



Enhancing Collage Art Creativity Using Plastic Waste Media: Instilling Recycling Culture in Elementary School Students' Learning

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Abstract: Visual arts education in elementary schools consistently faces similar challenges, namely a lack of teaching materials coupled with pedagogical approaches that prioritize imitation over original expression. At the same time, plastic waste poses numerous environmental challenges that require innovative educational interventions. This study analyzes the creative process and collage artworks made from snack food packaging by fifth-grade students at SDN 1 Karangmalang, using these artworks as the primary medium. The study used a mixed-methods case study design; researchers collected data from 24 students through systematic observation, interviews, documentation, and artwork assessment rubrics. The results show that plastic waste as a medium effectively stimulates students' imagination and flexibility in arranging colors and shapes. The creative workflow progressed through preparation, incubation, illumination, and verification, leading to a significant quantitative improvement in originality and idea fluency. This study concludes that plastic waste is an effective, innovative, and environmentally friendly medium for art education that simultaneously fosters an attitude of environmental concern. This study contributes a pedagogical framework that bridges artistic creativity and the development of ecological character, and shows how using recycled materials can support a systematic creative mindset in elementary education.

Keywords: collage; creativity; elementary school; fine arts; plastic waste media

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INTRODUCTION

Education plays a crucial role in developing students' overall potential, including creative thinking skills. In the modern era, holistic education goes beyond traditional academic subjects and aims to cultivate well-rounded individuals who can adapt to complex environments (Bulkani et al., 2025; Mahmoudi et al., 2012). Fine arts education significantly contributes to students' creativity (Buschkühle, 2019). Through arts activities, students not only learn to produce visual works but also develop imaginative thinking skills, express ideas, and solve problems creatively (Sowden et al., 2015). This multidimensional approach engages students' cognitive and emotional abilities. Visual arts education in elementary school is also an important means of fostering students' creativity from an early age because, at this stage, children enter a phase of cognitive development that allows for the exploration of ideas, experimentation with form, and freedom of expression through various art media (Hayat et al., 2024). Providing a safe space for trial and error is crucial so that educators can help children build resilience and cognitive flexibility. However, budget constraints and limited access to art materials often hinder the smooth implementation of art education in schools. This aligns with Whitelaw (2021), who explains that art education is often viewed as a non-academic field that is costly, leading to a lack of funding and low priority in the curriculum. Therefore, visual arts education should focus not only on the final product but also on the creative process students experience during the activity, ensuring that its pedagogical value remains high regardless of the materials used.

In 21st-century education, creativity is a crucial competency and a key pillar of individual and professional success amid globalization and a rapidly evolving world (Cusanelli & Trevallion, 2020; Thornhill-Miller et al., 2023). Creativity enables students to generate new ideas, find innovative solutions, and develop divergent thinking skills when challenges cannot be resolved through rote memorization alone. In elementary education, creativity is fostered through learning activities that allow free exploration, experimentation, and imagination (Aprillia et al., 2023). When children are encouraged to think outside the box, they also learn to view problems from different perspectives, which is crucial for comprehensive cognitive development. Art activities such as drawing, painting, creating mosaics, and making collages can effectively foster creativity. These hands-on activities transform abstract concepts into tangible forms of expression, allowing students to channel complex emotions and thoughts through visual media. Various studies indicate that visual arts activities can enhance students' creative thinking skills, aesthetic sensitivity, and self-confidence in expressing their ideas

through artwork (Jeki et al., 2024; Pratiwi et al., 2024). Therefore, integrating meaningful art practices into daily educational activities is crucial for fostering a generation that is competent and forward-thinking. One visual arts activity that can be incorporated into elementary school instruction is collage-making. Collage is an artistic technique that involves arranging various materials to form a specific visual composition (Fraser & Ostby, 2022; Şenol & Elmas, 2021). This method offers a flexible, tactile experience that encourages students to observe the physical characteristics of everyday objects closely. This can foster a deeper appreciation of art in students regarding texture, color, and shape. This technique involves contextual, exploratory learning that allows students to explore their environment and use a variety of materials available around them (Ageev et al., 2025). By using familiar objects, this approach bridges the gap between students' daily lives and academic learning at school. In addition, collage activities can develop fine motor skills that support students' ability to integrate visual elements and creatively design compositions of shapes and colors (Frikha & Alharbi, 2023; Wijaya et al., 2024). Physical activities such as cutting, tearing, and pasting also require precise hand-eye coordination and spatial awareness, which are important developmental milestones for early childhood students. Previous research has shown that collage activities can enhance children's concentration, creativity, and imagination during the art learning process (Jeki et al., 2024). Ultimately, this artistic process can transform passive learning into active creation, empowering students to engage constructively with their environment.

However, in practice, art education in elementary schools often faces various obstacles to fully realizing its pedagogical potential. Several studies, such as those by Batič (2014), Montero (2023), and Vuk (2023), explain that elementary art instruction often focuses on teacher-provided examples, resulting in a learning pattern in which students imitate rather than develop their own ideas. This approach causes students to focus on producing a "correct" final piece rather than exploring their unique artistic expression, which can inadvertently hinder their independent thinking. As a result, students' creativity does not develop optimally because they lack sufficient opportunities to explore and express themselves independently. Without the freedom to make mistakes and discover alternative solutions, students' creative instincts do not emerge, leading to hesitation in taking creative risks. The limited availability of appropriate learning materials also contributes to the suboptimal implementation of art education in elementary schools (Husna & Supriyadi, 2023). This often happens when schools lack the budget to provide diverse, high-quality art materials, forcing teachers to rely on monotonous, repetitive assignments. This kind of learning tends to be unappealing to students and fails to stimulate their imagination.

Preliminary observations of fifth-grade students at SDN 1 Karangmalang, Kudus Regency, indicate that students' creativity in visual arts education has not yet developed optimally. During learning sessions, the artworks produced showed striking uniformity. This indicates a strong reliance on direct instruction rather than accommodating individual inspiration. In such learning environments, students tend to imitate teacher-provided examples, lack confidence in developing their own ideas, and struggle to combine colors and shapes in their work (Southam & Costley, 2024; Yuan et al., 2023). When faced with open-ended assignments or a blank canvas, many students ultimately express hesitation and anxiety and feel confused about the steps they should take without step-by-step guidance (Hertz, 2018). This suggests that the visual arts learning process has not yet fully given students space for free expression and creativity. To break this cycle of dependence, it is crucial to introduce new methodologies that challenge students' conventional ways of thinking and working. Therefore, innovation in learning media is needed to stimulate students' imagination and creativity in their artistic work while shifting the paradigm from mere replication to authentic, meaningful artistic expression.

One learning medium that can serve as an alternative for collage art activities is plastic waste. Plastic waste is an inorganic waste that is difficult to decompose and poses serious environmental problems. However, plastic waste also has potential as a visual arts learning medium through its reuse in creative activities. Using these recycled materials not only enhances students' creativity but also instills values of environmental stewardship through the reuse of discarded items (Harimurti et al., 2020). Furthermore, using materials familiar to students' daily lives within a contextual learning framework can increase their engagement in the learning process. This pedagogical approach aligns with the [United Nations Environment Programme](#) (2021), which states that ecological values must be fostered through experiential, contextually meaningful activities. By integrating a culture of recycling into art education, educators create opportunities to develop ecological awareness naturally, ensuring that environmental concern is not merely a subject but a value that is practiced and internalized. In this context, using plastic waste as a creative medium is a tangible form of ecological education, where awareness of environmental responsibility is inseparable from the process of artistic creation itself.

Several previous studies have shown that using waste materials as a medium for artistic creation can enhance student creativity. Arba and Syakir (2020) demonstrated that utilizing waste as a medium for mosaic creations can enhance the creativity and visual skills of elementary school students. Other research also indicates that using simple, readily available materials in the environment can increase learning motivation and encourage students to be more active in the art learning process (Agustin & Setiyaningsih, 2024). However, most research has focused on various natural or other simple materials, while research specifically examining the use of plastic waste as a collage medium in elementary school fine arts learning remains limited. Furthermore, some research

on creativity in fine arts learning generally assesses student work without deeply examining the creative process during the activity. However, the creative process is crucial to understanding how ideas emerge, develop, and become works of art. In his study of creativity, Graham Wallas proposed that the creative process consists of four main stages: preparation, incubation, illumination, and verification. These four stages show how someone develops an idea into creative work (Wallas, 1926). Therefore, studies of student creativity in art learning require not only examining the results but also understanding the creative process that occurs during the activity.

Based on a literature review and empirical evidence in the field, a research gap can be identified in studies of student creativity in collage art learning in elementary schools. Samaniego et al. (2024) focused more on enhancing creativity through various learning media or specific art techniques, but few studies have specifically examined students' creative processes in creating collages using plastic waste as a learning medium. Based on this background, this study aims to analyze the creative processes and outcomes of fifth-grade students at SDN 1 Karangmalang, Kudus Regency, in creating collage art using plastic waste. Through observation and analysis of students' artistic experiences, this study aims to present empirical evidence regarding the effectiveness of using unconventional recycled materials. This study contributes to the development of innovative, contextual art education and can enhance students' creativity by using materials easily found in their immediate surroundings. The findings also offer practical, low-cost solutions for schools facing significant budget constraints in providing art supplies.

Furthermore, this study can serve as a reference for elementary school art teachers designing visual arts lessons that focus not only on the final artwork but also on developing the creative process and students' environmental awareness. This study's novelty lies in its contribution to integrating art pedagogy with sustainability education. Unlike previous studies, which generally examined creativity and environmental awareness separately, this study bridges these domains by positioning *upcycling* (creative recycling) of plastic waste as a medium with pedagogical objectives that simultaneously foster artistic expression and ecological character. By systematically exploring the four stages of the creative process within a learning framework grounded in ecological principles, this research presents an innovative model of sustainability education that is easy to implement and aligned with the cultural context of the students' environment. Thus, this study makes a distinctive contribution to an emerging field that brings together creative arts education and environmental pedagogy, while establishing a new pedagogical paradigm in which arts education and ecological awareness are developed as mutually reinforcing dimensions within a holistic elementary education.

METHODS

This study uses a convergent parallel mixed-methods approach, integrating qualitative and quantitative methods to gain a more comprehensive understanding of the processes and outcomes of students' creativity in creating collage art using plastic snack packaging. By applying this dual methodology, we can capture both the measurable results of the creative endeavor and the nuanced, subjective experiences of the students as they interact with unconventional materials. This approach enables the researcher to combine qualitative descriptive analysis of students' creative processes with quantitative analysis of the resulting artworks. The qualitative component provides deep insights into cognitive problem-solving strategies, while quantitative metrics offer a standardized evaluation of artistic achievement. Mixed methods are utilized to obtain more complete, objective, and in-depth data to explain the phenomenon under study (Creswell & Plano Clark, 2018).

This study was conducted at SDN 1 Karangmalang. The school was selected based on preliminary observations indicating a culture of discipline in maintaining environmental cleanliness, as well as support for skill- and creativity-based learning activities. In addition, students at this school are known to participate actively in arts activities, making them relevant to the focus of this study. The study was conducted during a single art class session. To ensure a comprehensive analysis, the researchers carefully planned and organized this special session to maximize observation opportunities without disrupting the standard academic schedule. Overall, the research process, which included proposal development, research permit application, data collection, data analysis, and report writing, took place from February 2025 to February 2026.

The subjects of this study were elementary school students who were participating in a collage art class. The researchers used purposive sampling to select students directly involved in creating collages using plastic snack packaging. This approach ensured that all participants had firsthand experience with the variables under investigation, thereby enhancing the reliability of the observed behaviors. The subjects served as primary informants during the observation of the creative process and as the source of data regarding the resulting artworks. By focusing on a specific group of 24 fifth-grade students, the researcher could monitor individual progress and document the unique evolution of each student's artistic concept, from the initial stage to the work's completion. Furthermore, the students were old enough that their cognitive reasoning and fine motor skills were sufficiently developed to articulate their artistic choices and handle the complex manipulation of materials effectively. The primary material used in this study was plastic snack packaging, which served as the collage medium. This waste type was chosen for its striking aesthetic qualities and its widespread presence in students' daily lives, as well as the urgent need to address its environmental impact on school grounds. In

addition, several supporting materials supported the creative process, including drawing paper or cardboard as a collage base; tools such as scissors, glue, and pencils for initial sketches; and cleaned, cut plastic packaging as needed. These additional materials were carefully distributed to ensure that technical limitations would not hinder the students' ability to transform their imaginative concepts into tangible works of art. Documentation tools, such as cameras or cell phones, were used to record the learning process and the students' work as research data.

In this study, three instruments were developed and used to collect qualitative and quantitative data: an observation sheet, an interview guide, and a rubric for assessing student work. The observation sheet was designed to systematically document indicators of student behavior at each stage of the collage-making process. This instrument was structured based on Wallas's (1926) four-stage creative process model, in which each stage includes specific indicators that can be observed and operationally defined. Subsequently, a semi-structured interview guide was developed to elicit students' reflections following their creative experience in the collage activity. The guidelines contain open-ended questions grouped into three main thematic areas: (a) the sources of students' visual ideas and how those ideas developed and changed during the activity; (b) the challenges faced in processing and manipulating plastic snack packaging as an art medium; and (c) students' perceptions and attitudes toward the use of recycled materials in creating art. Finally, the researchers developed a rubric with four criteria to quantitatively evaluate the quality of each student's collage. The four assessment dimensions included Concept, Visual Quality, Technical Skill, and Neatness; each was rated on a four-point scale: 1 (Poor), 2 (Fair), 3 (Good), and 4 (Very Good). Before data collection began, two expert raters with expertise in art education and elementary school pedagogy validated the rubric's content. Each rater independently evaluated the relevance, clarity, and completeness of the rubric's criteria and provided written feedback, which was then incorporated into a revised version of the instrument. The instrument's reliability was tested using *Cronbach's alpha*, yielding 0.862, which is classified as reliable. Furthermore, validity was calculated using *Aiken's V*, yielding 0.806, which is classified as valid.

At this stage, the researcher conducted preliminary observations at the school to assess the state of visual arts instruction and the students' readiness for creative activities. During these initial observations, the researcher examined various factors, such as classroom dynamics, resource availability, and the general attitudes of students and teaching staff toward ecological issues. Concurrently, the researcher developed research instruments, including observation sheets, interview guidelines, and rubrics for evaluating artworks. These instruments underwent rigorous expert validation to ensure accurate measurement of targeted creativity indicators while minimizing observer bias. Furthermore, the team of observers received specialized training to ensure consistency and objectivity when recording the children's spontaneous artistic behaviors. This implementation phase took place during an art class that involved creating collages using plastic snack packaging. Observed learning activities included the teacher's explanation of collage materials and artwork examples, students creating simple sketches, cutting and arranging plastic pieces on the drawing surface, and gluing the pieces together to form a collage composition. These structured pedagogical activities were designed to gradually transition students from guided instruction to independent creative exploration, while building their self-confidence step by step. Throughout the activity, the researcher observed students' creative processes, including idea generation, material exploration, form development, and completion of their work. Special attention was given to how students overcame unexpected challenges related to material use. These challenges, including difficulty gluing certain types of plastic, provided important evidence of their adaptive problem-solving abilities and resilience in the face of creative obstacles.

The data collection techniques used in this study involved several methods, namely: a) observation to monitor students' creative processes during art activities; b) interviews to gather information about students' experiences, ideas, and difficulties encountered while creating collages; c) documentation in the form of photographs of the learning process and students' artwork; and d) assessment of the artwork using a rubric that covered the aspects of creativity, composition, use of materials, and neatness. By triangulating these four data sources, the research team cross-verified the findings and reduced subjective bias that might arise from relying on a single assessment method. Structured interviews, in particular, proved invaluable for understanding the cognitive reasoning behind students' visual choices and for uncovering layers of imaginative thinking not immediately apparent from the final collages alone.

Data analysis in this study comprises two strands: qualitative and quantitative. In qualitative data analysis, data from observation, interviews, and documentation are analyzed through the stages of data reduction, data presentation, and conclusion. This iterative analytical framework allows the researcher to process a large volume of raw field notes and transcripts into meaningful, manageable themes that directly address the study's core research questions. This analysis aims to describe students' creative processes in making collages. Subsequently, in the quantitative data analysis, data from assessments of students' work are analyzed using descriptive statistical techniques to determine students' levels of creativity based on scores derived from the assessment rubric. The descriptive statistical results are then presented as tables or percentages to facilitate interpretation. The study integrated qualitative and quantitative findings using a

convergent parallel mixed-methods design (Creswell & Plano Clark, 2018), in which both types of data were collected simultaneously, analyzed independently, and then combined during the interpretation phase.

RESULT AND DISCUSSION

This study aims to analyze students' creative processes in creating collage artworks using plastic snack packaging. To achieve this objective, the study examined how this everyday waste can be transformed into meaningful aesthetic expressions through structured pedagogical interventions. The study obtained results through observations during the learning process, documentation of students' work, and assessment using a creativity rubric covering concept, composition, use of materials, and neatness. Each dimension of the rubric was carefully assessed using a graded scale by independent evaluators to ensure maximum objectivity and reliability in evaluating these complex artworks. Table 1 presents the results.

Table 1. Student Collage Assessment Results

Assessment Criteria	Average Score	Category
Idea	3.4	Good
Visual Quality	3.2	Good
Technical Skills	3.3	Good
Average	3.3	Good

The results, detailed in Table 1, show that the "concept" criterion, related to the use of snack food packaging, received the highest score among the assessment criteria. This unexpectedly high achievement in the "concept" category suggests that the material's novelty serves as a powerful catalyst for imaginative thinking, encouraging students to think beyond learning that involves only traditional drawing. This shows that students can creatively explore used materials to create compelling visual elements in their collage works. Furthermore, these high scores reflect strong cognitive skills, as students no longer view plastic as trash but recognize it as a valuable and versatile artistic element for their narratives.

The results of this study confirm that the use of plastic waste as an art learning medium can effectively support creativity in visual arts education at the elementary school level. The highest score in the "Ideas" dimension (3.4) indicates that unconventional, eco-friendly materials can stimulate ideational and divergent thinking. Under these conditions, students are encouraged to rethink used packaging as an aesthetic raw material, thereby producing original visual concepts. This finding aligns with Jahra et al. (2022), who state that collage art activities enhance creativity by exploring form, color, and texture. This is consistent with Nugroho et al. (2023), who explain that recycled materials enrich students' visual experiences during the creative process. Interacting with non-traditional textures also helps students broaden their artistic technical knowledge by adapting techniques to the unique characteristics of these materials (Lin et al., 2024). More broadly, hands-on visual arts activities like these also support the development of creative, reflective, and analytical thinking skills (Winner et al., 2019), further underscoring that eco-based media effectively develop multidimensional creative capacities in early childhood learners. Table 2 presents the stages of students' creativity process.

Table 2. Stages of the Students' Creativity Process

Creativity Stage	Student Activity
Preparation	Observing collage examples and preparing plastic materials
Incubation	Thinking about image ideas and determining composition
Illumination	Finding ideas for shapes and colors from plastic packaging
Verification	Arranging and attaching plastic pieces to create a work

The creative process observed during artwork creation, as presented in Table 2, shows that students moved through systematic stages of creative thinking, from preparation to completion. This indicates that students did not work on their assignments haphazardly; rather, they applied a highly structured methodology. This shows that creating artworks in the context of collage is a disciplined cognitive exercise, not merely a spontaneous game. Careful progression through these stages indicates deep engagement and a strong understanding of the basic principles of design and composition. Table 3 presents the results of the analysis of students' work.

Table 3. Analysis of Collage Work by Fifth-Grade Students at SDN 1 Karangmalang Based on Periodization and Form Type

Name initials	Theme	Resulting Work	Analysis: Periodization and Form Type
A	Flora		Periodization: Bagan Period (7-9 years old): During this period, reason begins to influence students' drawings, and drawings begin to move toward forms closer to reality. Form Type: Haptic visual type, as forms are expressed in their own unique or free style.
R	Flora		Periodization: Early Realism Period (9-12 years old): Students' observations become more precise, and forms begin to move toward realism. Color characteristics begin to attract attention and become quite visible. Form Type: Organic visual type, as the forms of the drawings appear realistic. The lines created have good clarity.
V	Fauna		Periodization: Bagan Period (7-9 years old): During this period, reason begins to influence students' drawings, and drawings begin to move toward forms closer to reality. Form Type: Haptic visual type due to the form expressed in its own unique or free style.

Table 3 displays the diverse visual forms of the students' works, such as images of animals, plants, and everyday objects assembled from colored plastic pieces. This variety of themes highlights plastic waste as an art medium that can accommodate a broad spectrum of personal interests and aesthetic visions. The diversity of these final products clearly shows that, when given unconventional, open-ended materials, students naturally produce imaginative works that reflect their personal character. This observed creative process aligns with Wallas's (1926) four-stage model, which includes (1) the preparation stage, where students interact with examples and select materials; (2) the incubation stage, in which students consider composition and color; (3) the illumination stage, in which distinctive visual concepts emerge; and (4) the verification stage, in which students assemble and refine their artwork. These cognitive transitions confirm that collage activities involve a systematic creative thinking process rather than merely spontaneous production (Crijns et al., 2025; Gat et al., 2019; Jacobs, 2018; Komarova et al., 2022; Tang et al., 2025). Direct interaction with unconventional materials also provides a more meaningful and motivating learning experience than purely theoretical instruction, as the novelty of plastic waste further deepens students' engagement at every stage of the creative process (Henriksen et al., 2018).

The works listed in Table 3 include student works from two developmental periods: the Schematic Period (visual-haptic type) and the Early Realism Period (visual-organic type). This indicates that using plastic waste as a medium can accommodate various stages of student development simultaneously, producing authentic creative differentiation within a single learning session. This contrasts with teaching methods that rely solely on teacher-provided examples, which tend to standardize students' work by limiting it to predetermined forms

(Batič, 2014). Using recycled plastic—by transforming used packaging into works of art—offers significant ecological educational value; in this context, students gain direct insight into waste management and environmental responsibility (Hansen & Sandberg, 2020; Harimurti et al., 2020). This aligns with United Nations Environment Programme (2021), which emphasizes contextual and practice-based ecological learning as the most effective way to foster environmental concern and responsibility among the younger generation. Furthermore, cutting, arranging, and gluing plastic pieces helps develop students' fine motor skills and hand-eye coordination (Faber et al., 2025; Kaplanidi et al., 2025; Serpa-Andrade et al., 2021). This is supported by research showing that manipulating materials supports the psychomotor development of elementary school students (Jahra et al., 2022; Putro et al., 2024).

The results of this study align with studies showing that collage activities can enhance students' creativity by giving them opportunities to experiment with different materials and visual techniques. Jahra et al. (2022) explain that using collage in school art education can enhance elementary students' creativity by encouraging them to explore shapes, colors, and textures. These findings reinforce the idea that tactile interaction with a variety of physical media is a crucial foundation for effective art education. Nugroho et al. (2023) also stated that using recycled materials (such as plastic) in visual arts education can increase student engagement while enriching their visual experiences during the creative process; using recycled materials as art education media also has educational value in fostering students' environmental awareness. Plastic snack packaging, typically regarded as waste, can be repurposed through this learning process into aesthetically valuable artworks. This *upcycling* process provides a powerful real-world metaphor for ecological restoration, while also teaching children that human intervention can transform negative environmental impacts into something more positive (Hansen & Sandberg, 2020; Singh et al., 2019).

Furthermore, using alternative materials in art lessons has been shown to increase student motivation and participation in the learning process at school. Various international studies indicate that art activities involving hands-on exploration of materials can enhance student engagement and foster the development of their visual creativity (Henriksen et al., 2018). This enthusiasm is largely driven by the novelty of the materials used, as well as the variety that breaks the monotony of traditional learning, which relies solely on textbooks and tends to be imitative. This happens because direct interaction with these materials provides a more meaningful learning experience than purely theoretical learning. When students can physically touch, cut, and shape their learning tools, their cognitive memory improves significantly, making the educational experience both enjoyable and highly effective in the long term.

Overall, the results of this study indicate that using plastic snack packaging as a collage medium offers several benefits that students experience in art education. First, this activity can enhance students' creativity through material exploration and freedom of expression in their artwork (Komarova et al., 2022). By offering a medium that differs from traditional ones, students can explore bold artistic paths without fear of making irreversible mistakes. Second, creating collage art can develop students' fine motor skills through cutting and pasting materials (Faber et al., 2025). Third, using recycled materials as a medium can also foster environmental awareness in students through creative recycling activities (Hansen & Sandberg, 2020). These multidimensional pedagogical impacts demonstrate that recycling-based collage is no longer merely an extracurricular activity but a core educational strategy that simultaneously addresses physical, cognitive, and ethical developmental needs.

This study's findings have implications for developing visual arts education in elementary schools. Teachers can utilize various types of household waste available in their surroundings—such as plastic packaging, used paper, or natural materials—as creative learning media. This creative use of resources provides engaging learning options for art education and ensures high-quality learning even in educational settings with limited funding. This approach not only enhances students' creativity but also fosters more contextual, innovative, and relevant learning in addressing current environmental issues. Therefore, integrating recycled materials into art education can effectively nurture students' creativity while instilling environmental values. Ultimately, this paradigm shift in pedagogical material selection paves the way for a more sustainable, equitable, and dynamic future in elementary education.

CONCLUSION

This study showed that using plastic waste as a medium in collage lessons enhanced the creativity of fifth-grade students at SDN 1 Karangmalang. A systematic creative process, from preparation to verification, helped students produce original and diverse works. Using plastic snack packaging as a medium for collage art in art classes can also boost elementary school students' creativity. This activity allows students not only to imitate works of art but also to explore the shapes, colors, and textures of materials, resulting in varied works while also developing fine motor skills. Additionally, using recycled materials helps foster students' awareness of waste management and concern for the environment. Beyond the artistic aspects, this activity positively impacts character development by fostering an environmentally conscious mindset through recycling. Therefore, this study recommends using waste as an innovative, affordable, and contextual learning alternative for elementary school teachers.

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