the significance of parental participation in enhancing children's educational experiences. The interview with the principal confirmed that the school implements a comprehensive, collaborative learning model involving parents, aligning with the independent curriculum's guidelines. This approach is integral to various school activities, underscoring the significance of parental participation in enhancing children's educational experiences. Based on the interviews with the three students, it is evident that they enjoy collage artwork. They create collage artwork at home with their parents and siblings. Students can appreciate their work and enjoy learning with their family members. According to the interview description, TK2 uses the 2013 curriculum and has established collaborative learning activities as an annual routine. After interviewing students, educators, and the principal, the researcher followed up by interviewing the parents of students. Also, the parents' responses indicate that children enjoy school activities, especially when working with their fathers. These responses highlight that collaborative learning is very beneficial for both children and parents. Parents get to spend quality time with their children, and children benefit significantly from their parent's participation in the activities.

Based on the results of the interviews with the three students, it is evident that students enjoy collage artwork. On average, they expressed happiness with this activity, particularly appreciating the quality of the images provided. However, some students admitted feeling tired if required to finish the collages, as they wanted to engage in other activities. While some students displayed creativity according to their imagination, others imitated their friends' creations, including the materials used. The responses indicate that TK3 is accustomed to conducting learning activities using natural materials for collages and other projects. Children are enthusiastic about collage activities, as observed in today's research, which include more diverse drawing tools and materials such as rice, corn, green beans, and soybeans. However, the natural materials used so far have been limited, primarily to dry leaves, and have not yet incorporated a wider variety of natural materials. TK3 also fosters children's creativity through other activities, such as experiments. Based on the results of the interviews with the three students, it is evident that they enjoy collage artwork. They have previously made collage artwork using different materials, such as colored paper, and often create collage artwork with their friends. Many students tend to imitate their friends' work due to a lack of confidence in creating their designs. Once the activity is completed, the teacher takes photos of the children's work and asks the students to return the teaching aids to their respective places. Students then engage in free play activities and eat their lunch brought from home. The activity concludes with a recall session, followed by the teacher leading a prayer before going home, which begins with an ice-breaking activity, such as guessing the five basic ABCs.

The responses indicate that the TK4 institution conducts school activities using natural materials provided by the teacher, such as seeds, pieces of wood, wood shavings, dry leaves, sand, and other natural materials. Children seem enthusiastic about these activities, including the media and tasks provided. These activities can enhance children's creativity and other activities like simple experiments and storytelling about children's feelings and experiences. Following the interviews with students and educators, the researcher conducted an interview with the principal to gather managerial and administrative insights. Based on the interview description, Kindergarten 4 has been using the independent curriculum since the 2022/2023 school year, as it is a pilot project school for implementing the independent curriculum in Central Java. The institution has also conducted activities involving parents, receiving positive responses, with guardians requesting that these activities become an annual routine. Figure 1 shows the core activity process of TK4 and the interview process with the principal of TK4.



Figure 1. (a) Core Activity Process of TK4

Based on the results of the interviews with the three students in TK5, it is evident that students enjoy creating collage artwork. They have previously made collage artwork using different materials, such as colored paper. Students also create collage artwork at home with their parents and siblings. They can appreciate their work and enjoy the learning experience with their family members at home. The response indicates that TK5 has implemented collage activities using materials provided by the teacher in the classroom according to the daily instructions. However, children are also free to find materials around the school, allowing them to express themselves in their material choices. Educators encourage children to draw their own images or add details about pre-existing ones. While some tools and materials are provided, others must be sourced by the children within the school environment. The children then create their collages on the paper they have. Before starting the activity, the educator prepares all the necessary tools and materials according to general school learning practices. This includes preparing materials, telling stories about the various images to be provided, and exploring various games. The response highlights that students can create good collages when they are free to express their creativity. However, some children remain passive during the activity, choosing not to complete their collages and instead copying materials and images from other children. Furthermore, based on the interview description with the principal, TK5 has been using the independent curriculum since the 2023/2024 school year. The implementation of this curriculum is practiced according to the current understanding and is gradually improving based on insights gained from the learning community during cluster activities.

The example of collage artwork with collaborative learning can be seen in the work of student AKPF1. The bird collage demonstrates the use of real lines in depicting tree branches, cloud outlines, and leaves. It includes geometric and non-geometric planes, utilizing contrasting colors such as yellow corn, green soybeans, brown rice, and gray chia seeds. The placement of these colors creates light and dark areas with tactile and visual textures. From an art principles perspective, AKPF1's work shows unity through the complementary placement of image objects. The curves of tree branches and leaves are arranged closely together repetitively using the grains. The balance of the bird collage is asymmetrical, visible when a straight line is drawn vertically, horizontally, or diagonally through the middle. Rhythm is evident in the varying heights of the birds, leaves, and clouds, while harmony is achieved through the proportional arrangement of objects.

Another example is the work of student SSM2, whose butterfly collage features both real and pseudo lines. Real lines are evident on the butterflies, leaves, and trees, while virtual lines appear in the natural color gradations of yellow corn and light brown coriander. The collage includes non-geometric planes in the leaves, stems, and bushes. The harmonious color patterns feature light brown, dark brown, yellow, and green. The skillful placement of colors creates light and dark areas with tactile and virtual textures. In terms of art principles, unity is achieved by closely placing two butterflies in a garden setting. The balance is asymmetrical in the thick leaves and tree branches. The high and low placement of butterflies and leaves creates a visual rhythm, while harmony is achieved through the proportional placement of collage objects, resulting in a visually pleasing work of art.

The results of the collage artwork with collaborative learning from AH2 students reveal several elements of art. The collage, titled "Goat," prominently features real lines, evident in the repeated depiction of objects like land and grasslands that form the landscape. Non-geometric fields are consistently present, including the images of the goat, grass, and surrounding leaves. The color pattern is predominantly monochrome brown with gradients, creating a sense of volume in each object through dark and light shades. The collage also features both real and virtual textures. The principles of art are demonstrated by AH2 students, with the goat being the center of interest, arranged to convey unity. The balance achieved is asymmetrical, and the visual rhythm is apparent from the grass's varying heights and the grassland's curves in the background. Harmony is evident from the proportions of each collage object and the use of perspective. The students utilized seeds as natural

materials and incorporated beautiful coloring and color gradations, enhancing the overall aesthetic of the goat collage. Figure 2 shows the results of student work with collaborative learning.



Figure 2. Student Work Results with Collaborative Learning

The collage by student N2, titled "Elephant," shows more apparent line elements filled with natural materials such as rice, green beans, and corn. The areas in the work are asymmetrical, as seen in the depiction of butterfly wings, grass, and roads. The colors are mixed, but the grains are attached carelessly, lacking harmony. The texture is predominantly real, with no color gradation due to the materials' inconsistent and unplanned repetition. On one side, the coconut tree is made with soybean seeds, while on the other side, rice and green bean seeds are used. The principles of art show some unity, with the tree object placed in a way that complements the overall composition. The balance is asymmetrical, and rhythm is visible through the depiction of soil and grass around the elephant's feet. However, the work lacks completeness, as the student left some areas empty without filling them with seeds or other natural materials.

The collage artwork from student F1, "Fish," lacks clear line elements. The areas in the work are symmetrical, such as seaweed and fish fins. The colors are quite random, with no dominant color. The student used natural materials such as grain and rice, which were attached alternately, and randomly placed mung bean seeds. The texture is predominantly real due to the materials used, with minimal pseudo texture. There is no color gradation displayed. The principles of the artwork show that unity is absent, as the collage features only the fish without any additional objects. The balance is symmetrical, visible in the picture of grass under the fish. The collage lacks harmony in the unity of the proportion and arrangement of the objects, which could be explored more deeply. In summary, the collages created without collaborative learning lack clear line elements and demonstrate less effective use of artistic principles such as unity, balance, rhythm, and harmony. The artworks show that students struggled with achieving harmonious compositions and effective use of materials, which resulted in incomplete and less cohesive pieces, as shown in Figure 3.

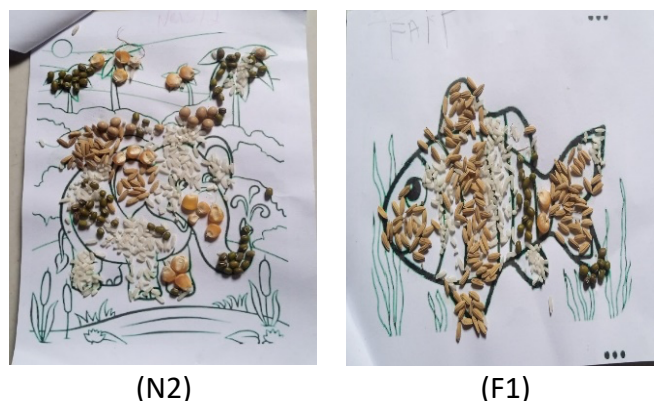


Figure 3. Student Work Results without collaboration (Source: Researcher 2024)

The analysis reveals that collaborative learning with parents boosts children's creativity and strengthens the parent-child relationship, enhancing the overall educational experience (Roykhan et al., 2022). This aligns with existing literature, highlighting the benefits of active parental involvement in early childhood education. According to Rachman et al. (2024) and Chatzinikola (2021), parents' participation in the learning process provides children with additional support, encouragement, and resources, allowing them to explore new ideas and techniques in their artwork. One of the key themes identified in the interviews is enhancing children's creativity through using natural materials in collage art. The results show that children were more enthusiastic

and motivated when using natural materials, stimulating their imagination and creativity. This finding is consistent with previous studies emphasizing the importance of providing diverse and engaging materials to promote creative thinking in young children (Setiawan et al., 2022). Natural materials, such as leaves, twigs, and seeds, offer unique textures and colors that inspire children to experiment and innovate in their artwork (Nurkhasanah, 2017).

Based on the documentation analysis of children's collage artworks, it provides tangible evidence of their creative expressions and the effectiveness of using natural materials. The variety and originality of the designs demonstrate the children's ability to explore and manipulate different textures and shapes, contributing to their cognitive and sensory development. This supports the notion that hands-on, interactive learning experiences are crucial for fostering creativity in early childhood (Binsa et al., 2022). Moreover, the involvement of parents in the collaborative learning process has been shown to strengthen parent-child relationships. Parents reported that working on collage projects with their children enhanced their children's creative abilities and fostered a stronger bond between them. This positive interaction is critical for children's emotional and social development, providing a supportive environment that encourages exploration and learning (Dhitasarifa et al., 2023). The strengthened relationships between parents and children further motivate children to engage in creative activities, enhancing their overall educational experience (Armadi et al., 2018). The findings also indicate that collaborative learning contributes to the development of essential social and cognitive skills. Children learn to work together, share ideas, and solve problems collaboratively, which are critical skills for their overall development and future academic success (Cagatan & Quirap, 2024; Al-Rahmi & Zeki, 2017). The collaborative nature of the learning process encourages children to appreciate different perspectives and develop critical thinking skills, essential for creative problem-solving and innovation (Masruroh & Fajrie, 2021).

Despite the positive outcomes, the study identified several challenges in implementing collaborative learning activities. Both parents and teachers reported needing more training and resources to facilitate these activities effectively. Managing time and balancing other responsibilities were common concerns among parents, indicating the need for flexible and accessible resources to support their involvement (Polat et al., 2022). Addressing these challenges requires ongoing professional development opportunities for teachers and the creation of supportive structures that enable parents to participate meaningfully in their children's education (Adisaka et al., 2022). Professional development programs can equip teachers with the skills and knowledge needed to facilitate collaborative learning effectively, while resources such as instructional guides and materials can support parents in their role as co-educators (Prasetya, 2023). Additionally, schools can implement flexible schedules and provide alternative forms of participation to accommodate parents' diverse needs and responsibilities (Masruroh & Fajrie, 2021). Furthermore, the study highlights the potential of using natural materials to enhance creativity and environmental awareness among young children. By incorporating natural materials into art activities, children develop a deeper connection with nature and an appreciation for the environment. This aligns with educational theories that emphasize the importance of experiential learning and the role of the environment in shaping children's learning experiences (Bell & Bell, 2020; Setiawan et al., 2022). Encouraging children to use natural materials in their artwork fosters creativity and instills a sense of responsibility and stewardship towards the environment (Syifaузakia, 2023). This research emphasizes the significance of utilizing natural materials in early childhood collage art to foster creativity while incorporating local cultural values. It is important because it integrates art education with cultural learning, helping children develop an appreciation for their heritage and environment. The study provides insights into how qualitative approaches can reveal the impact of natural materials on children's creative processes and cultural understanding. The implications of this research extend to education policies, encouraging the adoption of culturally relevant teaching methods and educators seeking innovative strategies to blend creativity, sustainability, and cultural identity in early learning.

CONCLUSION

In conclusion, this study demonstrates the significant benefits of collaborative learning with parents in enhancing children's creativity in creating collage art using natural materials. The findings underscore the importance of parental involvement in early childhood education and highlight the potential of natural materials to stimulate creativity and environmental awareness. Despite the challenges identified, the positive outcomes suggest that collaborative learning is a valuable educational approach that can foster holistic development in young children. By addressing the challenges and providing ongoing support and resources, educators and policymakers can ensure that collaborative learning activities are effectively implemented, enriching the educational experiences of young children and preparing them for future success.

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